

# 5 Things You Should Know About Pelvic Organ Prolapse

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# Disclosures

- Investigator Neuspera Inc.

# Objectives

- To better understand what are the main causes and risk factors for development of prolapse?
- To learn the different types of prolapse
- To learn how to evaluate prolapse
- To learn how treat prolapse and when to refer to a specialist.

# 1. Pelvic Organ Prolapse Is Very Common

# Epidemiology of Pelvic Organ Prolapse

- Up to 50% of parous women.
- 6.3% of women will have had a surgical correction for POP by the age of 80.
- 10-20% of women will seek evaluation for prolapse
- Following hysterectomy 6-12 % will develop vaginal vault prolapse

# Anterior prolapse= most frequent site

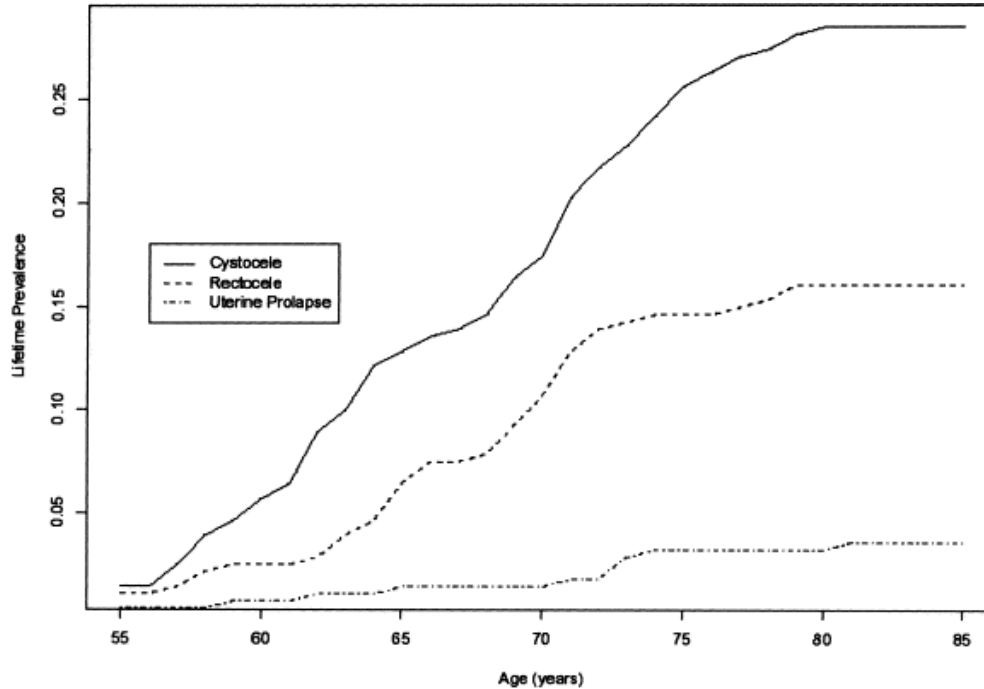


Figure. Lifetime cumulative prevalence for cystocele, rectocele, and uterine prolapse among women who entered the study without prolapse (n = 281 women). Lifetime cumulative prevalence is defined as any prolapse that is observed at any time during the follow-up [Handa et al, 2004]

# Projected to increase

- By 2050 the number of women suffering from symptomatic POP in the United States will increase at minimum by 46 percent (from 3.3 up to **4.9 million women**) [Wu et al, 2009]

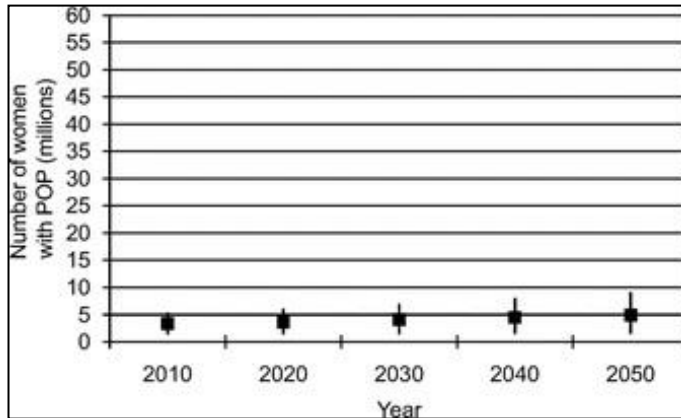


Fig. Number of women (in millions) with pelvic organ prolapse (POP), with the lowest and highest estimates from 2010 to 2050. The square represents the baseline estimate, and the line represents the range. Wu. Prevalence of Pelvic Floor Disorders. Obstet Gynecol 2009.

## Peak incidence of symptoms attributed to prolapse is between ages of 70 to 79, but also common in younger women

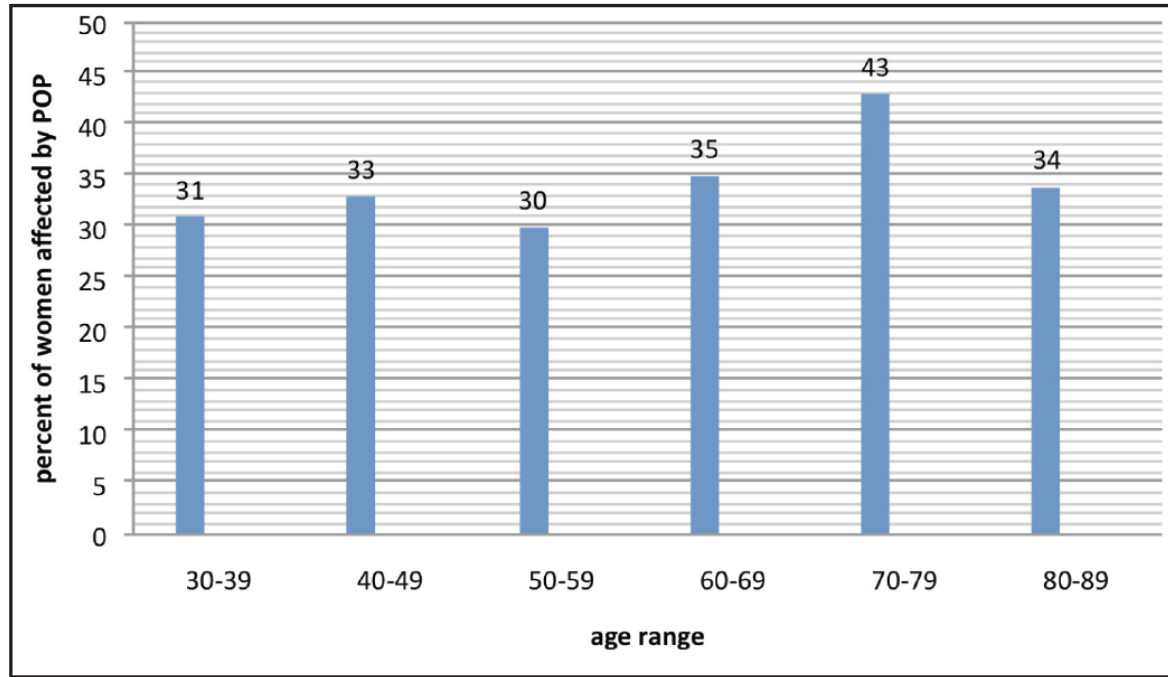


Figure 1. Shows the distribution of POP among women seeking care, US 2000 (Modified Luber 2001)



