



TÈCNIQUES CLÀSSIQUES I SÒL PELVIÀ: QUÈ SEGUEIX VIGENT?

# CULDOPLÀSTIA DE McCALL

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## Posterior Culdeplasty

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MILTON L. McCALL, M.D.

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# TRACTAMENT DE L'ENTEROCELE

## ANTECEDENTS

- 1736 GARENGEOT: descriu l'enterocele
- 1909 MARION: obliteració abdominal
- 1912 MOSCHCOWITZ: operació prolapse rectal
- 1915 MAYO: sutura medial munyons útero-sacres
- 1922 WARD: Obertura del sac herniari / Reducció, lligadura de la base i excisió / Plicatura dels útero-sacres
- 1934 HEANEY: sutura extraperitoneal dels munyons útero-sacres als angles laterals de vagina

**Posterior Culdeplasty**

*Surgical correction of enterocele during vaginal hysterectomy; a preliminary report*

MELTON L. MCALL, M.D.

History of the sub-acute of Douglas was first described in 1756 by Grainger (according to T. Gallard Thomas). Except for a few specific attempts to raise the position by the abdominal route, no treatment was essentially suggested until the present century. In 1850 Morton described abdominal obliteration of the cul-de-sac in this condition, and in 1912 Mackintosh introduced his operation for rectal prolapse which also was found to be useful in enterocele.

In 1925 Ward popularized the vaginal approach for the cure of posterior vaginal hernia. Since then there have been a number of modifications<sup>1,2,3,4</sup> of this operation described, but the fundamental remains the same. These plans of rectocele are high dissection of the posterior vaginal wall to expose the enterocele, division of the hernial sac followed by the opening, reduction of its contents, ligation of its base, and elevation of sacral perforation. This is usually followed by the fixation of the uterovesical ligaments or other adjacent tissues over the site now found to be usually prolapsing.

From the Department of Obstetrics and Gynecology, Leland Stanford Junior University School of Medicine, San Francisco, Cal.  
Read before the American College of Obstetrics and Gynecology, Chicago, Ill., October 1, 1956.  
Reprint requests: Dr. Melton L. McAll, 1147, Boulevard, Mount, Cal. 94041.

One aspect of recent plans the author has advised a radical for the enterocele which, as far as he knows, has not been described in the literature. This operation is performed low below the uterovesical ligament and takes place within the lower portion of the peritoneal cavity. It is in the cul-de-sac of Douglas usually entered by the tunic of delivery. The defect is closed not by any degree from a small suspending ligament but the oval

opened between the uterovesical ligament to a large vein which divides downward in the direction concerning the main status of uterine (Fig. 1), which is also called "posterior vaginal tract." Terminology of the "posterior vaginal tract" or "obscure" is used to include both completed and suspended types whether they be large or small. This view is in accordance with that taken by Watt, Papanicolaou,<sup>5</sup> and most modern gynecologists.

Ward was among the first to point out that small ad-acute retraction in case common. Read and Linn, both emphasize that suspended large posterior hernia is probably the most common form of this condition following vaginal hysterectomy. This condition may but not only in extending uterovesical formation, but also in complete protrusion immediately behind the cervix



Fig. 1. Cul-de-sac of Douglas.

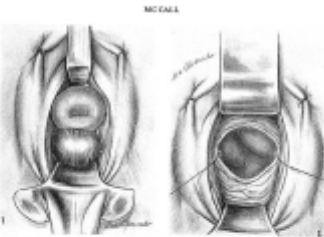


Fig. 2. Posterior culdeplasty. The ligament is suspended to a large vein.

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Fig. 3. Posterior culdeplasty. The ligament is suspended to a large vein.

TABLE 1. Vaginal Length Before and After Posterior Culdeplasty

Patient	Pre-op. (cm.)	Post-op. (cm.)	
M.M.	3.8	9.2	17
N.B.	4.0	4.1	19
C.L.	4.0	4.2	18
E.C.	4.0	4.2	18
G.F.	4.2	4.4	18
H.L.	4.2	4.4	18
I.L.	4.2	4.4	18
J.L.	4.2	4.4	18
K.L.	4.2	4.4	18
L.L.	4.2	4.4	18
M.L.	4.2	4.4	18
N.L.	4.2	4.4	18
O.L.	4.2	4.4	18
P.L.	4.2	4.4	18
Q.L.	4.2	4.4	18
R.L.	4.2	4.4	18

TABLE 1. Vaginal Length Before and After Posterior Culdeplasty

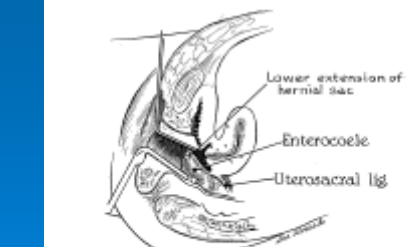


Fig. 4. Diagrammatically upper cul-de-sac before culdeplasty. Lower cul-de-sac after culdeplasty.

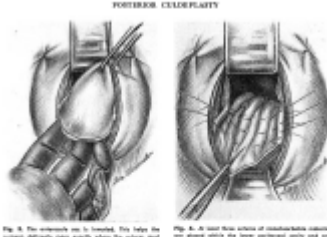


Fig. 5. Division of posterior vaginal tract and ligation of its base.

There has been a tremendous increase recently in the number of vaginal hysterectomies performed in this country. This fact makes the position of uterovesical most significant in this area, since this operation is done frequently without giving adequate regard to the cul-de-sac area. In ligating with modern emphasis upon early diagnosis and treatment in reduction, the author believes that it is of great importance to know and treat the very enterocele. It is with this in mind that a new technique is described although large enterocele have been suspended successfully with this method.

The posterior culdeplasty is a simple procedure which addresses the sub-acute cul-de-sac of Douglas by a series of continuous sutures so as to suspend it by the uterovesical



Fig. 6. Division of posterior vaginal tract and ligation of its base.

ligament. This is a preliminary report of the author's experience with this procedure. The first 20 cases were performed during the last year and a half by the author and by the Leland Stanford Junior University School of Medicine and Leland Stanford Junior Hospital. These preliminary patients of 20, taught Stovits and are included.

The largest follow-up of any of these patients has been 7 years. Most patients have been operated upon in 19 months postoperatively. In the opinion of the author this method of follow-up is longitudinal. One



Fig. 7. Division of posterior vaginal tract and ligation of its base.

most of these degrees of posterior cul-de-sac extension.

1. Posterior culdeplasty, a vaginal procedure which addresses and suspends the sub-acute posterior cul-de-sac following vaginal hysterectomy, has been described.

2. This operation helps to lengthen the vagina without bringing about an undue narrowing of the upper vagina as is most of the other methods.

3. Continued performance and evaluation of this technique appear to be needed.

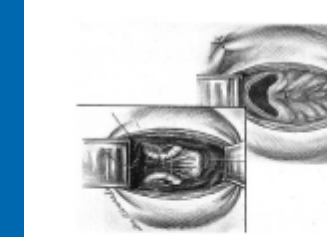


Fig. 8. Division of posterior vaginal tract and ligation of its base.

As a result, the position of uterovesical ligament is restored to its normal position. The posterior vaginal tract is divided and its base is ligated. The posterior vaginal tract is divided and its base is ligated. The posterior vaginal tract is divided and its base is ligated.

