

# Laparoscopic Management of Genitourinary Prolapse

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# Indications

Symptomatic prolapse:

- feeling of pelvic heaviness or fullness and low back pain;
- perception of a lump at the opening of the vulva;
- mucosal erosions.

Complications caused by prolapse:

- urinary tract infections;
- chronic bladder retention;
- bladder instability;
- dilatation of the upper urinary tract;
- renal insufficiency.



# Types of Prolapse

## 1. Ureterocele:

On physical examination, the ureter and the bladder deform the anterior vaginal wall.

## 2. Cystocele:

On physical examination, the bladder deforms the anterior vaginal wall.

## 3. Rectocele:

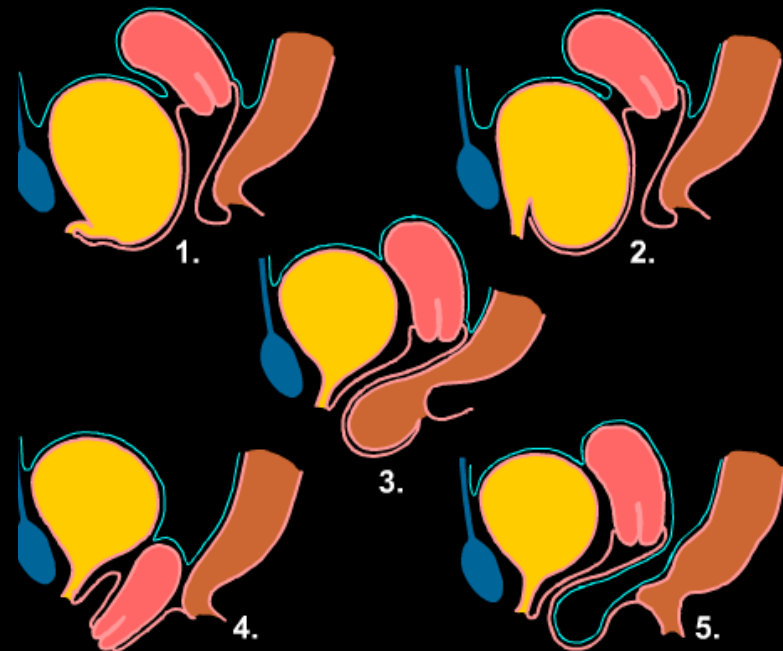
On physical examination, the rectum deforms the posterior vaginal wall.

## 4. Hysterocele:

On physical examination, the uterus drops down, dragging along the vaginal vault.

## 5. Elytrocele:

On physical examination, the rectouterine pouch deforms the vaginal vault or the posterior vaginal wall.



# Clinical Grades of Prolapse

Three grades of prolapse can be seen on physical examination. Grade 3 prolapse causes obvious physical discomfort. Grades 1 and 2 are generally asymptomatic. They are usually observed during physical examination in patients who consult for urinary incontinence.

Grade 1 is descent within the vagina.

Grade 2 is descent of the cervix to the introitus.

Grade 3 is descent of the uterus outside the introitus.



# Urodynamic Study

A resting

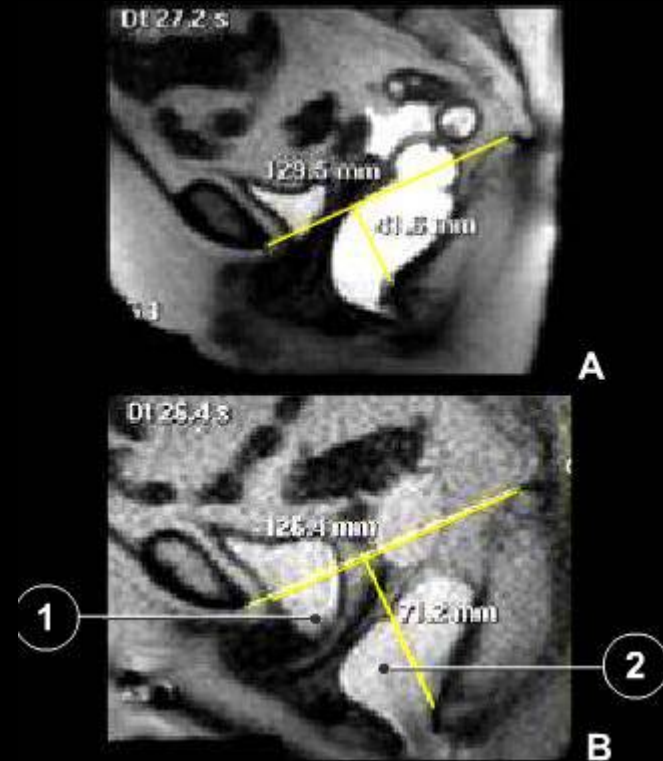
B straining

1. cystocele

2. rectocele

Urodynamic studies are often performed, especially in cases of coexisting incontinence.

