### Start | End | Topic | Speakers
--- | --- | --- | ---
14:00 | 14:30 | Introduction and Evidence | • Salma Kayani
14:30 | 14:50 | Applied Anatomy | • Salma Kayani
14:50 | 15:00 | Questions | All
15:00 | 15:30 | Laparoscopic Sacrohysteropexy and Sacrocolpopexy evidence based techniques | • Elisabetta Costantini
15:30 | 16:00 | Break | All
16:00 | 16:30 | Conventional Laparoscopic Sacrocolpopexy and Rectopexy | • Bruno Deval
16:30 | 17:00 | Robotic-Assisted Sacrocolpopexy, Sacrohysteropexy-Techniques, Outcomes and Learning Curve | • Stergios Doumouchtsis
17:00 | 17:30 | How to Avoid and Manage Complications associated with Laparoscopic Sacrocolpopexy | • Salma Kayani
17:30 | 18:00 | Interactive case based management discusions with real clinical cases- images and videos | All

### Aims of course/workshop
This workshop will provide an opportunity for colleagues to be able to interact with MIS with experience and expertise in Laparoscopic Pelvic Floor Reconstructive Surgery with particular emphasis on Sacrocolpopexy. The speakers are enthusiastic surgeons and clinicians with vast experience in their fields. The interactive session will allow a discussion platform to include practical tips of trouble shooting; how to avoid as well as manage complications. Delegates will have the opportunity to see the MRI images of the pelvic floor before and after surgery. An overview of international peer-reviewed literature on the role and future of the laparoscopic and laparotomic approach in pelvic floor reconstructive surgery will be provided.
Pelvic organ prolapse (POP) has been reported in up to 40% of women [1,2] and increases with age [3]. The lifetime risk of requiring surgery for urogenital prolapse or incontinence by the age of 80 is estimated to be 11.1% and reoperation is required in 17-56% of these women [4,5].

The history of POP surgery has changed tremendously over the last 50 years [7]. In 1957 was performed the first experience with abdominal sacrocolpopexy (ASC) [7]. Large series have confirmed that ASC has a success rate between 74–98%, and is associated with lower rates of recurrence of vaginal vault prolapse, greater time to recurrence and less dyspareunia than vaginal sacrospinous fixation [4,5,7]. However, despite the advantages of ASC, vaginal prolapse surgery is often performed due to be faster, less painful, less costly and with rapid recovery [5]. The first conventional laparoscopic sacrocolpopexy (LSC) was performed and indicated as treatment for the three compartment defects [8,9]. LSC aims to provide similar outcomes as ASC, while offering the benefits of minimally invasive surgery and better visualization of pelvic anatomy [5,7,8,9]. However only long term results have been published [2,7,11].

Actually, the rate of LSC comparing to the vaginal approach is lower [8]. The main reason for this disaffection is the perceived technical difficulty of the procedure compared to the assumed easiness of the vaginal techniques. [8]. Learning how to perform LSC is associated with
two types of challenges: anatomic and technical [4]. Published experience with LSC remains limited, one of the reasons is probably because of the inherent need for endoscopic suturing skills causing a long learning curve and operation times [12]. A single center’s experience with 206 LSC performed between 1996 and 2006 demonstrated a learning curve of 60 cases and defined the learning as completed when the surgeon was able to complete sacrocolpopexy by laparoscopy, without complications and with good anatomical outcome in at least 90% of patients. Operation time declined rapidly over the first 30 procedures, declining slower thereafter to reach a steady state after 90 case [12].

Laparoscopic approach for the repair of POP should follow the same principle as in open technique, with laparoscopy only being the mode of surgical access [13]. However, there are several variations in LSC technique: number and placement of trocars; use of special retractors; mesh type, number, tension, placement and attachment, use of staples; peritonealization; concomitant anti-incontinence, hysterectomy and vaginal procedures [4,8]. Which technique is best is still controversial [13].

