International Federation of Gynecology and Obstetrics

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NATIVE TISSUE REPAIR FOR PELVIC ORGAN PROLAPSE

Pelvic organ prolapse (POP)

- Herniation of the pelvic organs
- Uterus, vaginal cuff, bladder, small or large bowel
- Associated vaginal segments

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Prevalence for POP

- Prevalence of pelvic floor dysfunction: 30-50% of population.
- 50% of parous women lose pelvic floor support.
- The lifetime risk of surgery for POP or UI: 11%
- Reoperation risks after previous surgery: 13-56%

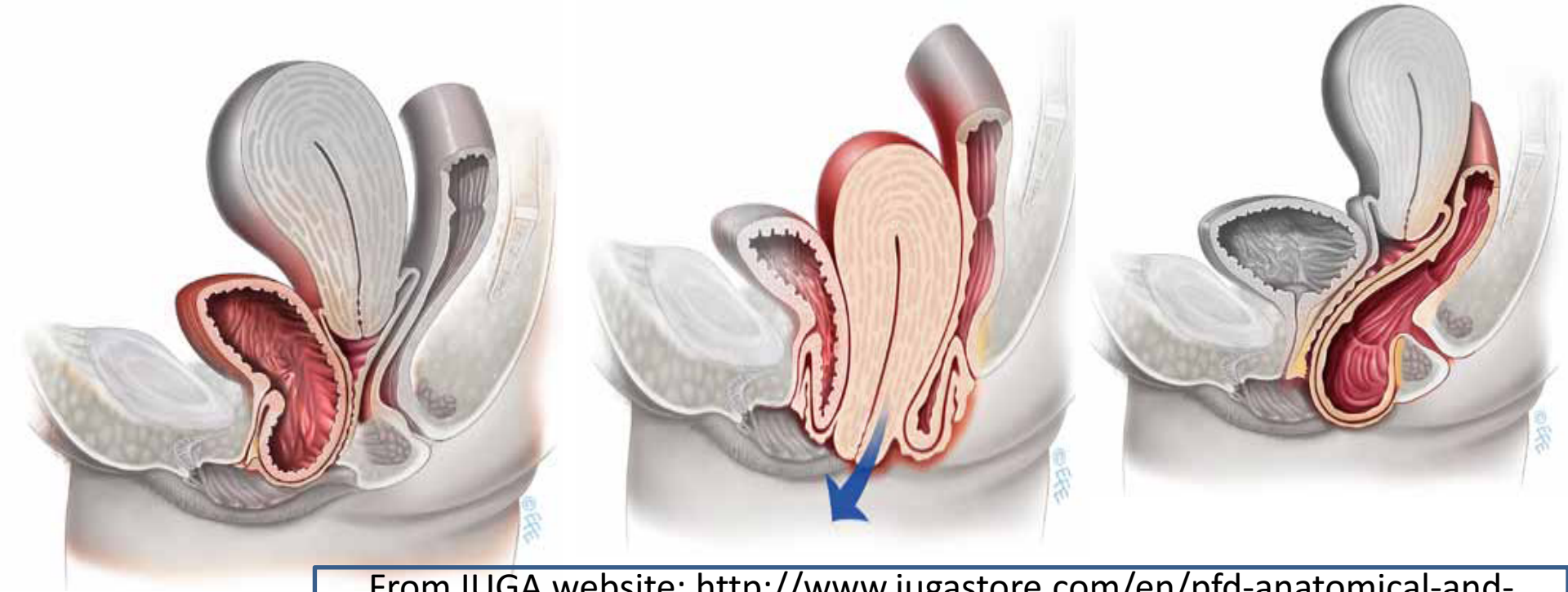
Classification (NIH)

- NIH Terminology Workshop for Researchers in Female Pelvic Floor Disorders, 2001

- POP was described:
  - Anterior vaginal prolapse
  - Apical or uterine prolapse
  - Posterior vaginal prolapse

Types of prolapse

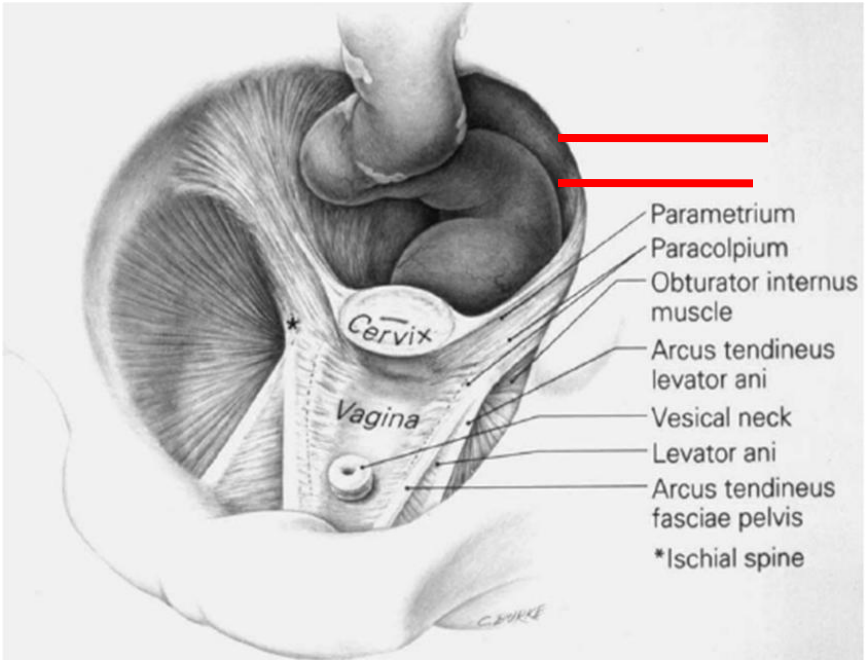
- Anterior – cystocele, urethrocystocele
- Apical – uterine prolapse, vaginal vault prolapse
- Posterior – enterocele, rectocele