# Mild prolapse on exam is common and often asymptomatic

- When POP is defined by symptoms the prevalence is 3-6 %
- Compared to 41-50 % when based on exam

Table 1. Prevalence and Incidence POP

Study	Definition	Prevalence	Incidence	Country
Rorveit 2007	Symptom-based	5.7%		US
Nygaard 2008	Symptom-based	2.9%		US
Hendrix 2002	WHI-Study, Examination	Any prolapse: 41.1% Cystocele: 34.3% Rectocele: 18.6% Uterine: 14.2%		US
Swift 2003	Examination	6.4% stage 0 43.3% stage 1 47.7% stage 2 2.6% stage 3		US
Handa 2004	WHI-Study, Examination	Cystocele: 24.6% Rectocele: 12.9% Uterine: 3.8%	Cystocele: 9.3/100 Rectocele: 5.7/100 Uterine: 1.5/100	US
Nygaard 2004	Examination	2.3% stage 0 33% stage 1 63% stage 2 1.9% stage 3		US
Bradley 2007	Examination	23.5 - 49.9%	26%/1 year 40%/3 year	US
Maccharoni 1999	Examination	Vault-prolapse: 12%		Italy
Aigmuller 2009	Examination	Vault-prolapse: 6-8%		Austria

# 2. Prolapse Is a Hernia of the Pelvic Floor

# Risk factors

Etiology of prolapse is complex and multifactorial

- Aging
- Parity
- Vaginal delivery
- Prolonged 2<sup>nd</sup> stage/forceps delivery/macrosomia
- Denervation or weakness of the pelvic floor
- Hysterectomy
- Menopause
- Chronically raised intraabdominal pressure
- Congenital or acquired connective tissue disorder

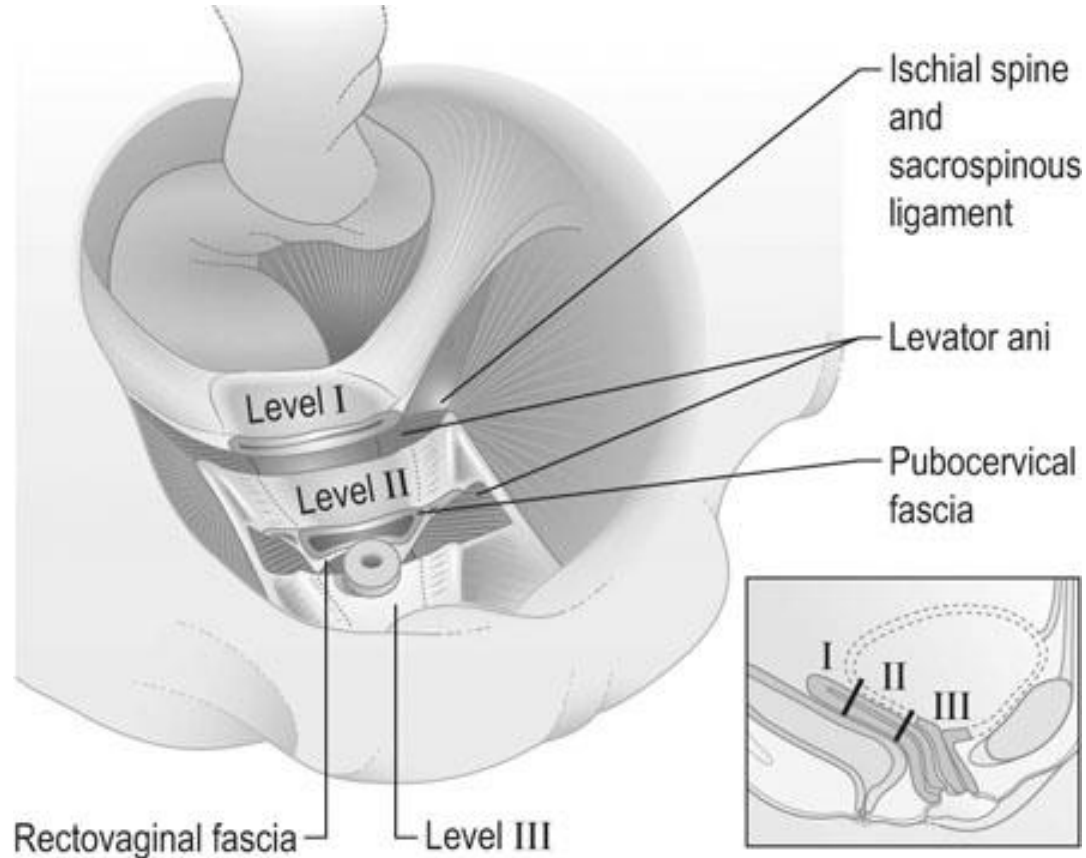
# Anatomy → Evaluation

- Anatomic principles
  - Anterior
  - Posterior
  - Apical
- Office evaluation and diagnosis of prolapse
  - Presentation
  - Exam and grading/staging
  - Ancillary tests

# Pelvic Floor

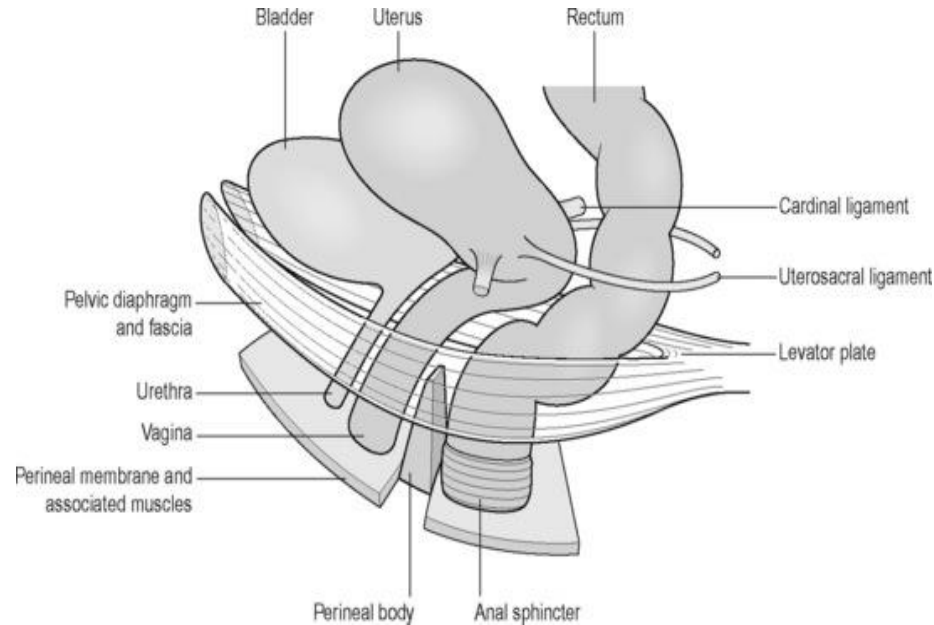
- Supports abdominal contents
- Controls storage and evacuation of feces
- Allows conception and parturition
- 2 components
  - Connective tissue (visceral-fascial layer)
  - Muscular layer (Pelvic floor = levator ani + coccygeus)