In a review published by Ganatra and cols in 2009 [4], the average patient satisfaction level after LSC was 94.4%, slightly higher than the objective success rate defined by clinical examination (92%). With an average follow-up of 24.6 months, the mean reoperation rate for recurrent prolapse was 6.2% (range 0-21%). Major perioperative complications were due to bladder, bowel and blood injuries and more complications were managed laparoscopically in later series, reflecting lower conversion rates (0-3%) as compared with initial conversion rates (4-11%). The largest retrospective series available with 363 patients demonstrated a total complication rate of 15.5%, due to 6% urge incontinence, 4% prolapse relapse; 2% open surgery conversion; 1% of mesh erosion, 0.6% off mesh infection and urinary retention, 0.3% of
spondylitis, port hernia and intestinal obstruction [9]. The highest mesh erosion rates (8.7 and 9%) were found with the longest follow up (66 months and 60 months respectively) [2,11]. However, in another 60 month follow-up study published in 2010, mesh erosion rate was 4% [7]. The average incidence of mesh erosion after LSC is 2.7% [4]. Postoperative sexual dysfunction was seen in 7.8% of the patients submitted to LSC and 9.8% of them had bowel dysfunction, which included constipation, anal pain and fecal incontinence [4].

The complications, objective and subjective successes are not statistically different among LSC and ASC [4,10,15]. Until now, only one recently randomized trial comparing 53 LSC with 55 total vaginal mesh repair for vaginal vault prolapse has been published. This study showed a clear benefit in favor of LSC with higher satisfaction rate and objective success rates, with lower perioperative morbidity and reoperation rate in a 2 year follow-up [16]. When compared to Robot assisted sacrocolpopexy, LSC has a lower operating time but there were no other perioperative differences. Hospital stay, complications, satisfaction and objective cure rates in a medium term follow-up were similar [17]. However, this field is so new that there is very little data to evaluate at this time.

In conclusion, LSC has a high anatomical and success rates, associated with a low morbidity rate. The varying definitions of patient satisfaction, objective success and prolapse recurrence underline the need for standardized outcome reporting [4]. There is also a relatively short follow-up period, studies with the longest follow-up have an average of 60 to 66 months [2,7,11]. For more accurate success and complications rates, studies with longer follow-up, standardized technique and outcome reporting are needed. The lack of prospective randomized controlled trials comparing LSC with other techniques difficult further conclusions.
REFERENCES


Open/Laparoscopic/Robotic POP Repair

Elisabetta Costantini
Head of Uro-Gynaecological Section
Department of Urology
University of Perugia - Italy

What about the best surgical technique in advanced pelvic organ prolapse?

Despite the prevalence of the problem, and an estimated failure rate for primary surgery of 30%, there is a disappointing lack of consensus about the best surgical technique.

**The vaginal route: the common route**

**Vaginal Hysterectomy**

Correction of central or superior defect **without meshes:**
- Utero-sacral legament suspension
- Ileococcygeus legament suspension
- Sacrospinous legament suspension
- Douglas Obliteration

No evidence among the transvaginal suspension that one is better than the other one.

**Cochrane 2010**

- The use of meshes at the time of anterior vaginal wall repair may reduce the risk of recurrent cystocele on examination
- Improved outcomes including patient satisfaction, quality of life and reduced operations for recurrences have not yet been demonstrated
- The evidence is not sufficient to support the use of permanent meshes or grafts at the time of vaginal apical compartment repair surgery except in the context of RCTs

**What’s the evidence?**

- Abdominal sacrocolpopexy results in a better anatomical outcome than the vaginal sacrospinous colpopexy. It is the gold standard for vaginal vault prolapse with fewer recurrent prolapses and less dyspareunia.
- Vaginal prolapse repairs are often faster, less costly, less painful and offer patients a shorter recovery time.
- Laparoscopic sacrocolpopexy aims to bridge this gap and provide the excellent outcomes of ASC with decreased morbidity.