From IUGA website: http://www.iugastore.com/en/pfd-anatomical-and-surgical-chart/98-pfd-anatomical-and-surgical-chart.html

Pelvic floor support by DeLancey

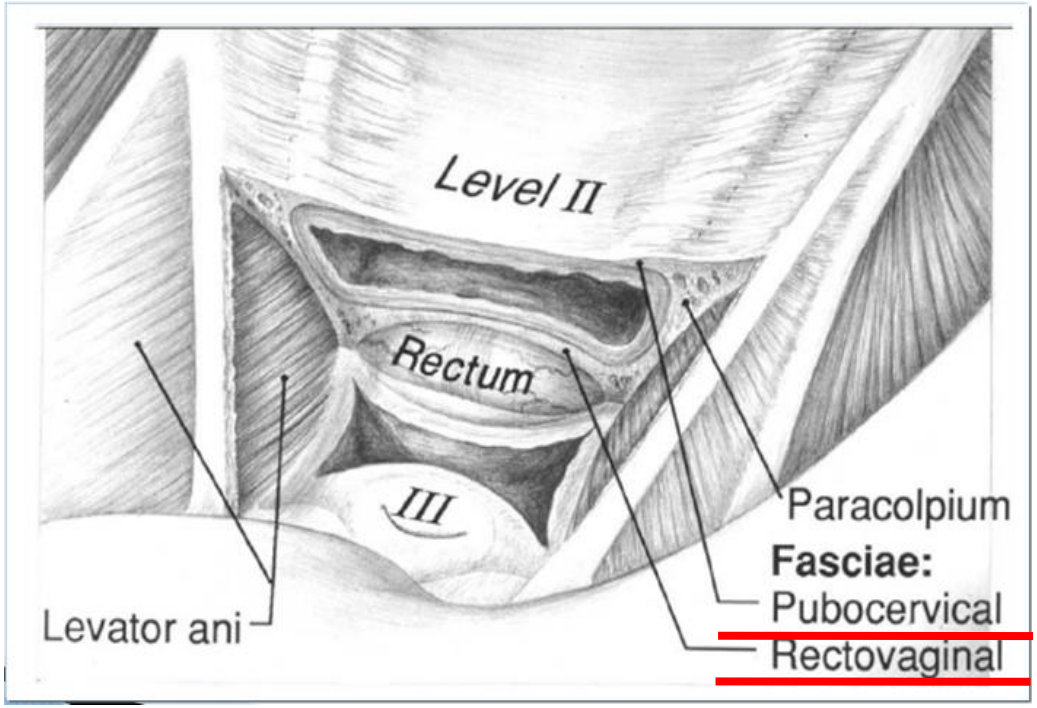
- **Level I**: cervix /upper third vagina, **suspension** by paracolpium, cardinal-uterosacral ligament



DeLancey JOL. Anatomic aspects of vaginal eversion after hysterectomy. Am J Obstet Gynecol. 1992;166:1717.

Pelvic floor support by DeLancey

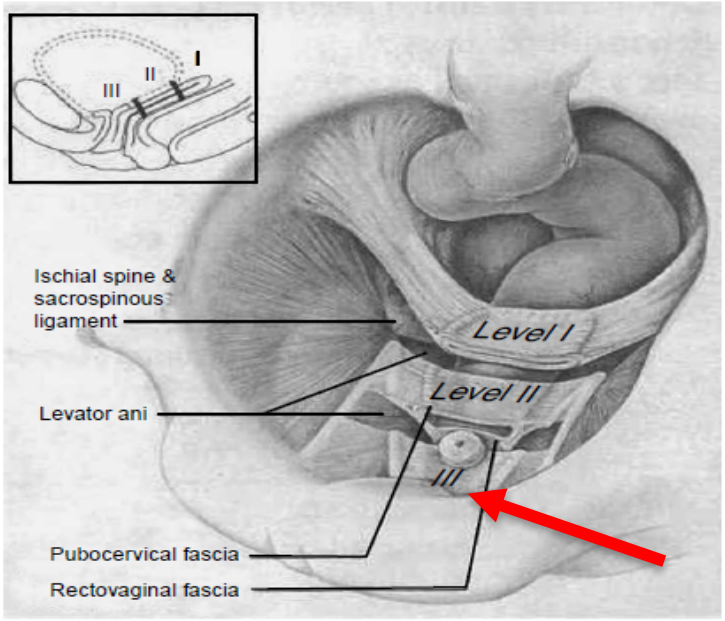
- **Level II**: middle third vagina, supported by **attachment** of fascial sheet to pelvic sidewall



DeLancey JOL. Anatomic aspects of vaginal eversion after hysterectomy. Am J Obstet Gynecol. 1992;166:1717.