# Levels of Support (Delancey, 1994)

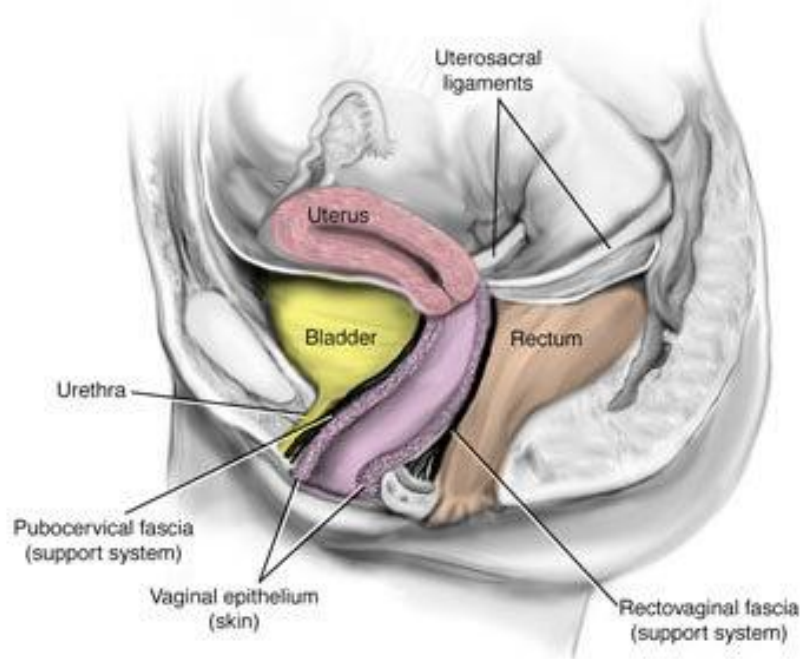


# Level 1: Suspensory ligaments of uterus

- Uterosacral
- Round ligament
- Cardinal

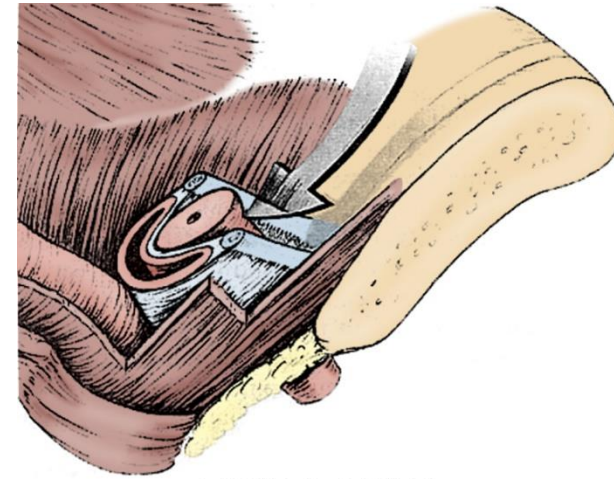
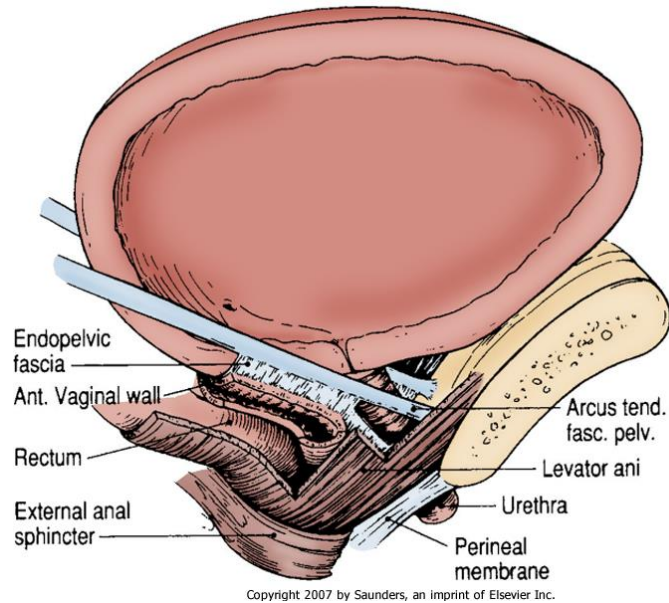