Cochrane review 2010
In order to better understand the use of surgical mesh for POP and SUI, the FDA conducted a systematic review of the published scientific literature from 1996 to 2011 to evaluate its safety and effectiveness.

**The Evidence!**

- Abdominal Integral pelvic floor reconstruction results in excellent and durable anatomical outcomes and functional results.

**Sacrocolpopexy**

**When?**
- Vault prolapse
- Advanced POP when meshes are needed

**How?**
- THE ABDOMINAL ROUTE
- THE LAPAROSCOPIC ROUTE
- THE ROBOTIC ROUTE

**Why CSP?**

Because it meets the goals of reconstructive POP surgery:

1. Restore Anatomy
2. Restore, improve or maintain visceral or sexual Function
3. Avoid/prevent causing or worsening other compartment disorders
4. Improve long-term QoL
### Personal experience

<table>
<thead>
<tr>
<th>Anatomical correction</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Vault prolapse corrected?</td>
<td>YES 100%</td>
</tr>
<tr>
<td>Anterior central defect corrected?</td>
<td>YES 96%</td>
</tr>
<tr>
<td>Anterior lateral defect corrected?</td>
<td>YES 95%</td>
</tr>
<tr>
<td>Posterior defect corrected?</td>
<td>YES 89%</td>
</tr>
<tr>
<td>Incontinence corrected?</td>
<td>YES 76%</td>
</tr>
<tr>
<td>Voiding dysfunctions corrected?</td>
<td>YES 95%</td>
</tr>
<tr>
<td>Storage symptoms corrected?</td>
<td>YES 83%</td>
</tr>
<tr>
<td>Sexual dysfunctions corrected?</td>
<td>YES 87%</td>
</tr>
<tr>
<td>Bowel disorders corrected?</td>
<td>YES 85%</td>
</tr>
</tbody>
</table>

### The correct surgical technique is the crucial point

**How and why does CSP work?**

**SUPPORT AND SUSPENSION**
- Obtained using the meshes which are able to replace broken ligaments

**CORRECTION**
- Anterior and posterior segments, central and lateral defects and vault, uterine prolapse and enterocele

### Hysterocolposacropexy (HSP)

1. Uterus is a “central” element in pelvic statics. Preserving the uterus means preserving normal pelvic anatomy and function
2. Surgery:
   - Easier technique (Less blood loss)
   - Shorter operating time and hospital stay
   - Fewer post-operative complications (less erosions)
   - Major considerations in elderly women or patients with concomitant pathologies
3. Because we must take the woman’s point of view into account

- To avoid the opening of the vagina
- Hard tissue for the sutures
- Woman’s desire
Incise visceral peritoneum at uterine istmus. Prepare anterior and posterior vaginal walls.

**ONE Y-SHAPED MESH IS POSITIONED ANTERIORLY**

SIDE OF MESH ARE PASED THROUGH THE BROAD LIGAMENT, BILATERALLY.

**Fixation of the meshes to sacral promontory**

From the Abdominal route to the Laparoscopic route…. To the Robotic

**The evidence**

LSC results from >1000 patients in 11 series. Conversion rates and operative times have decreased with increased experience. Mean operative time 158 min (range: 96-286 min) with a 2.7% conversion rate (range: 0-11%) and a 1.6% early re-operation rate (range: 0-3.9%).

Mean follow-up of 24.6 mo (range: 11.4-66 mo) 94.4% satisfaction rate 6.2% prolapse reoperation rate 2.7% mesh erosion rate.

LSC is "gold standard" ASC. Longer prospective and randomized trials needed.

**Laparoscopic CSP**

Is it an alternative? Yes

- Acceptable short-medium term outcomes
- Less pain
- Shorter hospital stay and convalescence
RCT
Abdominal vs Laparoscopic CSP

Consecutive patients affected by symptomatic POP stage >II according to the POP-q classification

Prospectively randomized to test the clinical equivalence of AS and LS, using a predetermined computer-generated randomization code (4 blocks).