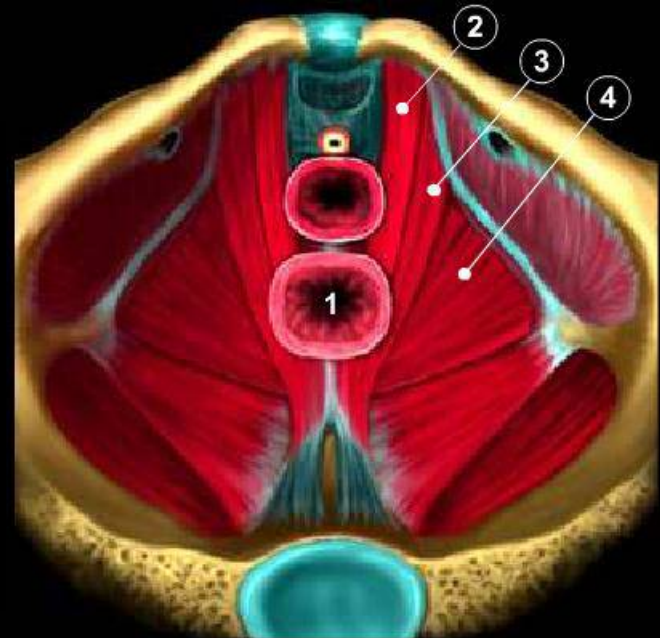
MRI is used more commonly than colposcogram for morphological exploration of the prolapse.