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Fig. 10. Division of posterior vaginal tract and ligation of its base.

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**American Board of Obstetrics and Gynecology**

The Part I Examinations of the American Board of Obstetrics and Gynecology are to be held in various parts of the United States and Canada on Thursday, January 1, 1958, at 2:00 p.m.

Candidate notified of their eligibility to participate in Part I Exam should submit a completed form to the American Board of Obstetrics and Gynecology, 1400 Broadway, New York 17, New York.

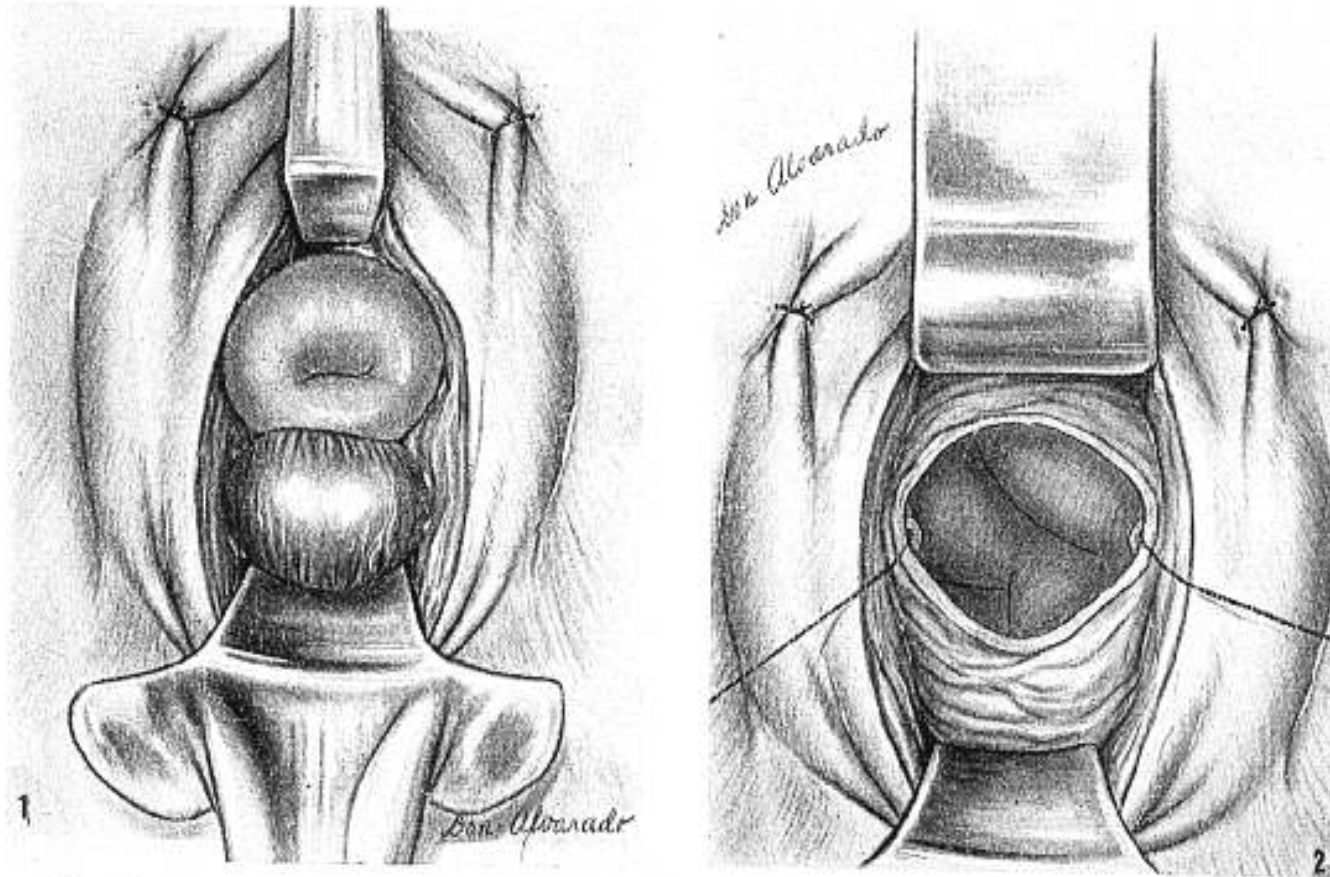
Resident L. P. F. and General G. B. Secretary, American Board of Obstetrics and Gynecology, 1400 Broadway, New York 17, New York.



Corporació  
**Parc Taulí**

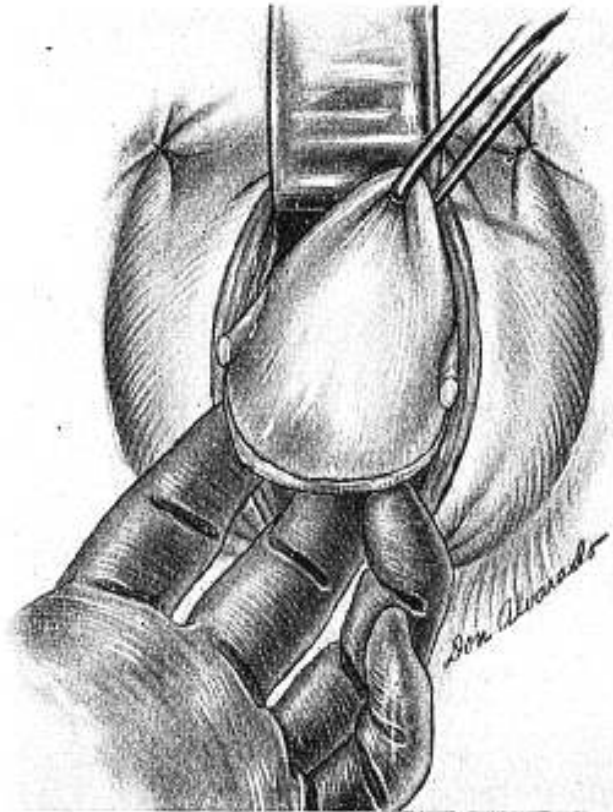
McCall M.L. *Posterior culdeplasty. Surgical correction of enterocele during vaginal hysterectomy; a preliminary report.* *Obstet. Gynecol.* 1957; 10: 595-602

MC CALL



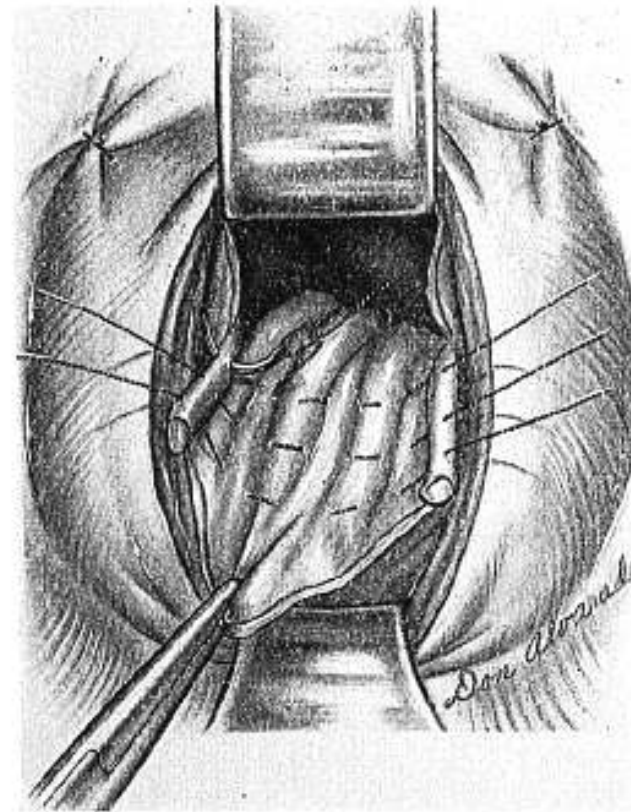
**Fig. 1.** Acquired enterocele. **Fig. 2.** Vaginal hysterectomy has been accomplished. The ligatures on cut uterosacral ligaments are held long.