# Level 2 Support: Bladder/Rectum



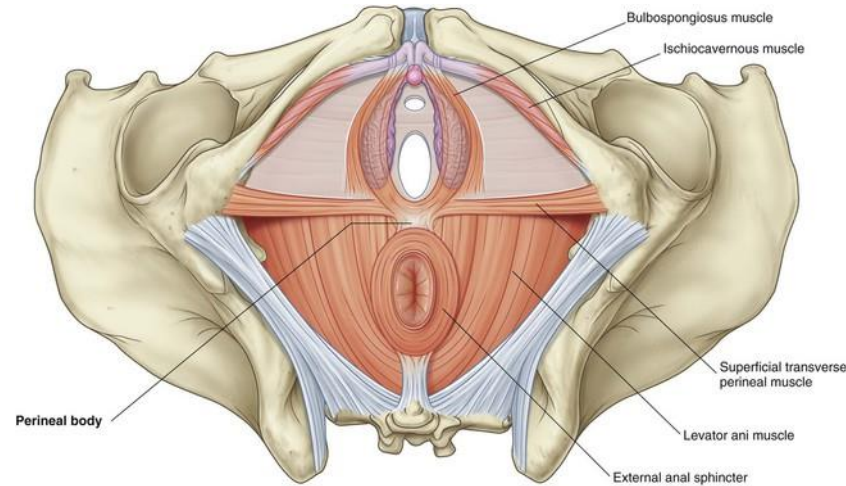


# Level 3 support: Anterior

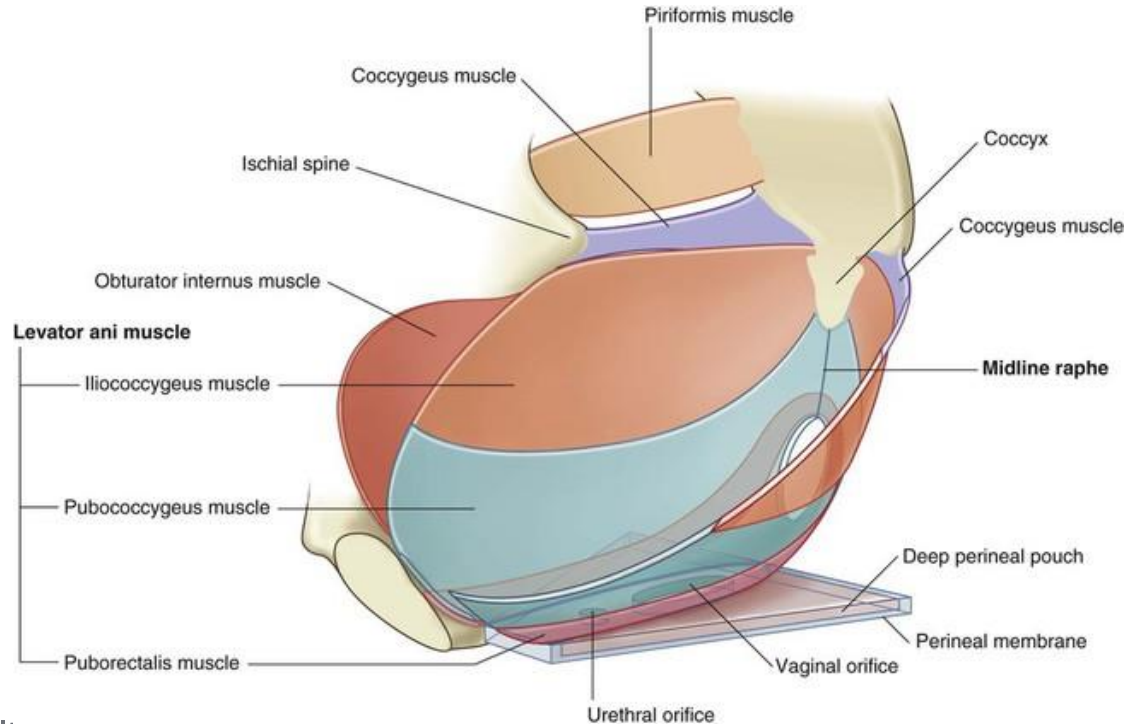


→ Hammock support of bladder neck and proximal urethra

# Level 3 Support: Posterior



# Muscular Support of Pelvic Floor



# 3. Prolapse Can Be Diagnosed With a Simple Evaluation

# Prolapse Symptoms

- Women with prolapse commonly have a variety of pelvic floor symptoms
  - only some of which are directly related to the prolapse.
- Generalized symptoms of prolapse include
  - pelvic heaviness, bulge, lump or protrusion coming down from the vagina;
  - dragging sensation in the vagina;
  - backache.

# Prolapse Symptoms

- Symptoms of bladder, bowel or sexual dysfunction are frequently present.
  - Splinting: using their fingers to push the prolapse up to aid urinary voiding or defecation.
- Symptoms may be related to prolapse or unrelated.
  - Poor urinary stream when a cystocele is present
  - obstructed defecation when a rectocele is present.
  - Independent of the prolapse
    - symptoms of overactive bladder when a cystocele is present.

# Physical exam

## General

- Mobility, mental status, BMI

## Abdomen

- Surgical scars

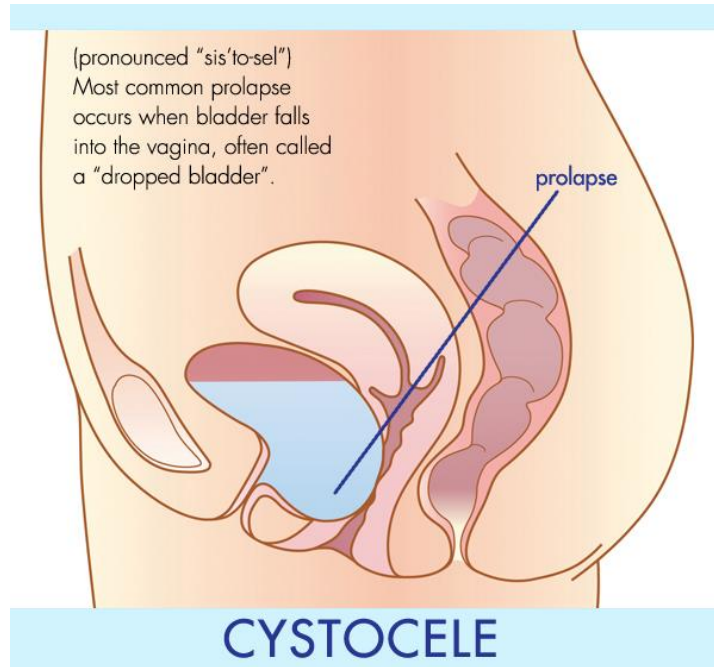
## GU

- Vaginal exam with half speculum to assess prolapse
- Tissue quality, Sensation
- Reduction Stress test for Urinary Incontinence
- Pelvic Floor Strength:
  - Oxford (0 nil; 1 flicker; 2 weak; 3 medium; 4 strong; 5 very strong)
  - Brinks scoring 0-4 for 3 domains (squeeze, vertical displacement, duration)
- Can assess prolapse: lithotomy with and without Valsalva and standing

## Neurological exam

## Rectal

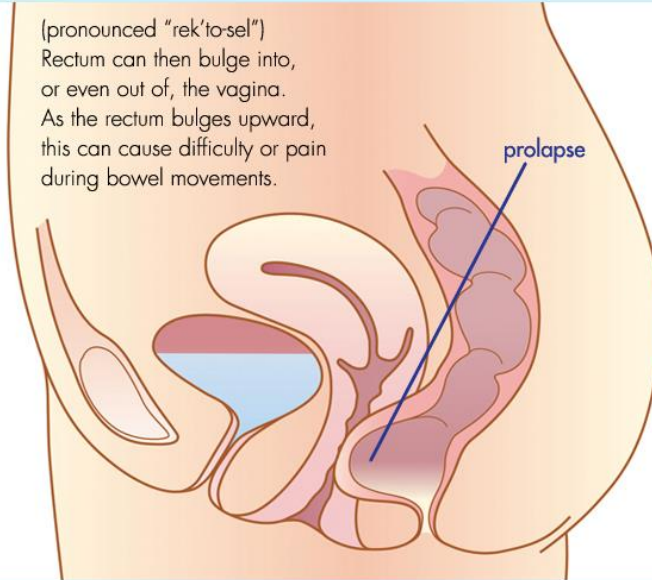
# Cystocele (anterior wall)