Institutional Research Committee approval obtained

Trial registered as Clinical trial NCT01182090.

MATERIALS AND METHODS

- **Inclusion Criteria**: Patients affected by stage III-IV POP (POP-Q classification)
- **Exclusion Criteria**: Contraindication to major surgery
- **Primary outcomes**: Anatomic correction: Quantitative description of point C/D (the apex, posterior fornix on the POP-Q classification). At least 1-year follow-up
- **Secondary outcomes**: Assessment of how much better LS was than AS in terms of complications, morbidity assessed using the Clavien-Dindo classification of surgical complications, operating time, intra-operative blood loss, length of hospital stay
- **Statistical analysis**: A sample size of 31 patients per group, at p=0.05, two-sided t-test was estimated to have 80% power to reject the null hypothesis that the laparoscopic and open methods are not equivalent (with a pre-specified tolerance limit margin of 0.6 cm for equivalence with a common SD of 0.8 cm. The Mann-Whitney and Chi square tests were used for statistical analysis

RESULTS

- **Pre-operative evaluations** showed no significant inter-group differences for:
  - Age (mean 63.2 yrs and 62.8 yrs for AS and LS respectively, p=0.595)
  - BMI (mean 27 kg/m2 and 26 kg/m2 for AS and LS respectively, p=0.090)

- **Operating time** was longer for LS (mean 194.4 min for AS vs 222.2 min for LS, p=0.028).

- **Intra-operative blood loss** was higher in OS (mean 290 ml for AS vs 101 ml for LS, p<0.001) and hospital stays were longer (mean 6.3 days for AS vs 4.6 days for LS, p<0.001).

- **Anatomical results** showed asymptomatic stage I-II recurrence in 27.7% in LS vs 11.1% in OS (p=0.101).

<table>
<thead>
<tr>
<th>Complications Type</th>
<th>LS (n=36)</th>
<th>OS (n=36)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constipation n°/%</td>
<td>7 (19.4%)</td>
<td>3 (8.3%)</td>
</tr>
<tr>
<td>Urinary tract infection n°/%</td>
<td>4 (11.1%)</td>
<td>1 (2.7%)</td>
</tr>
<tr>
<td>Storage symptoms n°</td>
<td>4 (11.1%)</td>
<td>5 (13.8%)</td>
</tr>
<tr>
<td>Urinary tract infection n°</td>
<td>7 (19.4%)</td>
<td>7 (19.4%)</td>
</tr>
<tr>
<td>Post-operative C/D point evaluation (POP-Q system) type</td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>AS</td>
<td>36</td>
<td>-6,533</td>
</tr>
<tr>
<td>LS</td>
<td>36</td>
<td>-6,853</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>-6,693</td>
</tr>
</tbody>
</table>

which demonstrates their equivalence
These data show that:

- LS provided outcomes as good as AS with decreased morbidity, less blood loss, less pain and shorter recovery times at a median follow-up of 28 months (range 12-40 months).
- Subjective and objective outcomes were not significantly different. Anatomical results showed asymptomatic stage I-II recurrence in 27.7% in LS vs 11.1% in OS (p=0.101).

And Robotic Colposacropexy?

- Robotic- and laparoscopic sacrocolpexy aim to reproduce the abdominal sacrocolpopexy technique in a minimally invasive fashion

A Multicenter European Trial “The Parsec study” is on going and could further clarify its role for POP repair

Advantages of Robotic System

- Magnification – 15X
- 3-D vision
- Precise and smooth movements
- Wrist rotation
- Minimal access
- Surgeon’s position

Disadvantages of Robotics System

- Cost
- Lack of tactile feedback
- Specifically problematic for promontory
- Dedicated and experienced O.R.
THE ROLE OF ROBOTIC COLPOSacROPEXY IS STILL ONGOING