## POSTERIOR CULDEPLASTY



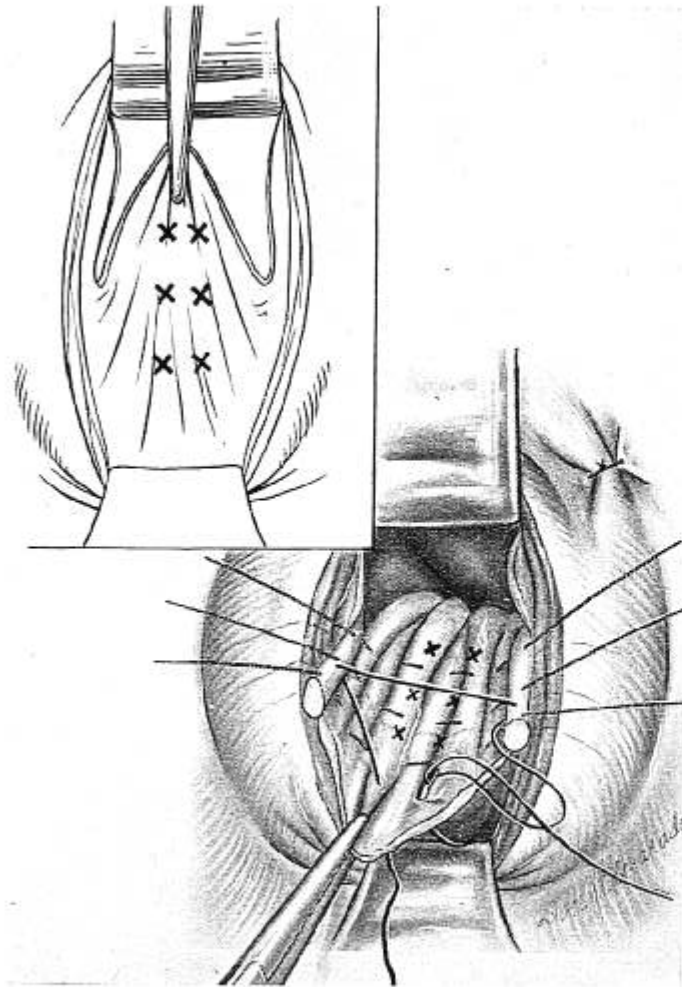
**Fig. 3.** The enterocelesac is inverted. This helps the surgeon delineate more exactly where the sutures must be placed in order to obliterate completely the relaxation present.

There has been a tremendous increase recently in the number of vaginal hysterectomies performed in this country. This fact makes the problem of enterocele more



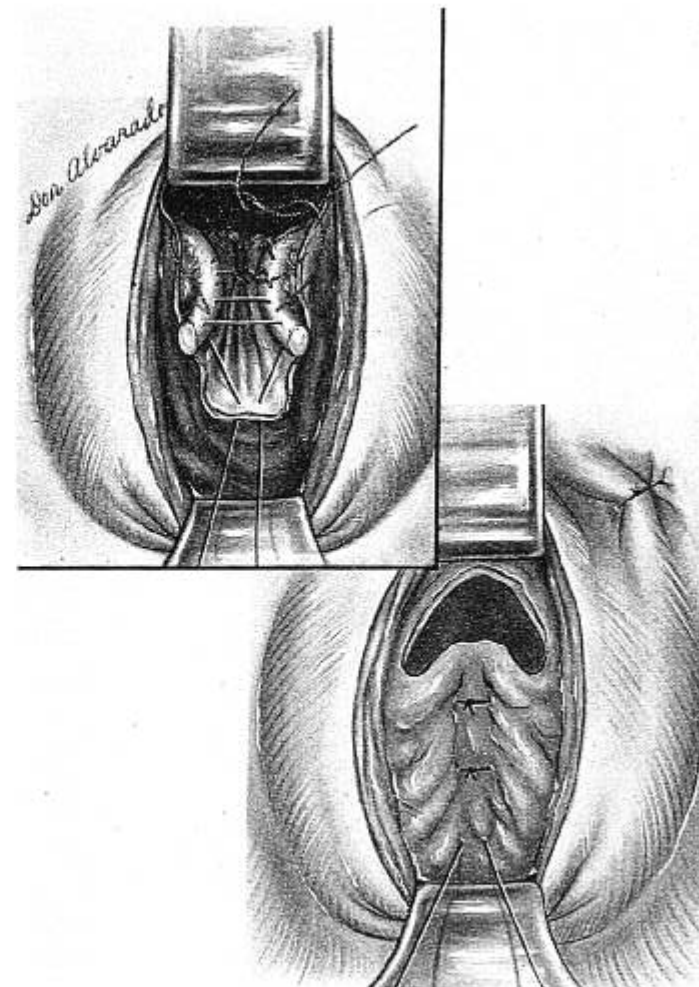
**Fig. 4.** At least three sutures of nonabsorbable material are placed within the lower peritoneal cavity and are called the internal sutures. The first stitch picks up the left uterosacral ligament about 2 cm. from its cut edge and is terminated after picking up the right uterosacral ligament at the same level. Several bites of redundant cul-de-sac are incorporated in the suture at regular intervals so as not to allow defects through which the pelvic viscera may become herniated. Each individual internal suture is placed at a higher level until the entire enterocele has been picked up.

McCall M.L. *Posterior culdeplasty. Surgical correction of enterocele during vaginal hysterectomy; a preliminary report.* Obstet. Gynecol. 1957; 10: 595-602



5

Legends on opposite page.