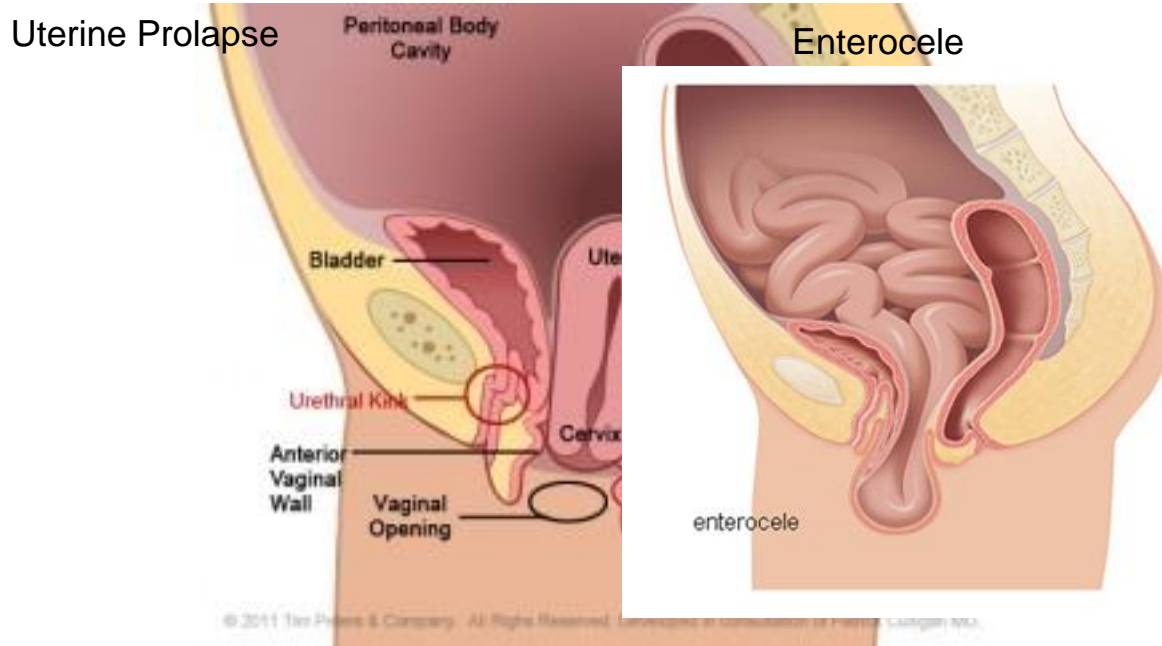
# Rectocele (Posterior)

(pronounced "rek'to-sel")  
Rectum can then bulge into,  
or even out of, the vagina.  
As the rectum bulges upward,  
this can cause difficulty or pain  
during bowel movements.