Pelvic floor support by DeLancey

- **Level III**: lower third vagina, **fusion** to urogenital diaphragm and perineal body, ant and post.



DeLancey JOL. Anatomic aspects of vaginal eversion after hysterectomy. Am J Obstet Gynecol. 1992;166:1717.

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Management of POP

- Observation
- Conservative tx: PFMT, Pessary
- Surgery

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Surgery for POP

- **Obliterative**
- **Reconstructive**

Obliterative procedures for POP

- Less invasive
- Better tolerated by frail, older women
- Not candidates for more extensive surgery
- Shorter operative duration
- Decreased perioperative morbidity
- Low risk of recurrence

Obliterative procedures for POP

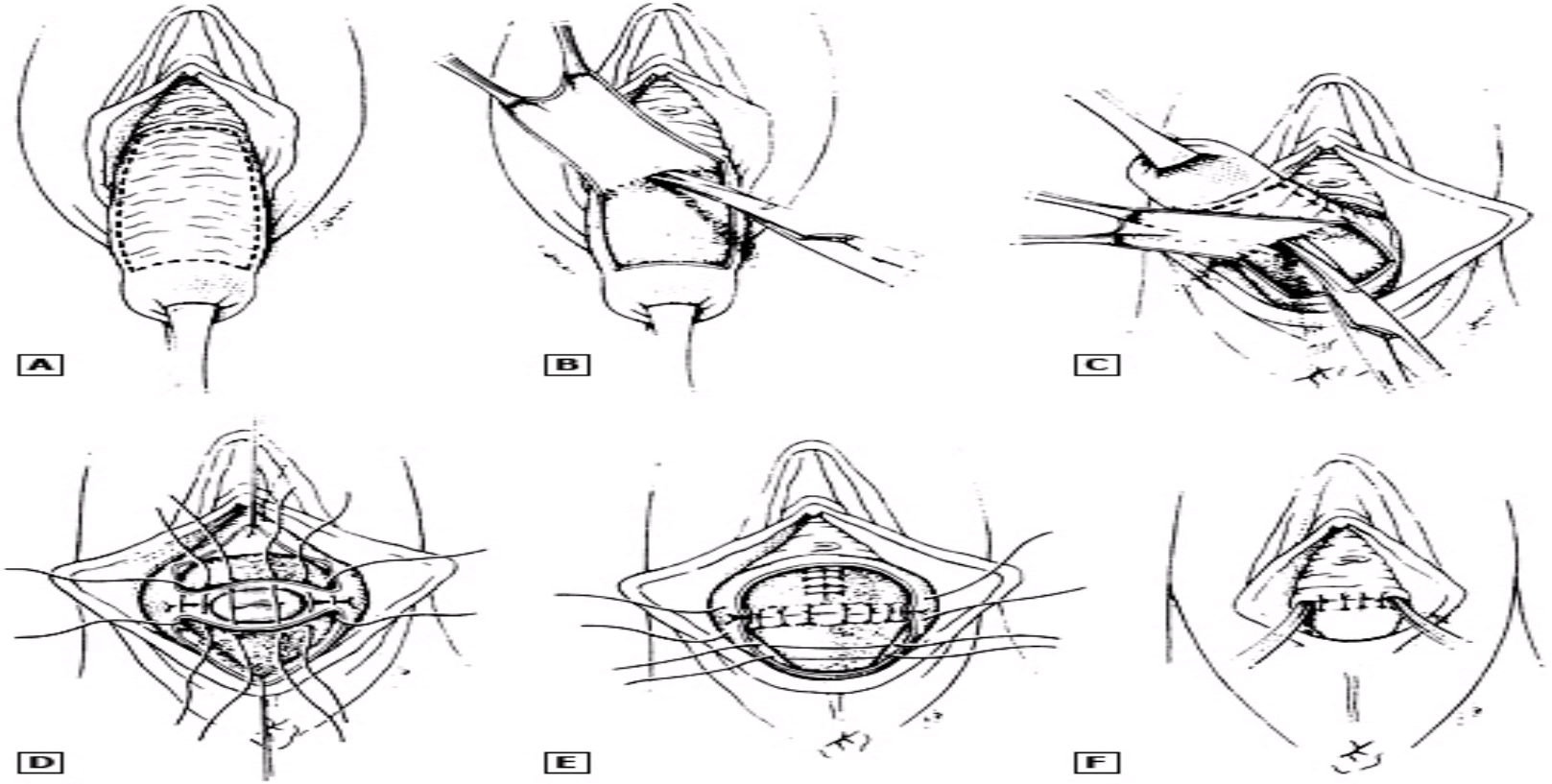
- Partial colpocleisis (LeFort colpocleisis)
- Total colpocleisis

- Highly effective for treating POP
- Success rate: 90~100%

Partial colpocleisis (LeFort colpocleisis)

- Uterus is left in situ
- Removal of strips of ant and post vaginal epithelium
- Leaving a small strip of lateral epithelium on each side
  ~outlet for cx or u't bleeding or drainage

Le Fort partial colpocleisis



(A-C) In Le Fort colpocleisis, rectangles of vaginal mucosa are removed from the anterior and posterior vaginal walls.
(D, E) The denuded areas are then sutured together, leaving (F) channels on each side open.