6

McCall M.L. *Posterior culdeplasty. Surgical correction of enterocele during vaginal hysterectomy; a preliminary report.* *Obstet. Gynecol.* 1957; 10: 595-602

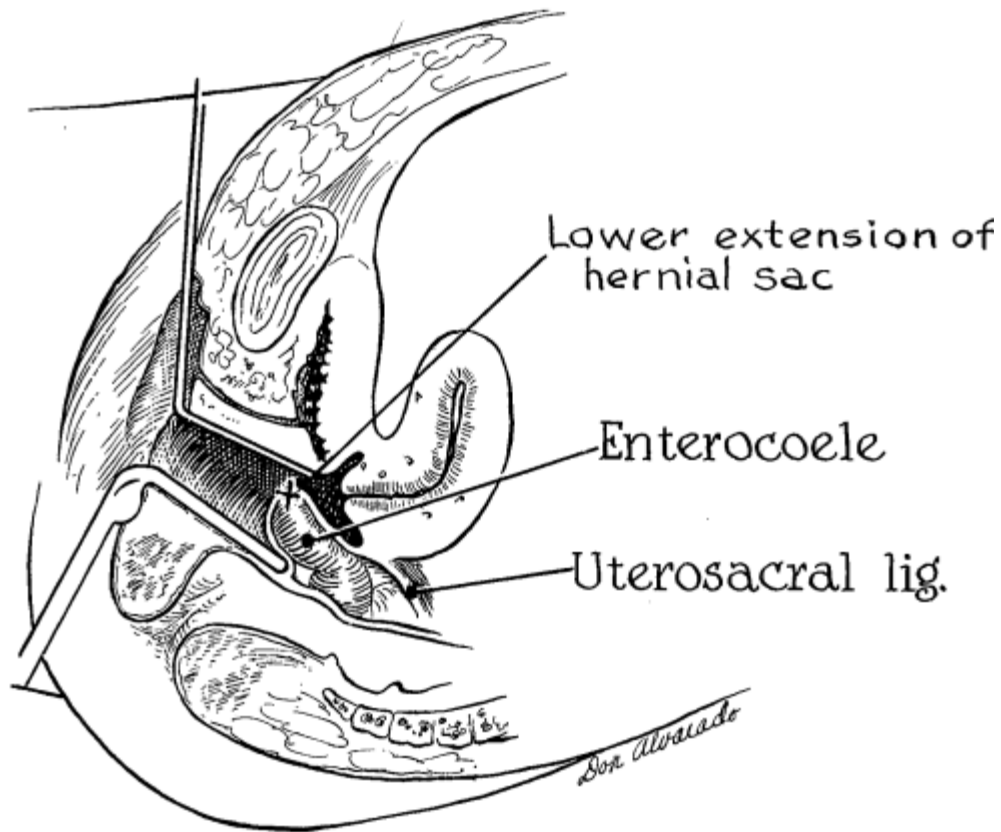


Fig. 7. Diagrammatic sagittal section shows enterocele before repair. Point X delineates its lowest extensior

600

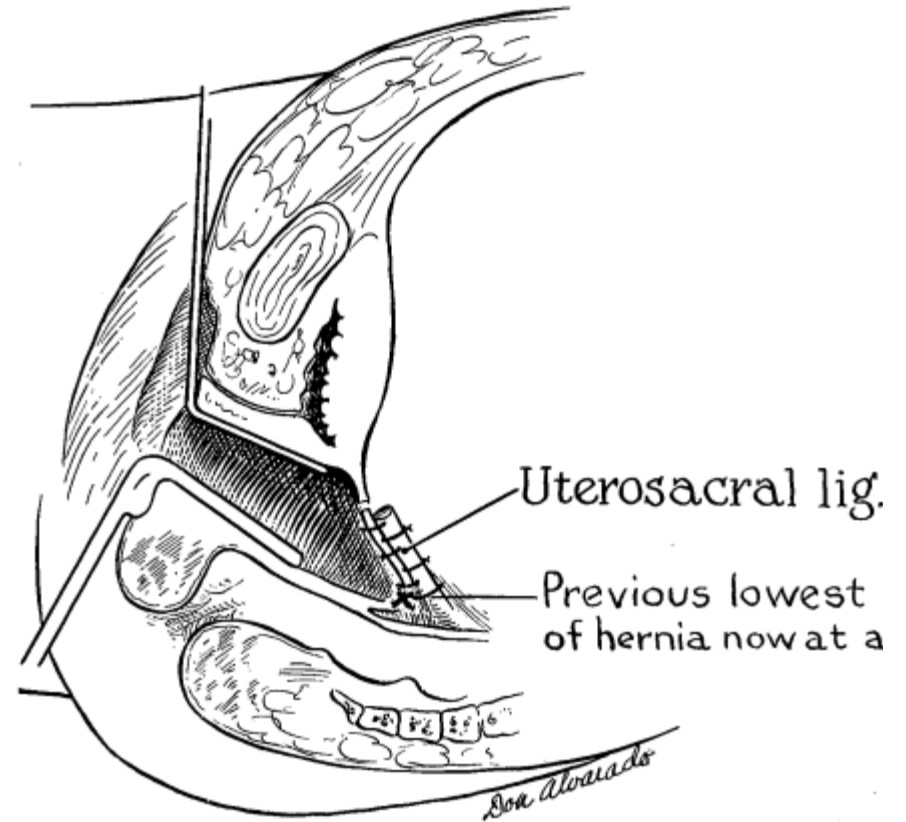


Fig. 8. Diagrammatic sagittal section following posterior culdeplasty showing supported c that point X depicted in Fig. 7 has been drawn up to the apex of the vagina.

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Obstet. Gyn. December, 1957



McCall M.L. *Posterior culdeplasty. Surgical correction of enterocele during vaginal hysterectomy; a preliminary report.* Obstet. Gynecol. 1957; 10: 595-602

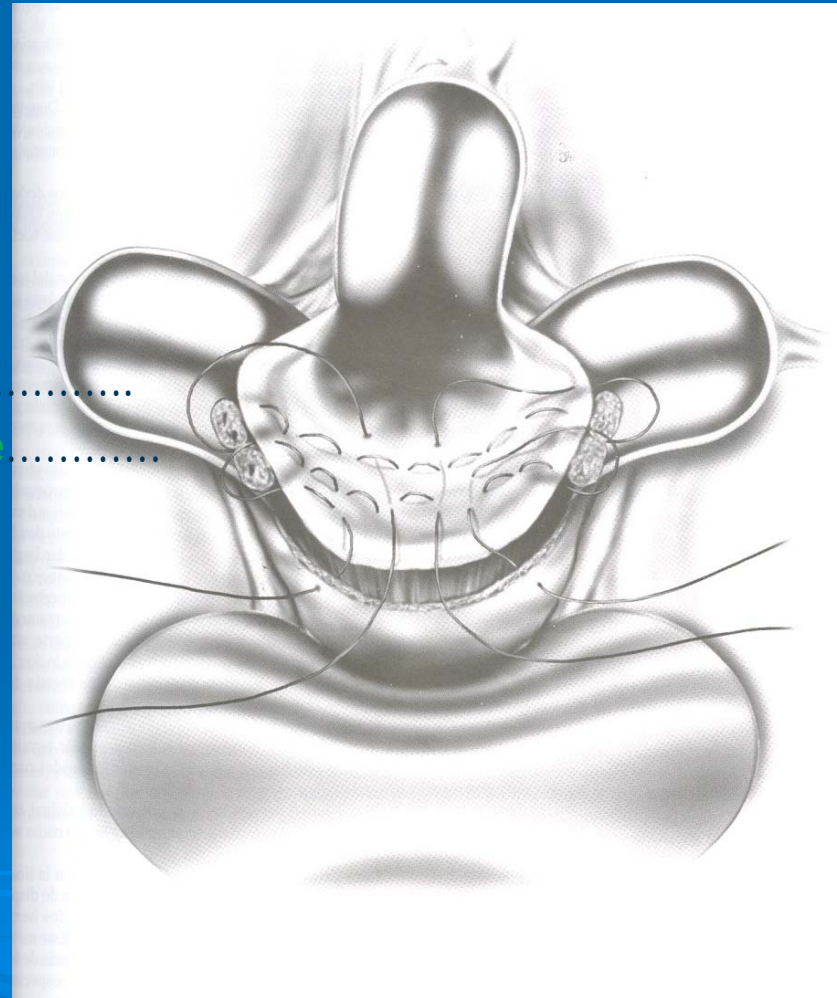
## SUMARI

- Descripció de la tècnica; n = 45 pacients

\*\*\*\*\*

- 1- Importància de la hèrnia vaginal posterior i defensor del seu diagnòstic i tractament
- 2- **Culdoplàstia posterior**: oblitera i suspèn el cul de sac posterior redundant després d'efectuar una histerectomia vaginal
- 3- ↑ longitud de la vagina sense ↓ Ø vaginal superior
- 4- Seguiment 3 anys (màx.): no enteroceles
- (5)- Tècnica terapèutica, no profilàctica