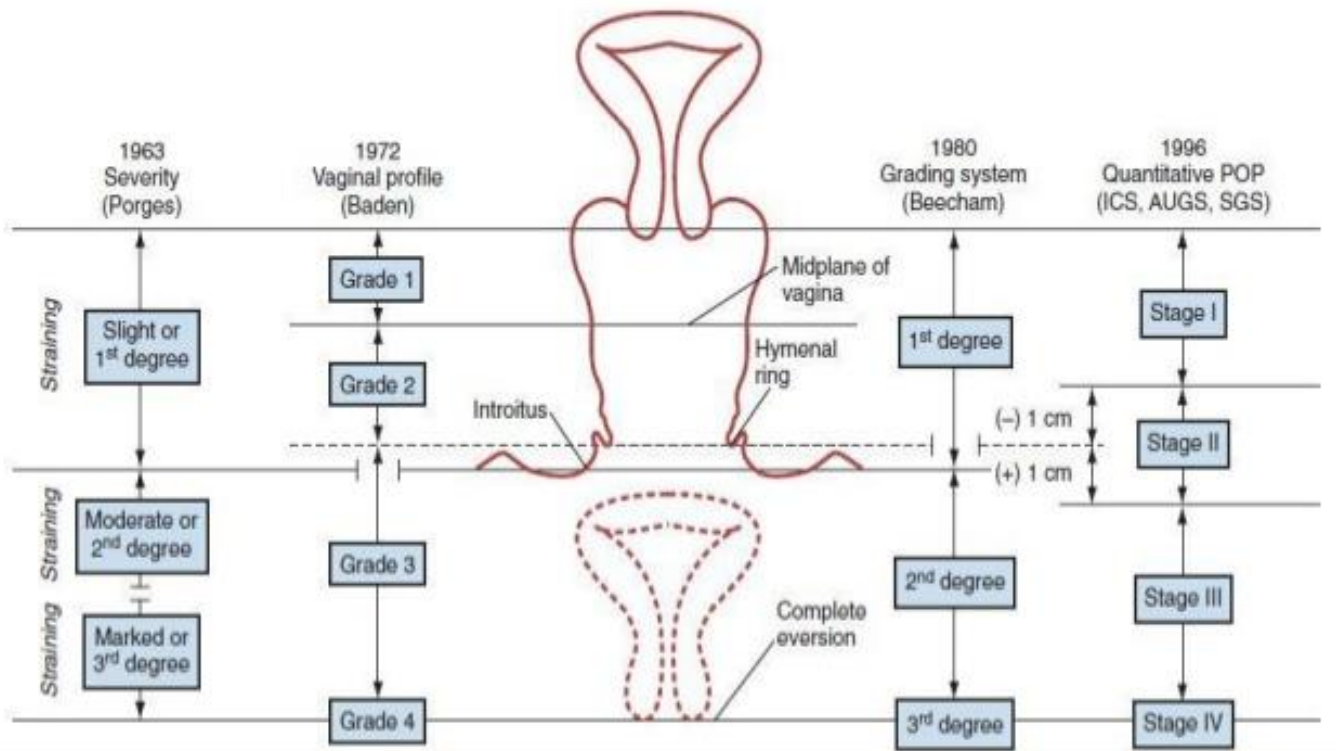


RECTOCELE

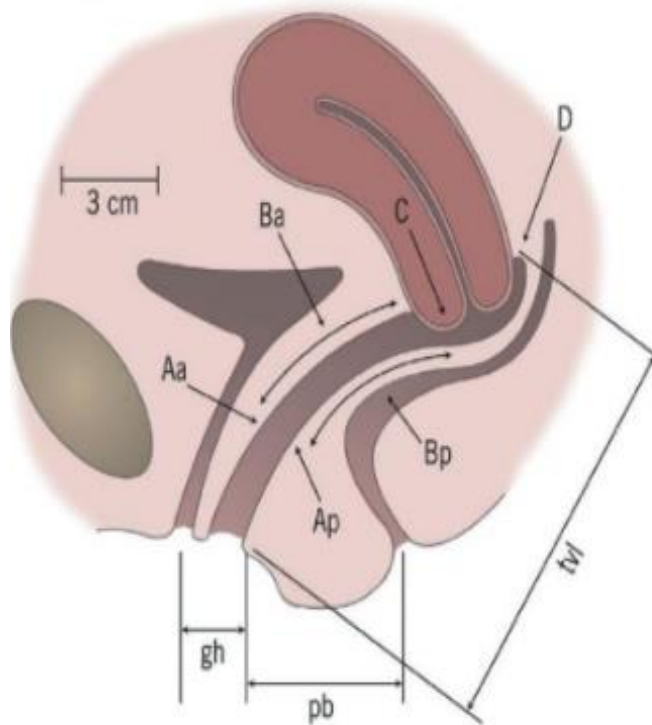
# Apical Prolapse



# Prolapse Assessment



# POP-Q



Point	Description	Range of values
Aa	Anterior vaginal wall 3 cm proximal to the hymen	-3 cm to +3 cm
Ba	Most distal position of remaining upper anterior vaginal wall	-3 cm to +tvI
C	Most distal edge of cervix or vaginal cuff scar	-
D	Posterior fornix (N/A if post-hysterectomy)	-
Ap	Posterior vaginal wall 3 cm proximal to the hymen	-3 cm to +3 cm
Bp	Most distal position of remaining upper posterior vaginal wall	-3 cm to +tvI
gh (genital hiatus)	Measured from middle of external urethral meatus to posterior midline hymen	-
pb (perineal body)	Measured from posterior margin of gh to middle of anal opening	-
tvI (total vaginal length)	Depth of vagina when point D or C is reduced to normal position	-

# POPQ Stage

Pelvic Organ Prolapse Quantification (POPQ)	
Stage 0	No prolapse is demonstrated
Stage I	The most distal portion of the prolapse is more than 1 cm above the level of hymen.
Stage II	The most distal portion of prolapse is 1 cm or less proximal or distal to plane of hymen
Stage III	The most distal portion of prolapse is more than 1 cm below the plane of hymen but protrudes no further than 2 cm less than the total vaginal length in centimeters
Stage IV	Essentially complete eversion of the total length of the lower genital tract is demonstrated.

# Ancillary testing

- UA
- PVR
- Validated Questionnaires
- Cough Stress Test with prolapse reduced
- Urodynamics: occult SUI
- Cystoscopy
- Pelvic ultrasound
- Renal ultrasound → stage 4 prolapse
- Dynamic MRI pelvic organ prolapse protocol with relax and strain images
- Endometrial biopsy (if Le Fort Colpocleisis)

# Key aspects of Exam

Location of prolapse:

- Anterior
- Posterior
- Apical (enterocele or uterine)

Degree:

- Above Hymen
- At Hymen
- Beyond Hymen

- Incontinence
- Pain
- Vaginal epithelium
  - Atrophy
  - Erosion

# 4. Treatment of POP is About Quality of Life



# Treatment of Prolapse

## Considerations

- The severity of the prolapse
- Patient symptoms
- The woman's general health
- Surgeon preference and capabilities.

## Options available for treatment are

1. Conservative
2. Pelvic floor physical therapy
3. Pessary
4. Surgical interventions.

# Non-Surgical Management

- Minimal morbidity
- Minimally invasive
- Does not preclude surgery
- Does not cure, but if relieves symptoms, Satisfaction is high in patients

# Expectant Management

- 64 symptomatic women chose expectant management followed by sequential exams
- 1.8% no change/ 19% progression >2cm/3% regression
- 63% continued observation/38% pessary or surgery
- Natural history of women declining intervention is one of minimal change

# Pessary

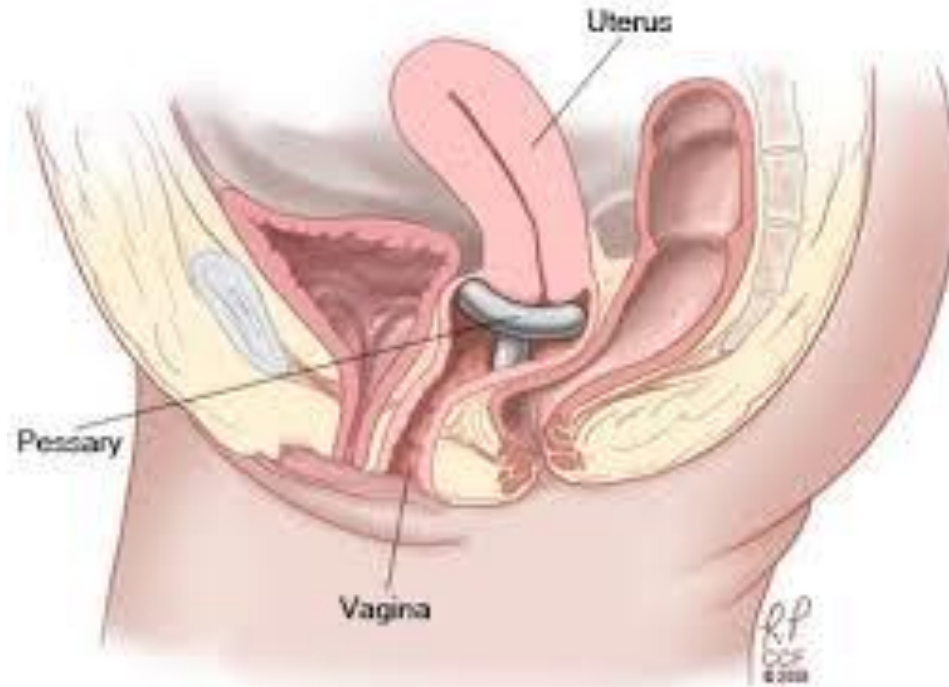
- Patient selection
  - Symptomatic patient with desire to avoid surgical intervention
  - Medical contraindications
  - Vaginal ulcerations due to severe prolapse
  - Not done with childbearing
  - Diagnostic tool
- Outcomes: Short, medium, long-term studies
  - High satisfaction
  - Low complication rate (pain, bleeding, constipation)

# 2 types pessary

- Supportive
  - Ring, ring with support, incontinence ring
- Space filling
  - Gelhorn, cube, donut



# Space Filling: Gelhorn



# Surgical Considerations

- Goals of treatment:
  - Relieve symptoms
  - Restore anatomy and function
  - Avoid complications
  - Improve quality of life
- Approches:
  - Transvaginal vs. Transabdominal
  - Reconstructive vs. obliterative

# Defining Success After Surgery for Pelvic Organ Prolapse

*Matthew D. Barber, MD, MHS, Linda Brubaker, MD, MS, Ingrid Nygaard, MD, Thomas L. Wheeler II, MD, MSPH, Joseph Schaffer, MD, Zhen Chen, MS, and Cathie Spino, DSc, for the Pelvic Floor Disorders Network*

- Secondary analysis of the CARE trial described POP surgical success rates after sacrocolpopexy using 18 different definitions of treatment success with differing requirements for anatomic, symptomatic and/or retreatment outcomes
- Treatment success varied widely depending upon definition used (19.2% to 97.2%).