Adapted from Uptodate :
https://www.uptodate.com/contents/image?imageKey=OBGYN%2F51734&topicKey=OBGYN%2F15268&source=outline_link&search=Partial%20colpocleisis%20&selectedTitle=1~150

Goals of pelvic reconstructive surgery

- Repair all the defects
- Restoration of normal anatomy
- Maintain normal vaginal function
- Improve symptoms related to POP
- Improve QoL
- Prevent of recurrence

Route of pelvic reconstructive surgery

- Transvaginal
- Transabdominal
- Laparoscopy

=> Choice based on type and severity of POP, surgeon's training /experience, patient's preference

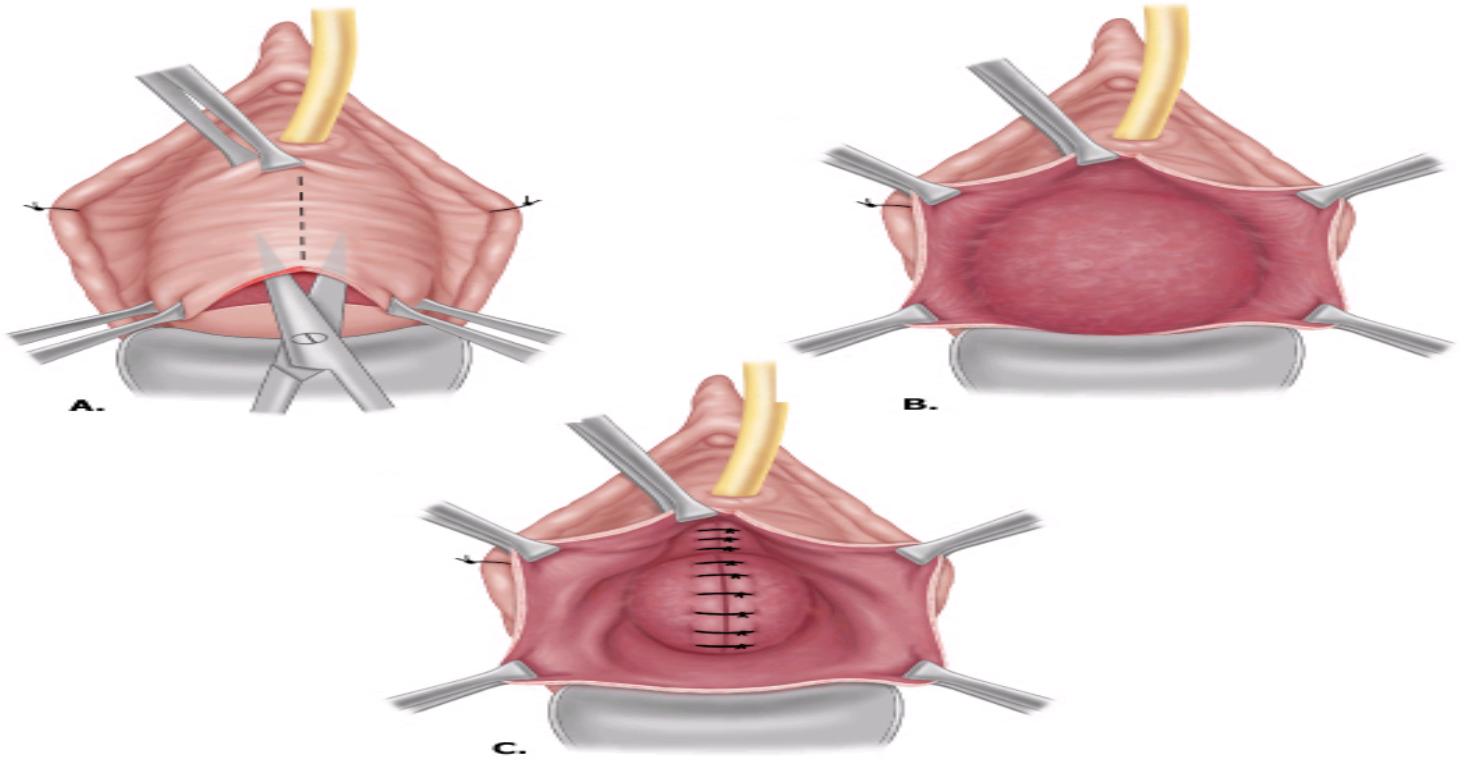
Anterior compartment

- Anterior colporrhaphy
- Paravaginal repair
- Concomitant anti-incontinence surgery: Burch, sling

Anterior colporrhaphy

- Ant vaginal wall defects : thinning/stretching of weakened vaginal tissue.
- Excision and/or plication of redundant ant vag wall mucosa to reduce of ant vag defect.
- Central plication of fibromuscular layer of ant vag wall

Transvaginal anterior repair



Anterior colporraphy – With the patient in the dorsal lithotomy position, the anterior vaginal wall is clearly visualized. Using allis clamps to grasp the anterior vaginal wall, a transverse incision is made using a knife at the proximal aspect of the defect. Sharp dissection in a vertical manner is then performed as superficial as possible using Metzenbaum scissors along the midline of the anterior vaginal wall, staying at least 1 cm away from the external urethral orfice (Image A). Sharp dissection is performed bilaterally to clear the mucosa from the underlying muscularis and adventitia to the level of the pubic symphysis (Image B). Plication of the remaining muscularis and adventitia is then performed with a delayed absorbable suture, thereby repairing the anterior wall support defect (Image C). The vaginal muscosa is then trimmed and closed in a running manner.