# CULDOPLÀSTIA DE McCALL MODIFICADA



Histerectomia vaginal

L.Balagueró, Cirugía ginecológica transvaginal y laparoscópica. Técnicas integradas  
1996 Mosby-Doyma Libros S.A. Madrid

# Lligaments útero-sacres

➤ Estructures de condensació de teixit connectiu

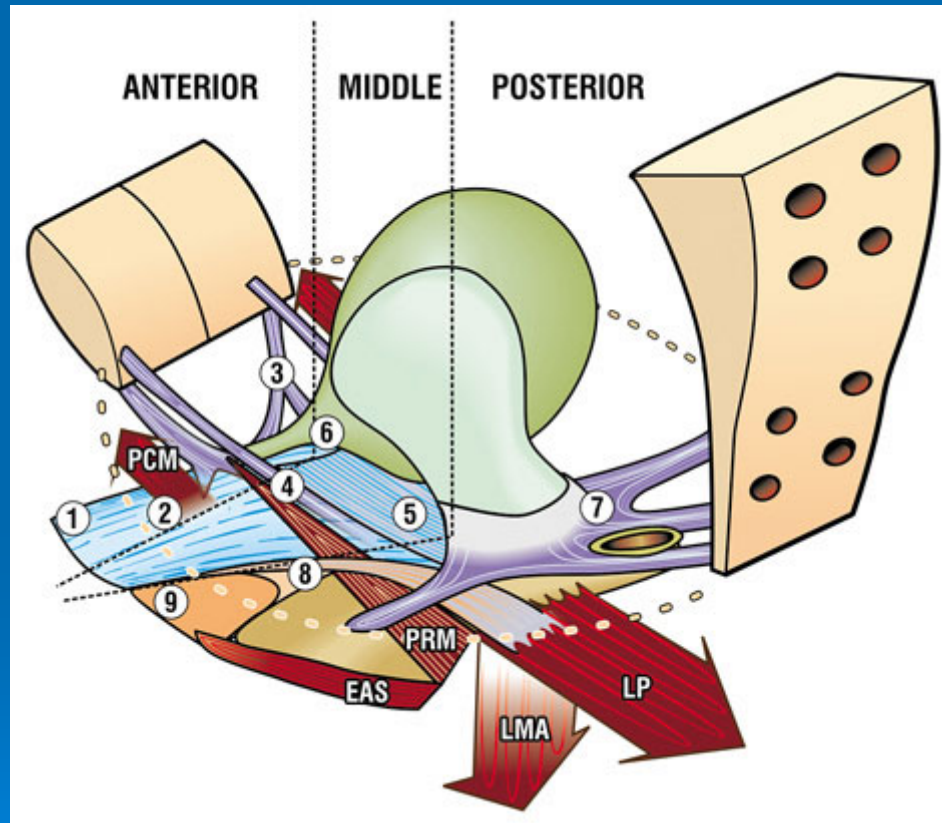
➤ Gran variabilitat anatòmica:

Inserció anterior: cèrvix i vagina (63%), cèrvix (33%), vagina pròxima a cèrvix (4%)

Es dirigeixen en sentit dorsal, a l'alçada de S2-S4, inserció a llig. sacro.espinós i m. cocccigi (82%), sacre (7%), altres (m.piriformis, foràmen ciàtic, espina isquiàtica (11%)

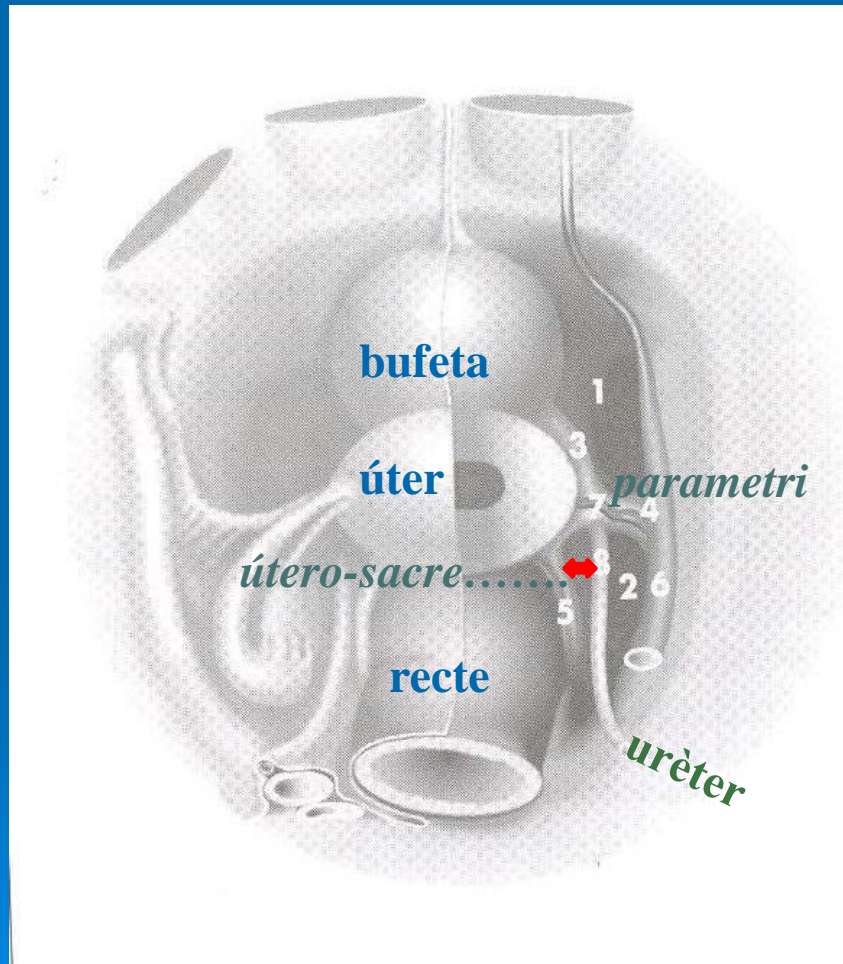
Irrigació per la branca descendent de l'a. uterina.