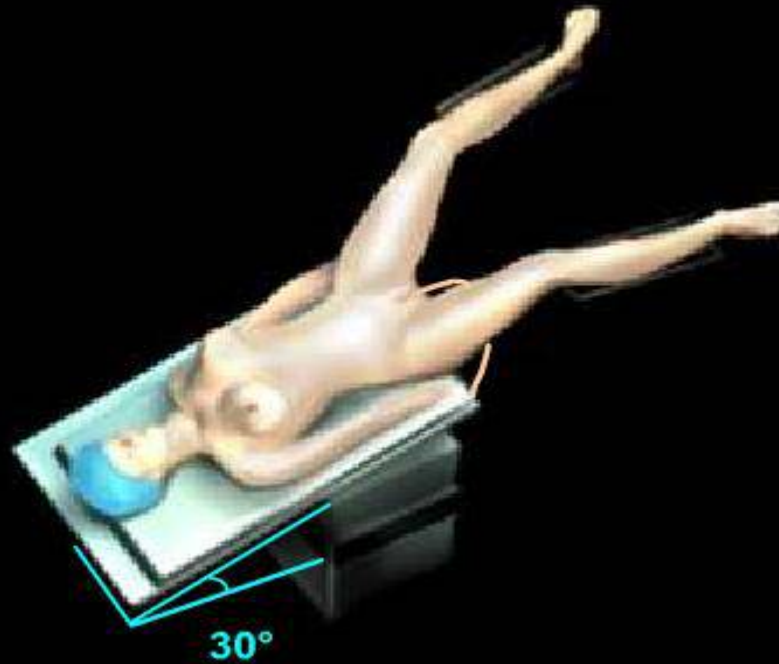
# Anatomy of Levator Ani Muscles

1. Rectum
2. Puborectal muscle
3. Pubococcygeus muscle
4. Iliococcygeus muscle

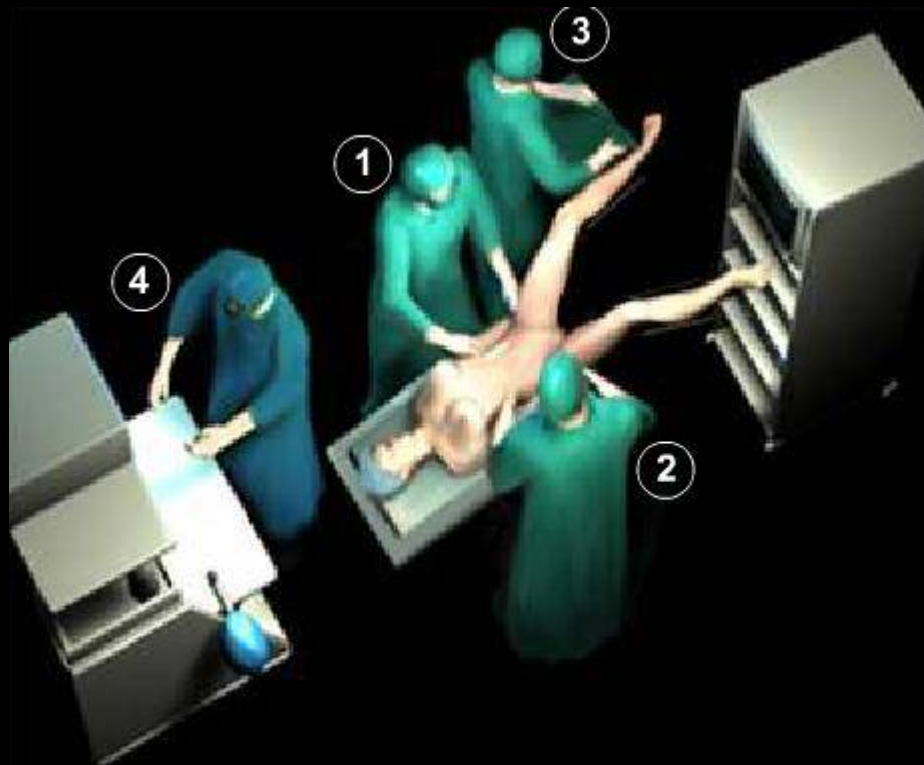
Knowledge of the location of the levator ani muscles, the orientation of their fibers and their position with respect to the rectum, anal sphincter complex and vagina is essential.



# Patient Position

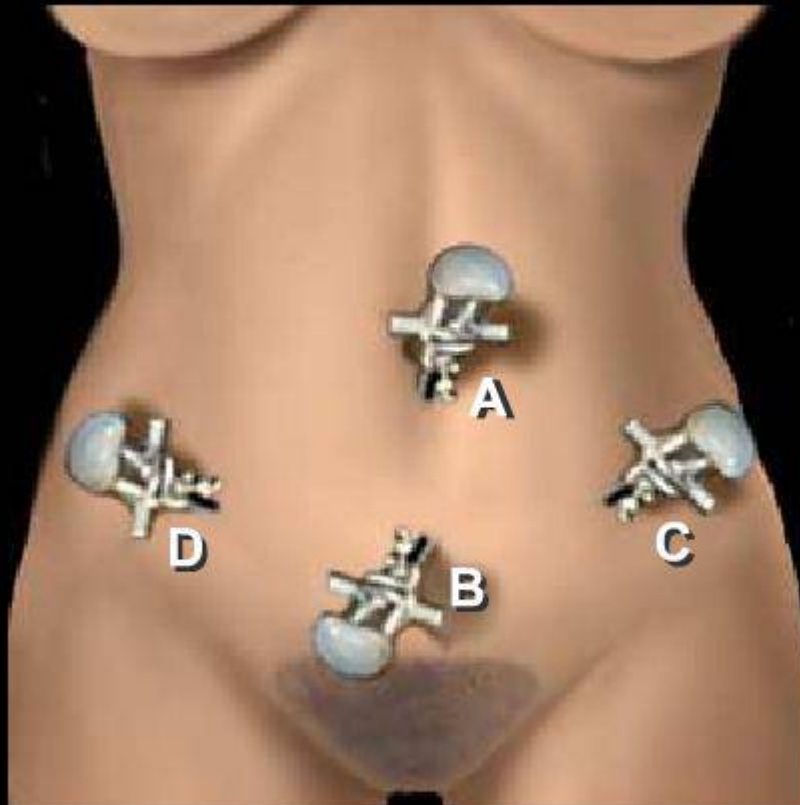


# Position of Surgical team





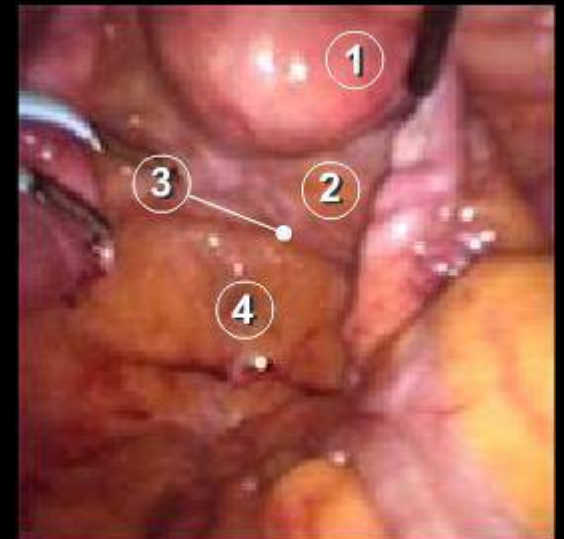
# Port Position



# Exposure

1. Uterus
2. Posterior vaginal wall
3. Rectouterine pouch
4. Rectum

The sigmoid colon is mobilized at the level of the intersigmoid recess to expose the rectouterine pouch. In rare cases, it is attached to the abdominal wall. To expose the promontory, it is necessary to retract the sigmoid mesocolon towards the left.