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Adapted from Upto date:
https://www.uptodate.com/contents/image?imageKey=OBGYN%2F69730&topicKey=OBGYN%2F8084&source=outline_link&search=transvaginal%20anterior%20repair&selectedTitle=1~150

Anterior colporrhaphy

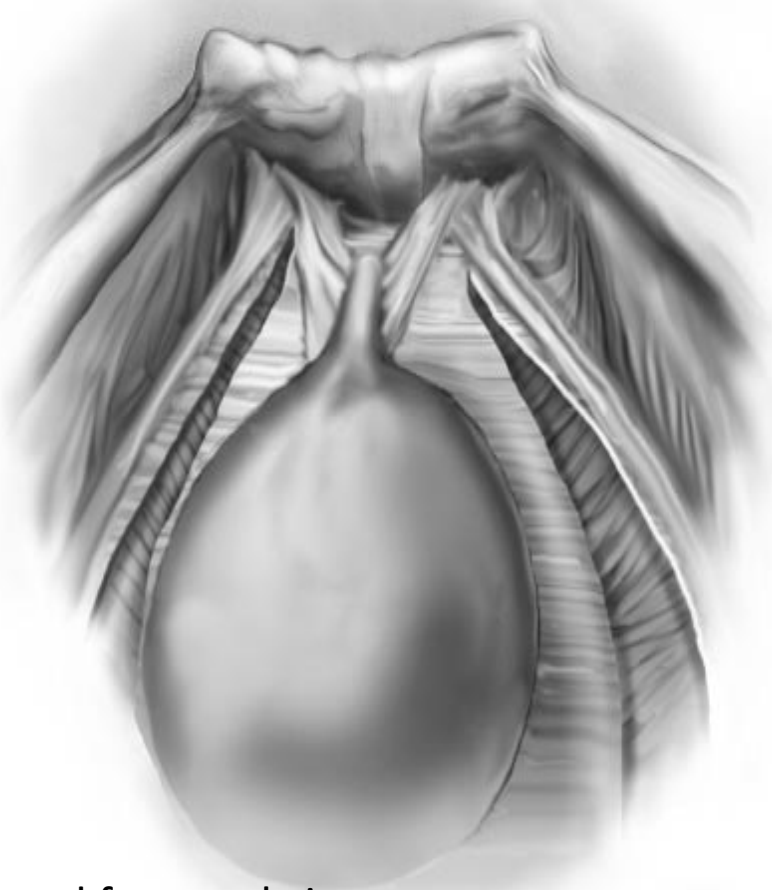
- Success rates:
  - 80~100% at 1 year f/u
  - 37~57% at long-term f/u

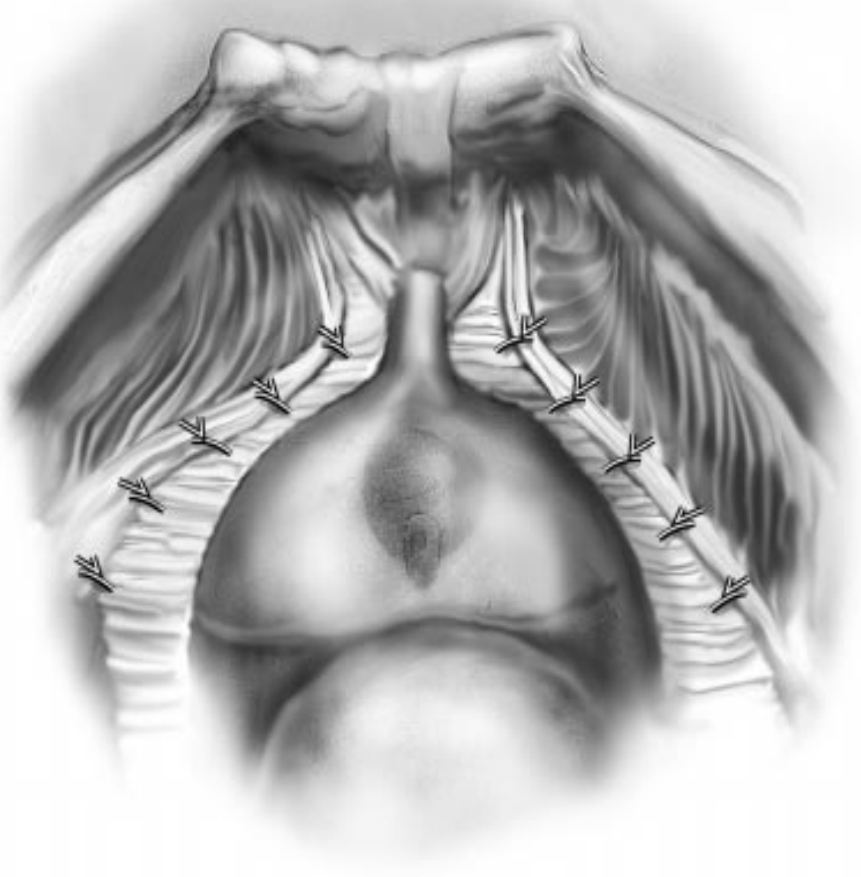
    (Sand 2001, Weber 2001)