# Nivells de suport vaginal De Lancey



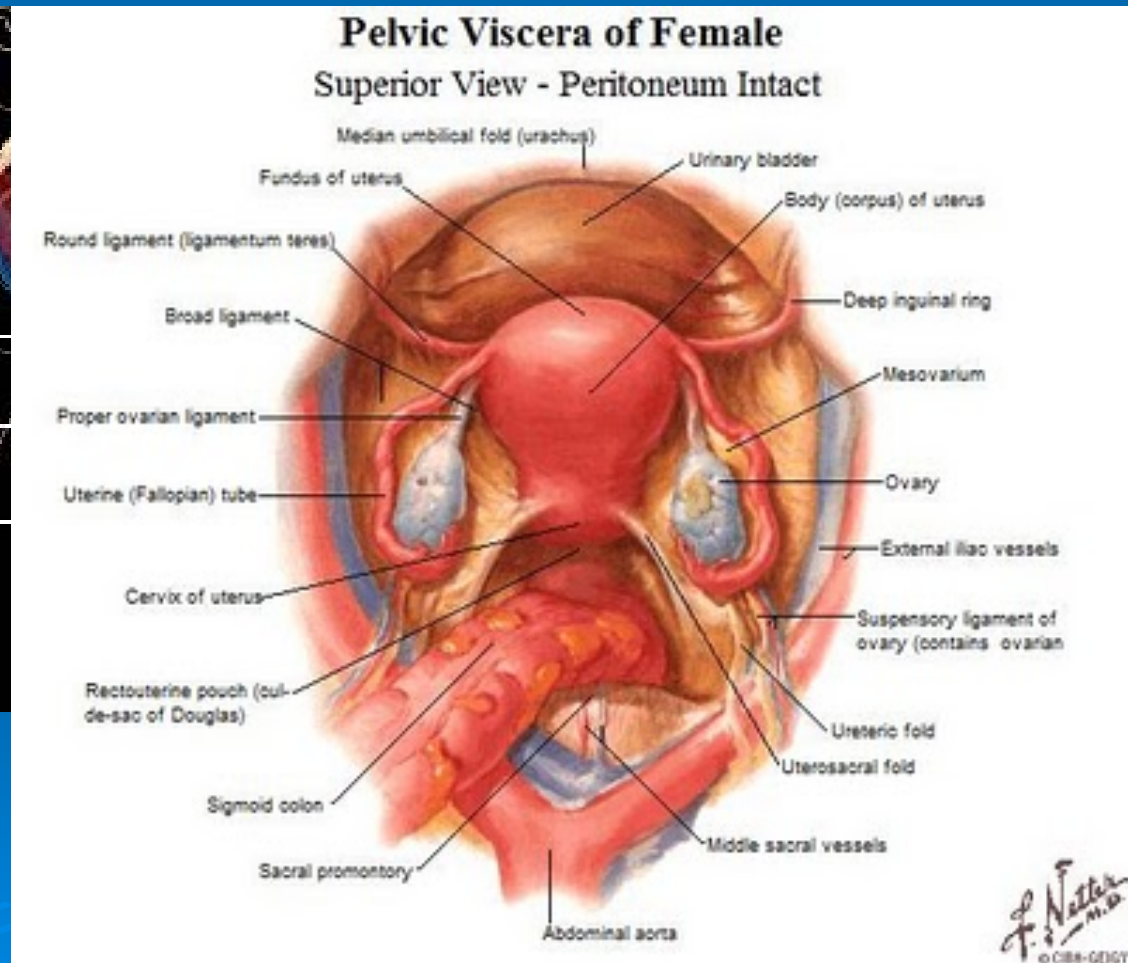
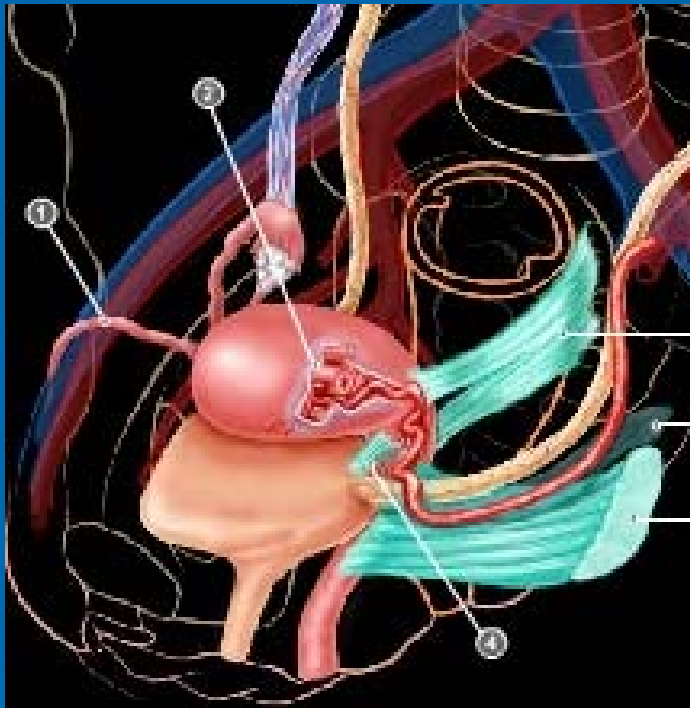
- Nivell I: Parametris i útero-sacres sostenen cèrvix i àpex vaginal (1/4 superior) Responsable de mantenir la suspensió vaginal en el nivell més alt
- Nivell II: suport lateral dels 2/4 centrals de la vagina. Anteriorment per l'arc tendinos i posteriorment per la fàscia del pubo i ilio-coccigi
- Nivell III: El 1/4 inferior de vagina es fusiona anteriorment amb la uretra i el pubis, posteriorment amb el perineu i els elevadors