# Suspension of Uterus

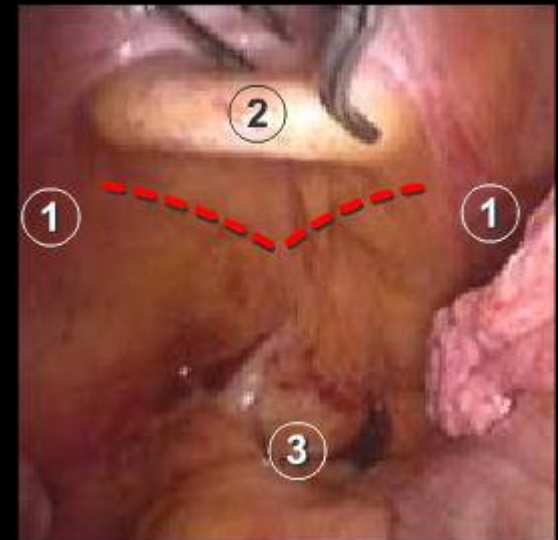
The body of the uterus is suspended from the anterior abdominal wall with nylon 0 suture passed through the wall. This, along with the ribbon retractor, achieves tenting of the uterosacral ligaments and exposure of the anterior surface of the rectouterine pouch.



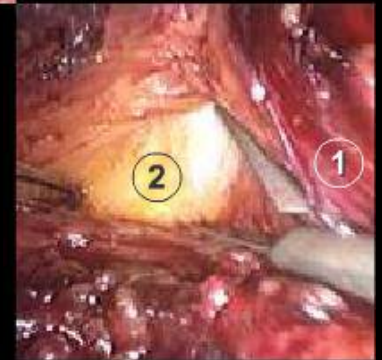
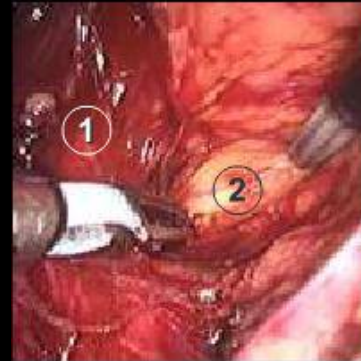
# Median Dissection

1. Uterosacral ligaments
2. Posterior vaginal wall deformed by the valve
3. Rectum

The ribbon retractor introduced into the posterior vaginal cul-de-sac should be anteverted as far as possible to stretch the uterosacral ligaments. The exposed peritoneum is opened from one uterosacral ligament to the other in a V-shaped incision. A grasper retracts the inferior margin of the incised peritoneum, allowing access to an avascular plane that corresponds to the rectovaginal fascia. The dissection should be begun in a median plane, in contact with the posterior vaginal wall.



# Lateral Dissection



1. Rectum

2. Laterorectal space

The lateral dissection is begun in contact with the uterosacral ligament to find the posterolateral wall of the vagina.