- High recurrence rate

Lateral defect

Paravaginal repair





Adapted from website:
http://www.oxfordgynaecology.com/TabPages/Surgery/VaginalProlapse/Paravaginal-Repair.htm

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Apical compartment

- Sacral colpopexy
- Sacrospinous ligament suspension
- Uterosacral ligament suspension
- Ilioccygeus suspension

Sacral colpopexy

- Abdominal and laparoscopic
- Suturing ant and post vaginal wall via mesh to the ant sacral ligament
- Complex
- Least impact on sexual dysfunction

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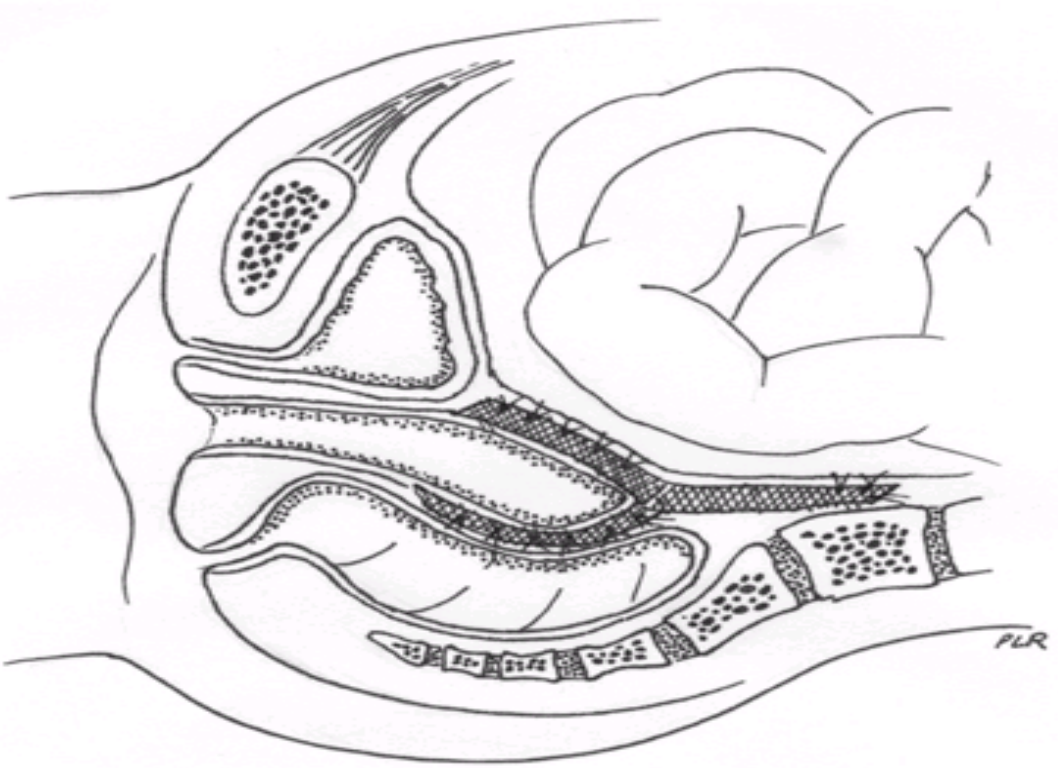
Sacrocolpopexy



After dissecting the bladder and rectum off the anterior and posterior vaginal walls, respectively, a Y-shaped graft is sutured to the anterior and posterior endopelvic fascia with a series of permanent sutures.
Courtesy of Peter L Rosenblatt, MD.

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Sacrospinous ligament suspension

- Most commonly used transvaginal procedure for apical prolpase repair
- Unilateral or bilateral
- Right-side preferred