# RELACIONS ANATÒMIQUES

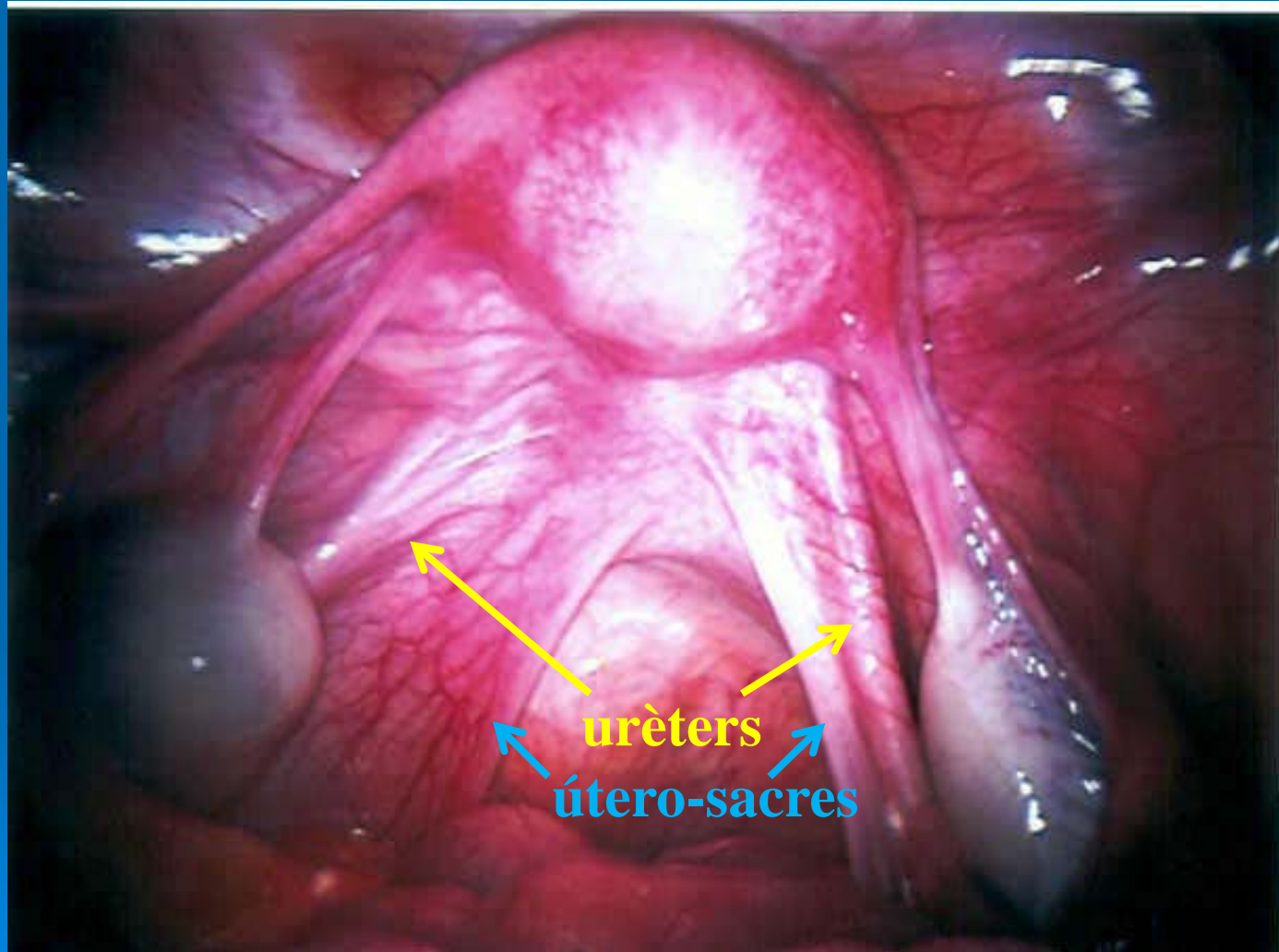


- A nivell cervical la distància de l'urèter al llig. útero-sacre (LUS) és de **14 mm**
- El segment intermig del LUS és el punt òptim per la seguretat i la força. El marcador és l'espina ciàtica.

# Relacions anatòmiques



# Relacions anatòmiques



# Lesió ureteral

- **1-11% atrapament ureteral**
- **Culdoplàstia de Mayo** o fixació útero-sacre alta <sup>1</sup>:
  - 1- Excissió elíptica de mucosa vaginal de paret ant. i post.
  - 2- Reparació de l'enterocele i 3 punts de McCall progressivament més alts
  - 3- Els punts incorporen el gruix de paret vaginal post., peritoneu, complex parametri-LUS bilateral i teixit fascial lateral i superior de vagina sup. i recte.
- **Cal comprovació amb cistoscòpia** (70°) i indigo carmin /blau de metilè i.v.
- **Modificacions de la tècnica** <sup>2</sup>:
  - 1- Tracció cranial dels pedicles: millor definició del lligament
  - 2- Separació de bufeta i budell prim: urèter per sobre d'una línia imaginària entre 3-9 h

Palpació ureteral

Com més profunda sigui la sutura a major distància hi haurà l'urèter. "DEEP" (posterior/dorsal) vs "HIGH" (cefàlica)

**n=441 pacients, 48% IQ prèvia (39% histerectomia); 61% prolapse II-IV (>HV), 39% prolapse de cúpula**

**1 cas d'atrapament ureteral: millora x 5**

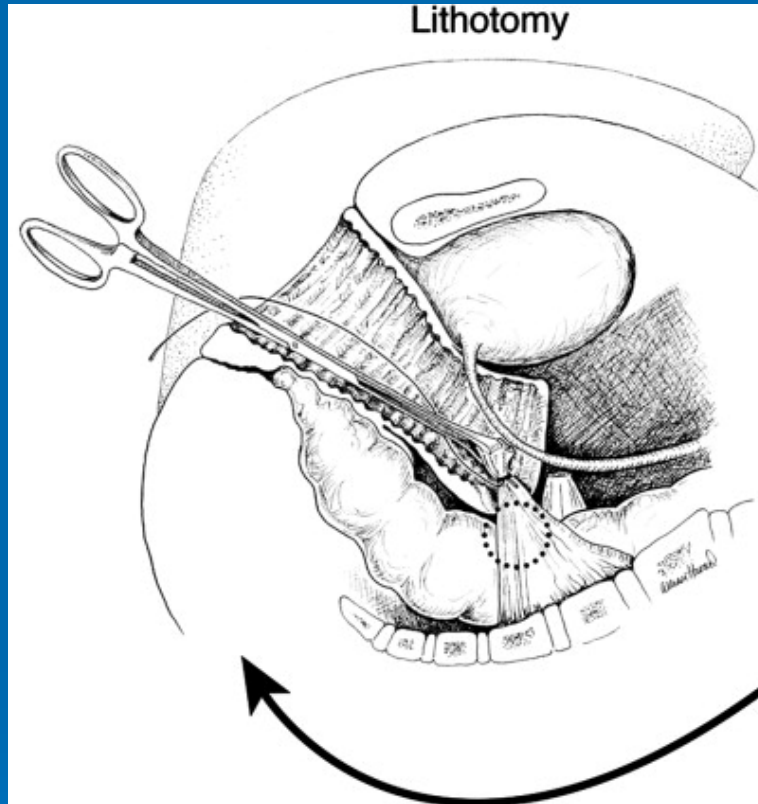
➤ <sup>1</sup> Symmonds RE. *Vaginal prolapse following hysterectomy*. Am J Obstet Gynecol 1960; 79:899

➤ <sup>2</sup> Aronson MP. *Low risk of ureteral obstruction with "deep" (dorsal/posterior) uterosacral ligament suture placement for transvaginal apical suspension*. Am J Obstet Gynecol 2005; 192: 1530-6