- (1) Any definition of success after POP surgery should include
  - Absence of vaginal bulge symptoms
  - Anatomical criteria
  - Absence of re-treatment
- (2) using the hymen as a threshold for anatomic success

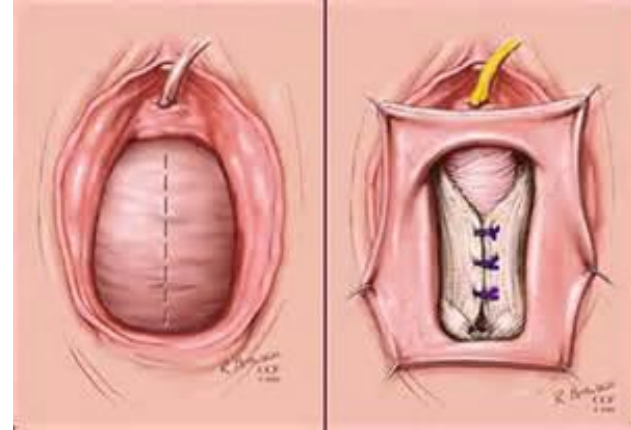
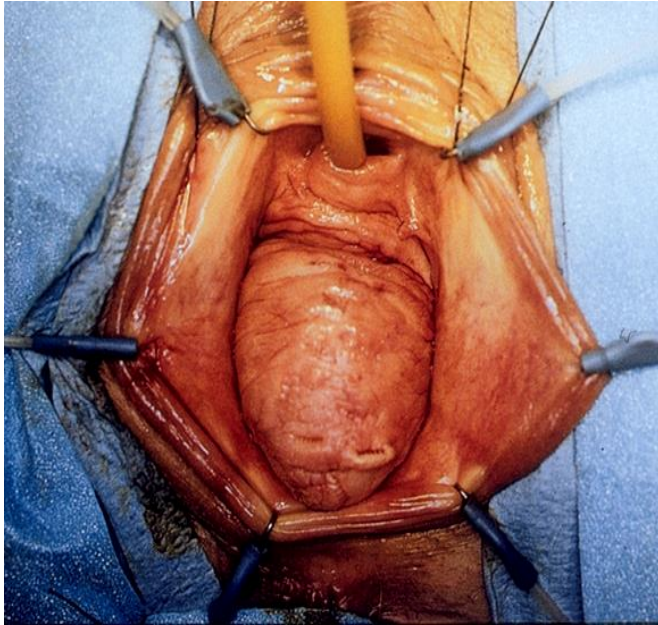


# Uterine Preservation

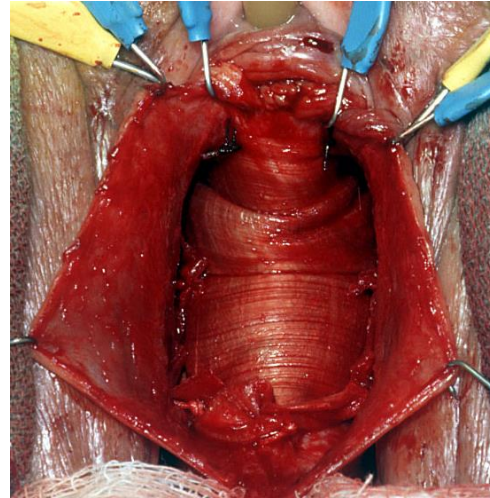
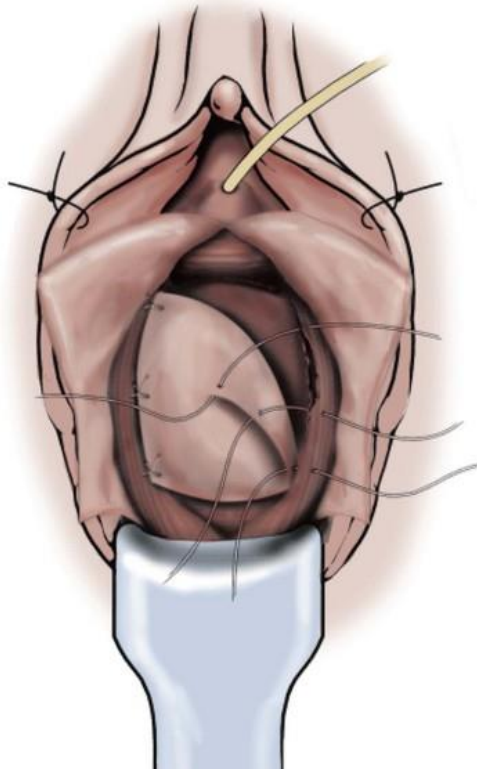
- Controversial:
  - Surgical outcomes comparing hysterectomy with uterine-sparing are limited
  - Long-term data is limited and the need for subsequent hysterectomy unknown
- Uterine sparing surgery is a suitable option in women with uterine prolapse without contraindications to uterine preservation.
  - May need pre-operative pelvic ultrasound or endometrial biopsy.
  - Multidisciplinary: work with gynecology colleagues.

# Surgery: Reconsrtructive

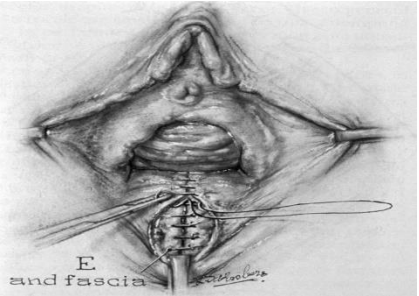
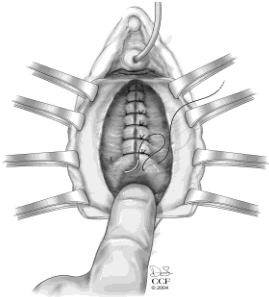
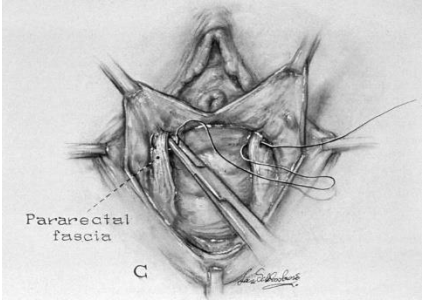
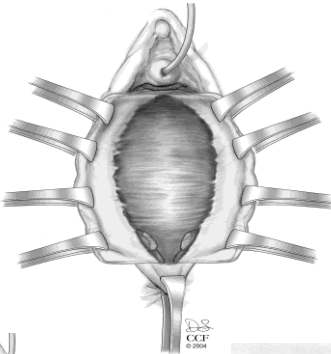
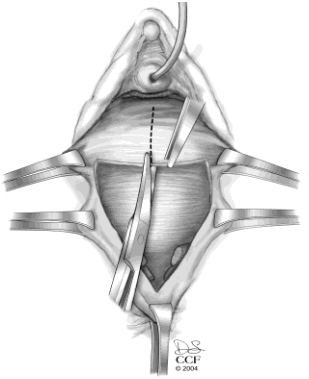
# Traditional Anterior Colporrhaphy