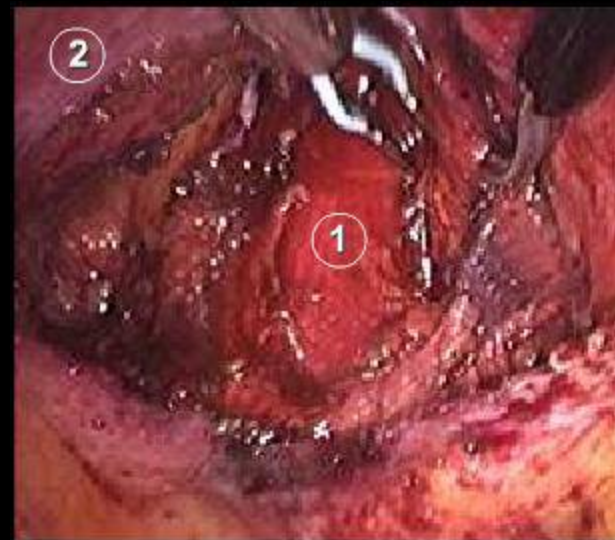


# Exposure of Levator Ani

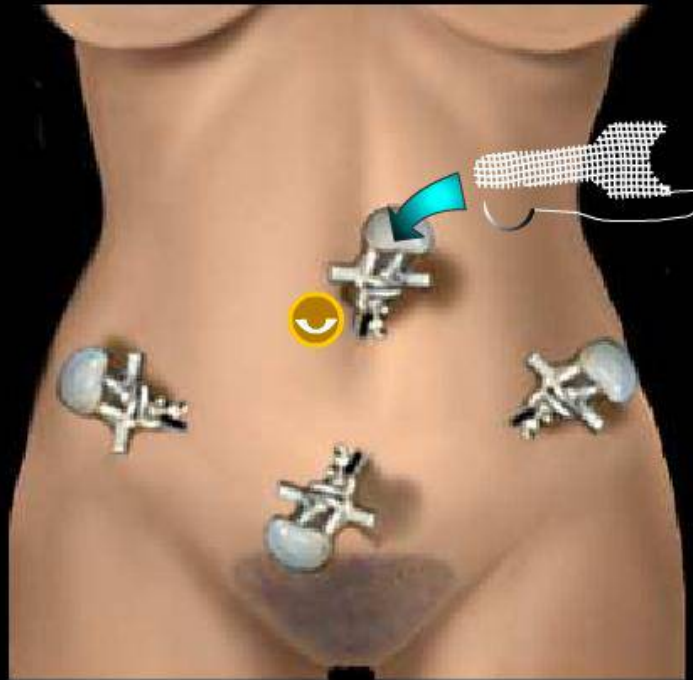
1. Levator ani muscles

2. Rectum

Access to the levator ani muscles must be wide to anchor the prosthetic strip adequately.



# Insertion of Prosthesis

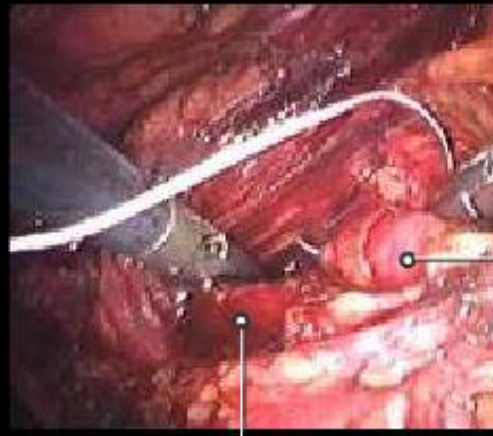


The prosthesis is inserted into the abdominal cavity via the camera trocar.





# Attaching to Levator Ani



1. Rectum
2. Levator ani muscles

The prosthetic material is attached with a suture onto the right and left levator ani muscles. On the right, a forehand throw is anchored deep into the right levator ani muscle (pubococcygeus and puborectalis fibers).

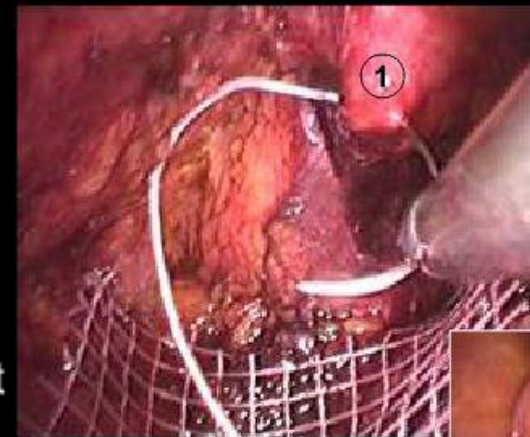




# Vaginal Attachment

## 1. Posterior wall of the vagina

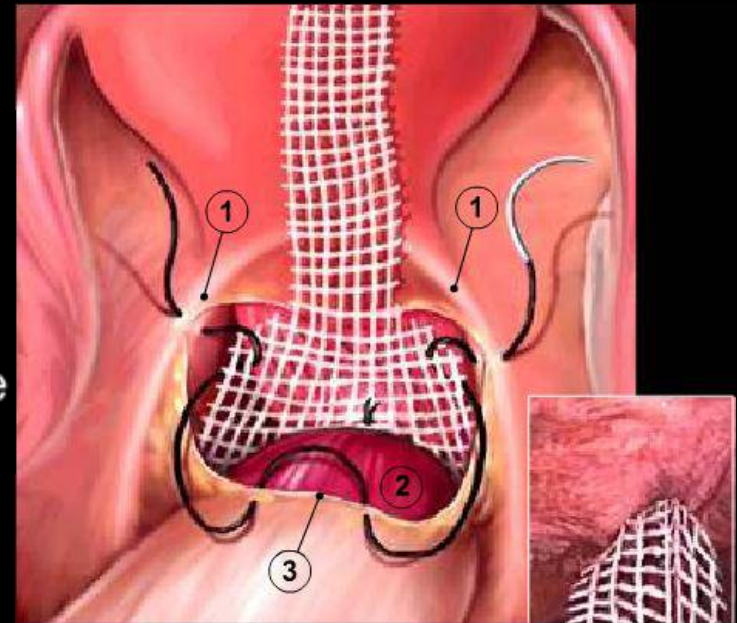
The prosthesis is attached to the posterior wall of the vagina. When the two ends have been firmly anchored to the levator ani muscles, the midpoint of the curved portion of the mesh is anchored on the vagina deep in the previously dissected space. This is done to prevent the intestinal loops from coming between the curved portion of the mesh and the vagina.