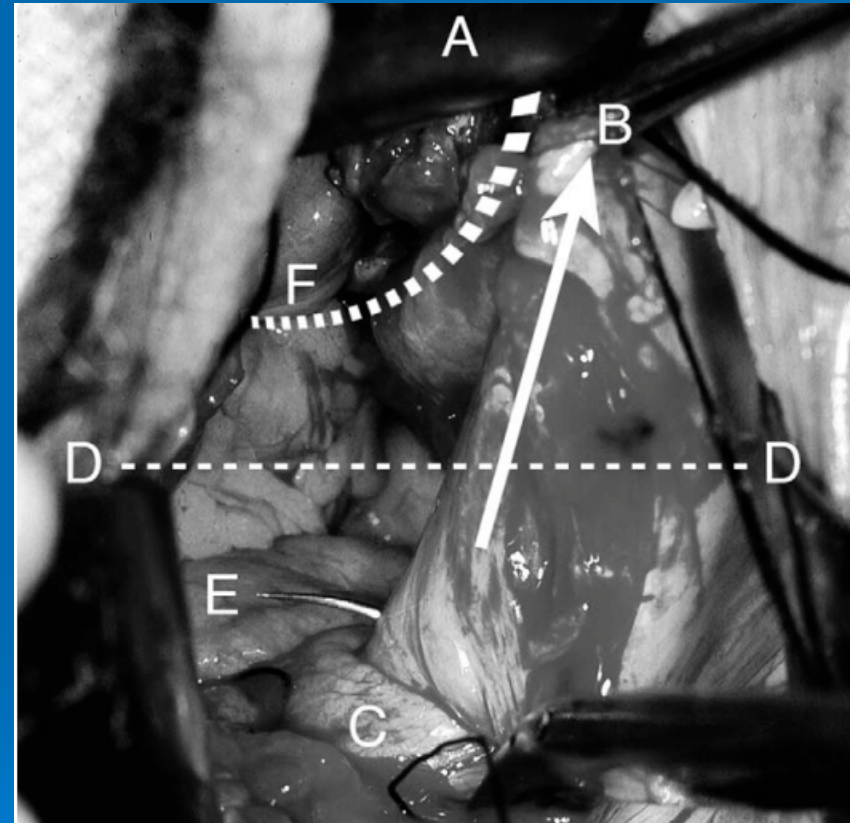


# Tracció anterior del lligament i fixació dorsal

Aronson MP. Low risk of ureteral obstruction with "deep" (dorsal/posterior) uteosacral ligament suture placement for transvaginal apical suspension. Am J Obstet Gynecol 2005; 192: 1530-6



- A, bufeta
- B, útero-sacre
- C, recte
- D, 3-9 h, límit
- E, punt sutura
- F, urèter



Visió vaginal

# COMPARACIÓ AMB ALTRES TÈCNIQUES I ALTERNATIVES QUIRÚRGIQUES

- En la HV per prolapse el McCall presenta < aparició d'enterocele i prolapse de cúpula respecte la peritonització alta sola (Moschowitz) i la peritonització baixa amb unió central dels pedicles

- *Cruikshank SH. Randomized comparison of three surgical methods used at the time of vaginal hysterectomy to prevent posterior enterocele. Am J Obstet Gynecol 1999; 180: 859-65*

- Respecte a l'aparició de cistocele o prolapse de cúpula és millor que la suspensió sacroespínosa (Richter)

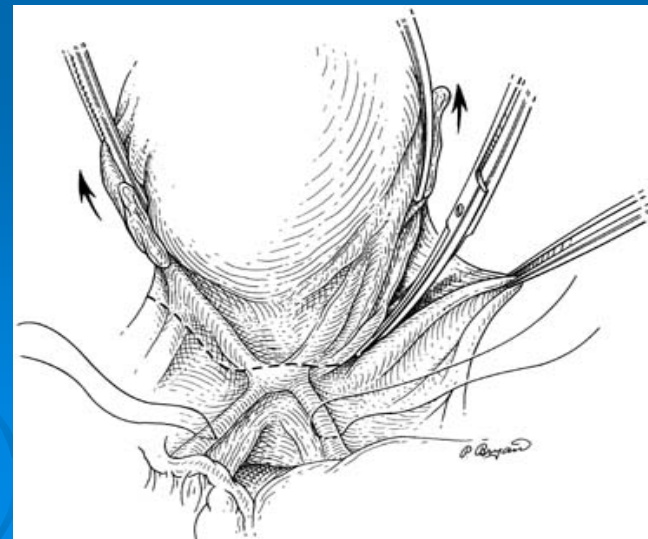
- *Colombo M. Sacrospinous ligament fixation and modified Mc Call culdoplasty during vaginal hysterectomy for advanced uterovaginal prolapse. Am J Obstet Gynecol 1998; 179: 13-20*

## ➤ VARIANTS:

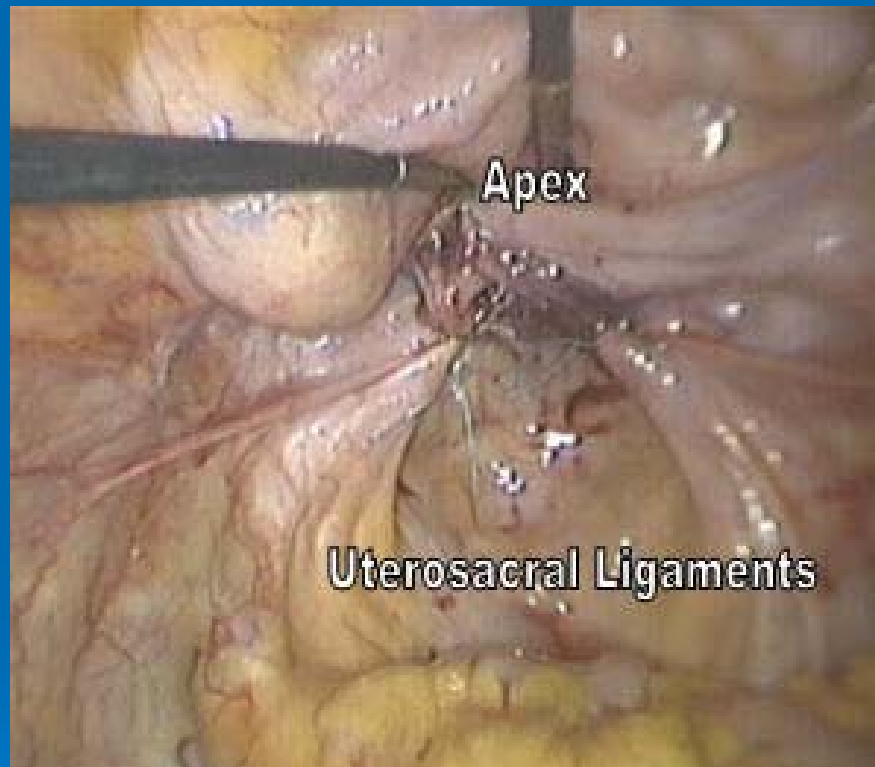
“McCall” laparotòmic

“McCall” laparoscòpic

*Wall LL: A technique for modified McCall culdoplasty at the time of abdominal hysterectomy. J Am Coll Surg 178: 507, 1994*



# McCall laparoscòpic



\*Reich H. 1992

\*Fixació de vagina a LUS

\*Tècnica preventiva, manté l'eix anatòmic de la vagina i bons resultats funcionals (Restaura el nivell I de DeLancey)

\*n= 101, seguiment 40 mesos.  
Cap prolapse > grau I

Mora I, Brescó P.

*Histerectomía total laparoscòpica con fijación de cúpula vaginal a ligamentos úterosacros: disfunciones del suelo pélvico postcirugía. Suelo Pélvico 2009; 5(3): 76-83*

# RESUM

- Al practicar una histerectomia cal tenir present la problemàtica del prolapse genital i detectar i corregir els possibles defectes
- És convenient reforçar la fixació de la cúpula vaginal  
La tècnica de McCall no presenta dificultat tècnica, però com a qualsevol tècnica s'ha de fer correctament:  
cal identificar els lligaments útero-sacres, donar el punt a 2 cm de l'extrem i peritonització alta
- Precaucions:
  - ▣ Risc d'atrapament ureteral. S'aconsella donar el punt dels útero-sacres de fora a dins.  
Rebutjar els urèters al dissecar l'espai vésico-uterí
  - ▣ Dependència de la qualitat dels teixits, poden no ser útils per al suport



*Gràcies per la vostra atenció*