# Cadaveric Fascia Lata



# Traditional Posterior Repair Colporrhaphy



# Prolapse repair Outcomes

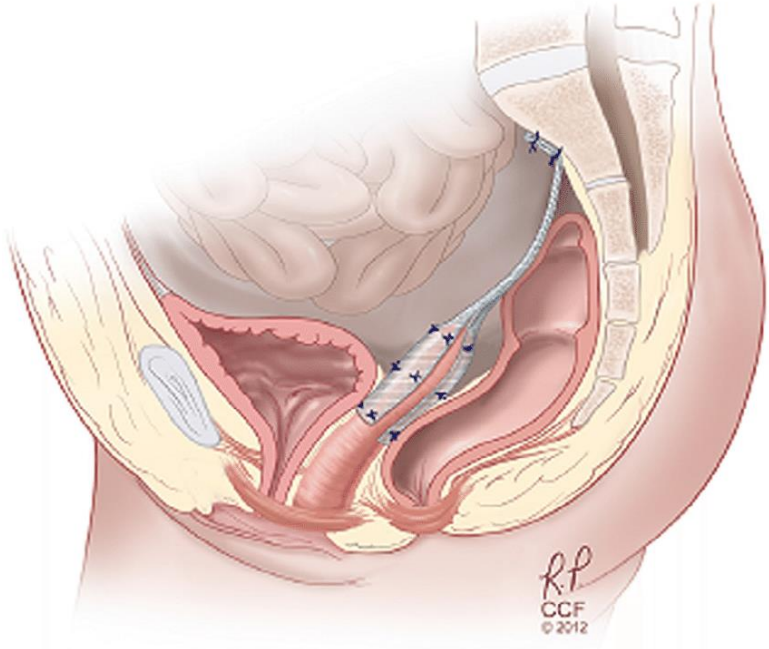
- Anterior and posterior Colporrhaphy success rates ranges from 56-96%
  - Anatomic: 50-60%
  - Symptomatic: 80-85%
- Rectocele repair:
  - Bowel symptoms resolve or improve in 2/3
  - 11% develop new symptoms (10% risk of chronic pain)

# Transvaginal Apical Repair

- Done at time of cystocele or rectocele repair.
- Attach the vaginal apex to ureterosacral or sacrospinous ligaments.
- Can be done uterine sparing



# Transabdominal: Sacrocolpopexy





# Long-term Outcomes Following Abdominal Sacrocolpopexy for Pelvic Organ Prolapse

Ingrid Nygaard, MD

Linda Brubaker, MD

Halina M. Zyczynski, MD

Geoffrey Cundiff, MD

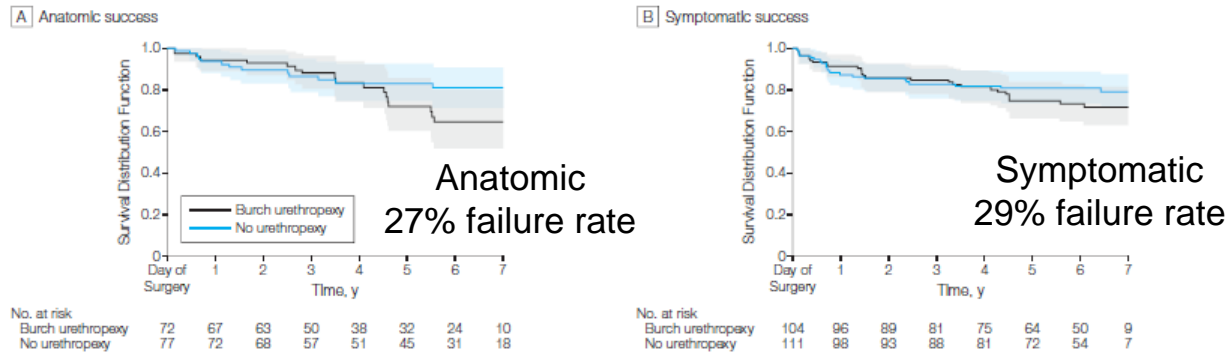
Holly Richter, MD

**Importance** More than 225 000 surgeries are performed annually in the United States for pelvic organ prolapse (POP). Abdominal sacrocolpopexy is considered the most durable POP surgery, but little is known about safety and long-term effectiveness.

**Objectives** To describe anatomic and symptomatic outcomes up to 7 years after abdominal sacrocolpopexy, and to determine whether these are affected by concomitant anti-incontinence surgery (Burch urethropexy).

## OUTCOMES FOLLOWING ABDOMINAL SACROCOLPOPEXY FOR PELVIC ORGAN PROLAPSE

**Figure 3.** Kaplan-Meier Survival Curves for Success of Abdominal Sacrocolpopexy in Treating Pelvic Organ Prolapse Through Year 7, Using Anatomic and Symptomatic Definitions of Success



The blue and gray shading indicate pointwise 95% confidence intervals.

# Surgery: Obliterative

# Colpocleisis (or Le Fort Colpocleisis)

- Prolapse is reduced and vaginal canal is surgically closed
- Good option for women:
  - Elderly
  - Medically compromised
  - No longer sexually active or interested in sexual activity.
- Very high success rate (nearly 100%)
  - High patient satisfaction and functional improvement
  - Low rates of regret for loss of sexual function
  - Low complication rate

# Colpopcleisis



# Mesh Complications

- Vaginal extrusion:
  - If asymptomatic may consider observation
  - If symptomatic:
    - Small: vaginal estrogen, surgical removal
    - Large: surgical removal
- Erosion:
  - If symptomatic: surgical removal
  - If asymptomatic: observe vs. surgical removal

# 5. The are Multidisciplinary Teams that Care for Women with Complex Pelvic Floor Disorders

# Multidisciplinary Team for Pelvic Floor

- Urology/Urogynecology
- Gynecology
- Colorectal
- Gastroenterology
- Pelvic Floor Physical Therapist
- PM and R





# When to Refer?

- Symptomatic patient interested in medical or surgical treatment options
- Management of complications
- Management of recurrent prolapse

# Summary

- POP is very common but not always symptomatic
- Simple office evaluation
- Various successful treatment options: surgical and non-surgical.
- Goals of therapy: anatomic vs. symptomatic

# THANK YOU!