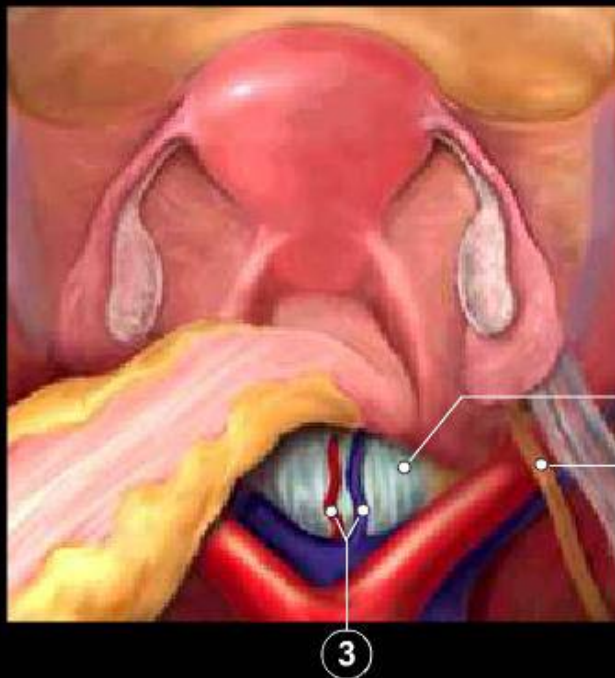
# Closure of Rectouterine Pouch

1. Uterosacral ligaments
2. Rectum
3. Peritoneum

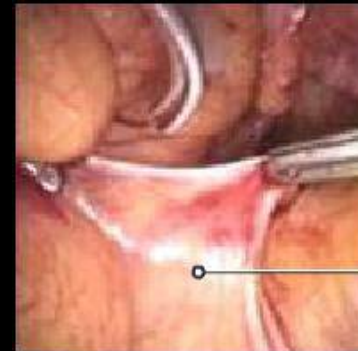
This is done with a suture to reapproximate the uterosacral ligaments and to re-peritonealize the rectouterine pouch.



# Incision of Posterior Peritoneum



Care Should be taken for  
median presacral vessels



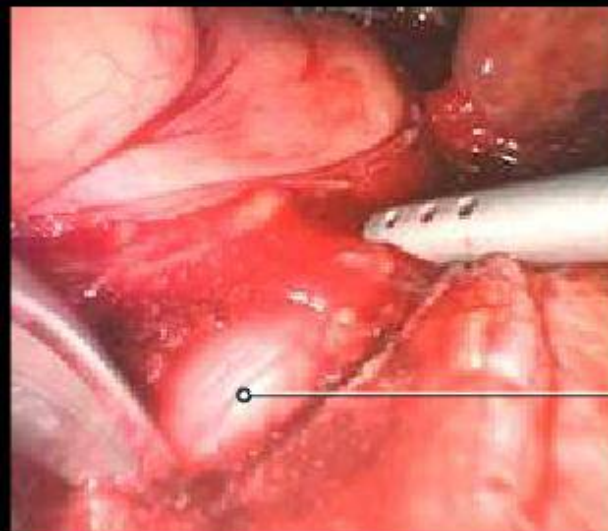
- 1. Anterior longitudinal ligament
- 2. Ureter
- 3. Median presacral vessels



# Exposure of the promontory

## 1. Anterior longitudinal ligament

The anterior surface of the promontory is carefully dissected free with instrument tips to expose the pearly white surface of the anterior longitudinal ligament and the median sacral vessels. The peritoneal incision is continued down to the anterior rectal region. The exposure is facilitated by manipulating the ribbon retractor. We recommend opening the peritoneum rather than making a tunnel with a dissector, which can injure the vessels that run perpendicular to the axis of dissection.