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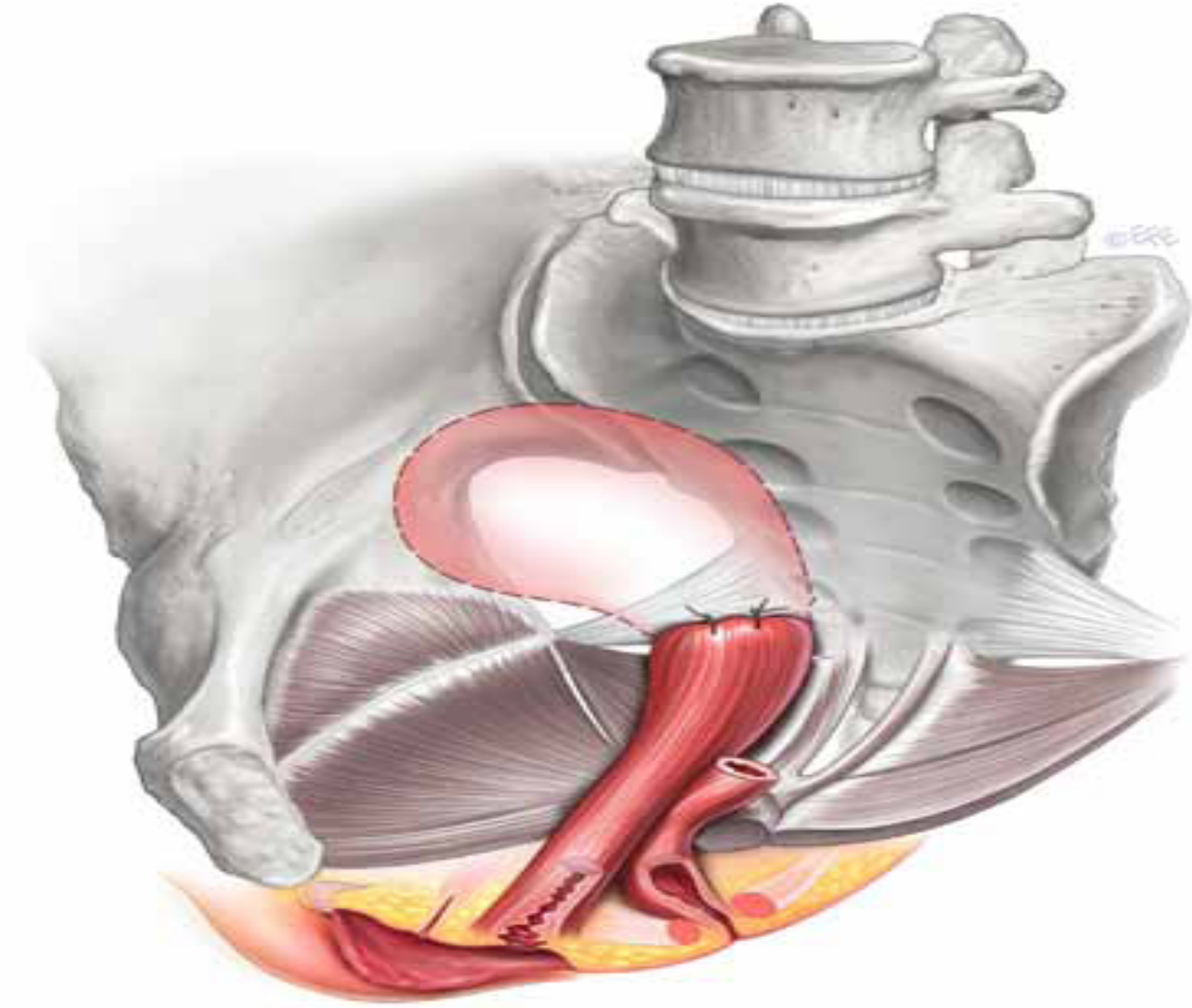


From IUGA website: http://www.iugastore.com/en/pfd-anatomical-and-surgical-chart/98-pfd-anatomical-and-surgical-chart.html

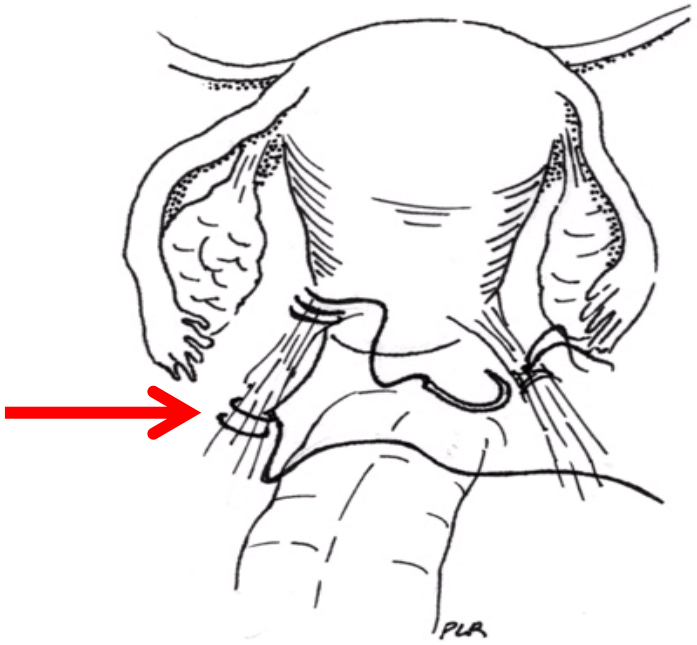
Sacrospinous ligament suspension

- Objective cure rate: 67~97%
- Neurovascular complications

  (inf gluteal or pudendal vessels, branches of sciatic nerve)
- Buttock pain as high as 30%

Uterosacral ligament suspension

Uterosacral ligament uterine suspension



The surgeon identifies the proximal portion of the uterosacral ligament and uses permanent sutures to bind it to the distal aspect of the ligament, near its insertion into the lower uterine segment and cervix.
Courtesy of Peter L Rosenblatt, MD.