# Vesicovaginal Dissection

## 1. Bladder

The bladder is identified by the balloon of the catheter. The ribbon retractor is placed in the anterior cul-de-sac or at the fornix of the vagina in the case of a hysterectomy. The ribbon retractor is directed posteriorly after transverse incision of the retrovesical peritoneum. The assistant holds the anterior edge of this peritoneum with an atraumatic grasper.





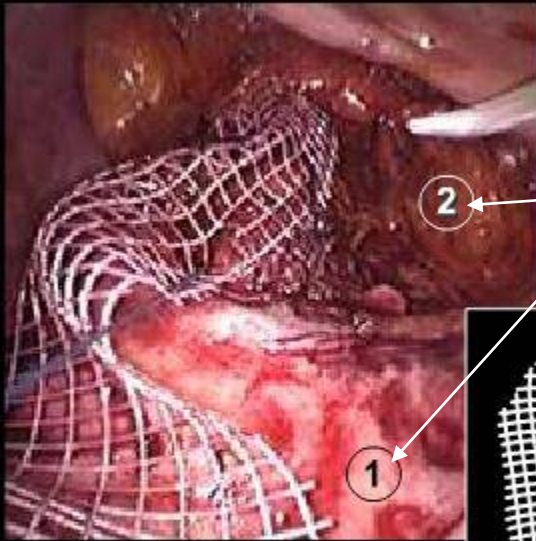
# Vesicovaginal Dissection



The dissection begins on the midline. The pearly white anterior surface of the vagina can be used as a landmark. By dividing the adhesional tissue with scissors, the bladder can be separated from the vagina. The dissection is performed over a 25 mm width to the retrotrigonal space.



# Anterior Mesh



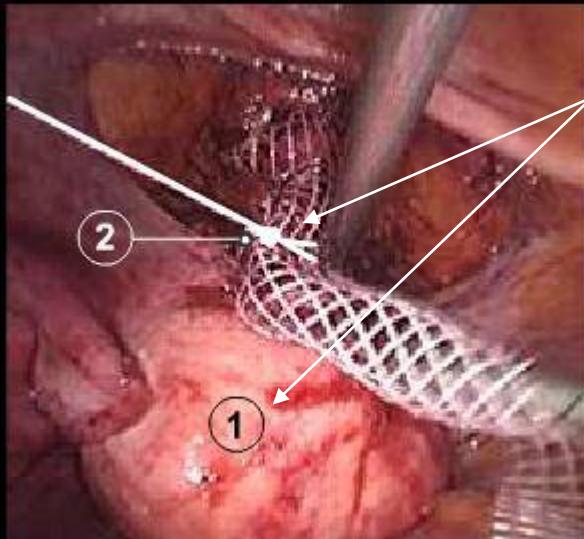
1. Uterus

2. Vesico-vaginal space

The tip of the mesh is bevelled and fitted with a preknotted, threaded suture. It is placed underneath the bladder, as far as possible from the vesico-vaginal dissection plane. The prosthesis is then attached laterally along the entire length of the vagina with 2 running sutures. The stitches should not transfix the vagina.



# Anterior Prolapse of Uterus



1. Uterus
2. Uterine isthmus

When a decision is made to preserve the uterus, it is essential to remove the ribbon retractor and to retract the uterus posteriorly. This makes it possible to continue the running suture to attach the mesh to the level of the uterine isthmus, thereby preventing the cervix from protruding. The mesh is then slit lengthwise to take on the shape of the letter Y, the limbs passing through the open broad ligament in its avascular portion.