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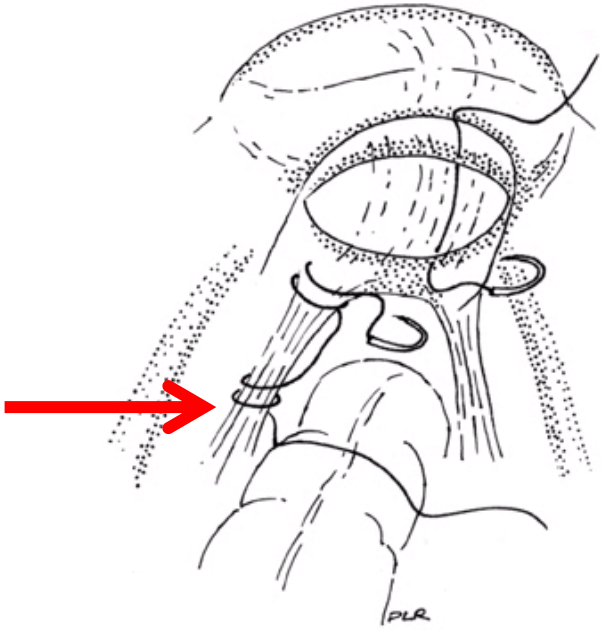
Uterosacral ligament vault suspension



Dissection of the bladder off the anterior vaginal wall (and underlying fascia) is performed and permanent or delayed-absorbable sutures are used to unite the anterior and posterior fascia before anchoring the vaginal apex to the proximal uterosacral ligaments.
Courtesy of Peter L Rosenblatt, MD.

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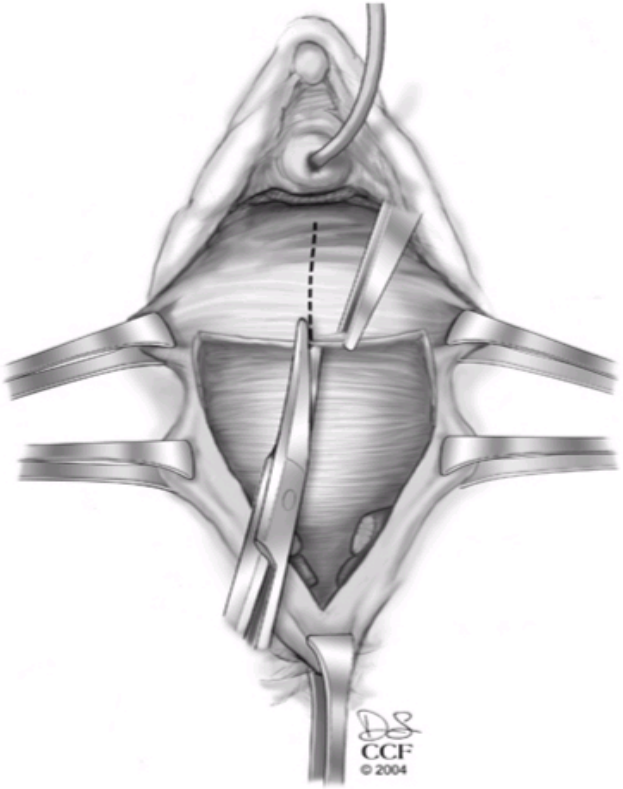
Posterior colporrhaphy

- Plication the post vaginal muscularis, rectovaginal septum or medical aspect of levator ani muscle in the midline

- Anatomic cure rate: 76~96%

The posterior vaginal mucosa is undermined and a midline incision is made



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The rectovaginal musclaris is plicated in the midline using interrupted 0-delayed absorbable sutures

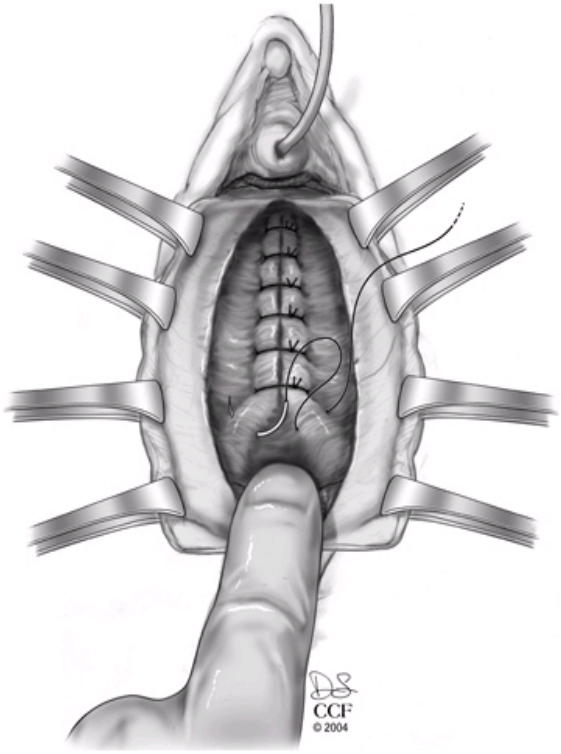

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*TABLE 1. Traditional Posterior Colporrhaphy**

Study	N	Mean Follow-up (mo)	Anatomic Cure (%)	Vaginal Digitation (%)	Defecatory Dysfunction (%)	Fecal Incontinence (%)	Dyspareunia (%)	De novo Dyspareunia in Sexually Active Patients, n (%)
Mellgren et al								
Preoperative	25	12	96	50	100	8		2 (8)
Postoperative	25			0	88	8		
Weber et al								
Preoperative	53	12						14 (26)
Postoperative	53							
Sand et al†								
Preoperative	70	12	90					
Postoperative	67							
Maher et al								
Preoperative	38	12.5	89	100	100	3	37	1 (4)
Postoperative	38			16	13	0	5	
Paraiso et al†								
Preoperative	37	17.5	86	43	80		56	(20)
Postoperative	28			19	32		45	