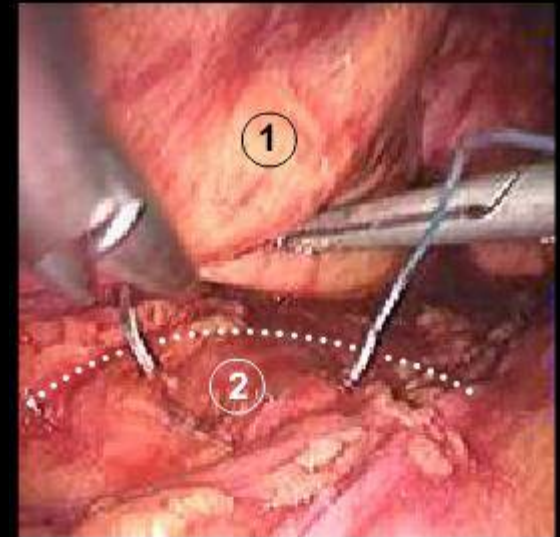




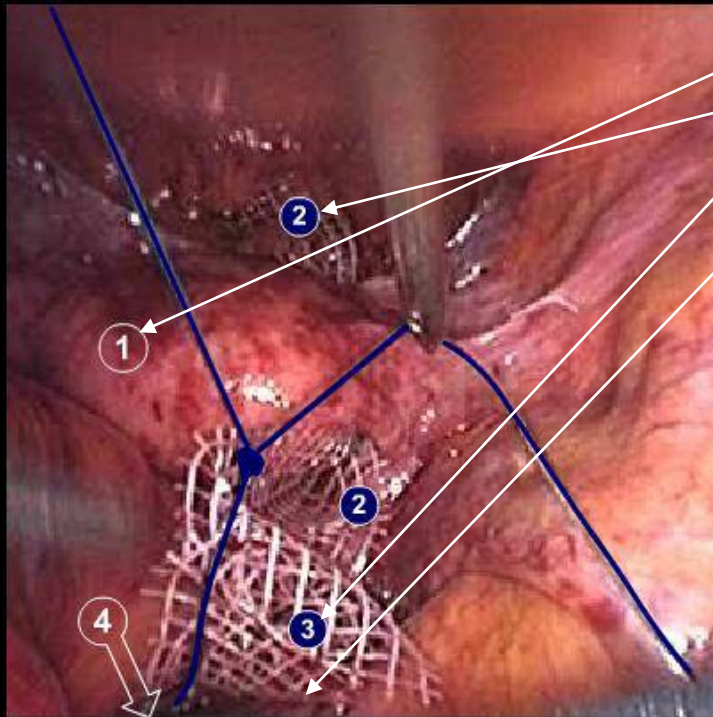
# Promontory Fixation

1. Mesosigmoid
2. Promontory covered by the anterior longitudinal ligament.

A single fixation stitch with non-absorbable suture is sufficient. A 26 mm long needle is used, directed forehand, grasped in the distal third of the needle holder's jaws and directed 120° anteriorly. The stitch is performed laterally to medially and very gently, making sure that it does not enter the periosteum.



# Promontory Fixation



1. Uterus
2. Anterior prosthesis
3. Posterior prosthesis
4. Promontory

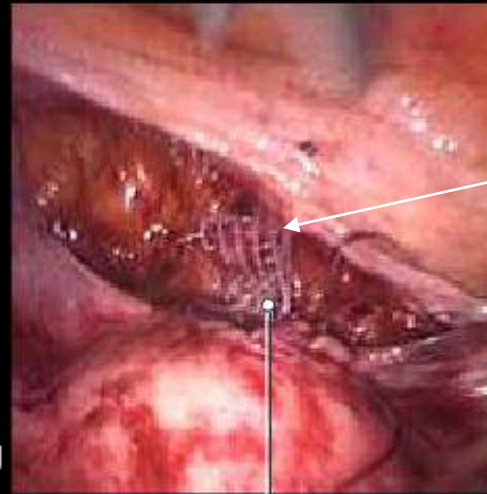
The posterior prosthesis and then the anterior prosthesis are grasped after obtaining an appropriate tension. Although the traction created must not be too strong, it must offset the pressure of the pneumoperitoneum. The fixation is achieved by an extra-corporeal knot that can be used to evaluate the strength of the repair. The extra prosthetic material is cut and removed.



# Repair of Peritoneum

1. Anterior prosthesis
2. Posterior prosthesis

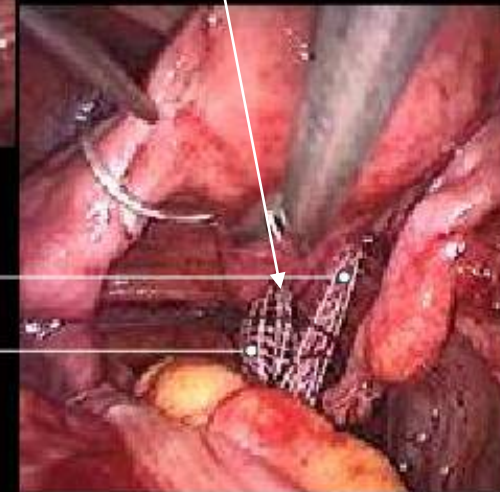
This is done using absorbable braided suture. The running suture first closes the anterior detachment. It passes through the right broad ligament when the uterus is preserved, and closes the peritoneal opening anterior to the prostheses, excluding them completely from the abdominal cavity. The surgeon must watch out for the right ureter, which remains attached to the right part of the posterior parietal peritoneum.



1. Anterior prosthesis
2. Posterior prosthesis

1

2



# Sacrocolpopexy



# Sacrocolpopexy







# Thank you



Fellowship course April 2006