TAKE HOME MESSAGES
• Colposacropexy with or without uterus preservation can safely be offered to women with symptomatic descensus
• The surgical technique is the crucial point to obtain better results
• The results of laparoscopic CSP appear similar to the open approach (learning curve!!)
• The robotic surgery has some critical points (cost!!)
• POP surgical approach should be individualized primary on the basis of the patients and secondary on the surgeon
• The expertise is fundamental

SURGICAL TRIPS AND TRICKS
A. Wide preparation of the vaginal walls
• To correct all the POP defects and to avoid anterior or posterior recurrences
• To avoid mesh erosion
  • The large contact between mesh and vaginal walls avoid inadequate tractions
B. Prefer polypropylene meshes
• To date the best type on the market
• Absorbable meshes do not work
C. Use re-absorbable sutures on the vagina
D. Avoid folding and wrinkling, the mesh must be well stretched
  • Stitch erosions are reported
  • Folding and wrinkling can cause erosions and dyspaurenia
B. Fix the mesh on the posterior vaginal wall and not on the elevator ani muscle

- To avoid dischezia and chronic pelvic pain

SUGGESTED READING


Uterus sparing surgery: a challenging approach to pelvic organ prolapse repair. Remedica publishing group.


Uterus preservation in pelvic organ prolapse surgery

Nat Rev Urol. 7, 626–633, 2010

- Cochrane review 2010 on POP surgery

MRI and Pelvic Floor Disorders

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Honorary Senior Lecturer
Lead Consultant for Childbirth Injury and Pelvic Health after Childbirth Services

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The use of magnetic resonance imaging (MRI) as a diagnostic modality for the assessment of pelvic floor disorders is well established. MRI of the pelvic floor provides high quality imaging of pelvic floor muscles, connective tissue, and organs.

Women might present with symptoms isolated to one of the pelvic compartments, but often have concomitant defects in multiple compartments or pelvic tissues and organs. Accurate diagnosis of coexisting abnormalities is essential in planning reconstructive and anti-incontinence procedures, in order to reduce risks of surgical failures and recurrences. The sensitivity and specificity of the pelvic exam in diagnosing various forms of pelvic floor prolapse has limitations. MRI can provide static as well as dynamic imaging and enable visualization of the mobility of each compartment during valsalva to extend what can be determined on physical examination. Prolapse assessment on dynamic MR imaging may therefore be useful in the posterior compartment, although clinical assessment and dynamic MR imaging seem interchangeable in the anterior and apical compartment.

The following measurements using MRI in urogynecology and female urology have been highlighted in the recent IUGA/ICS Joint Report on the Terminology for Female Pelvic Floor Dysfunction:

(a) Bladder neck and cervical descent/mobility:
   - Position of bladder neck and cervix at rest and on valsalva.
   - Pubo-coccygeal line: A line extending from the inferior border of the pubic symphysis to the last joint of the coccyx. Bladder neck or cervical descent >2 cm below this line with straining indicates weakness of the pelvic floor. If alternative landmarks are used in scientific papers they should be clearly described.

(b) Intercurrent pelvic pathology: For example, fibroids, ovarian pathology.
(c) Uterine version: Anteverted or retroverted; flexion at the isthmus.
(d) Bladder abnormalities: For example, tumor; foreign body.
(e) Urethral abnormality: For example, diverticulum.
(f) Postoperative findings: For example, bladder neck mobility.
(g) Pelvic floor measurements/levator defects: Assessment of the configuration of pelvic floor muscles, in particular, the levator ani.
(h) Descent of pelvic organs.

In this workshop, the current evidence on the role of MRI in assessing pelvic floor disorders will be discussed with emphasis on diagnostic and clinical considerations.
Robotic Sacrocolpo / hysteropexy

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Lead Consultant for Childbirth Injury and Pelvic Health after Childbirth Services
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Surgical options for the treatment of vaginal vault or uterine prolapse include abdominal (open, laparoscopic and robotic) and vaginal sacrocolpopexy or sacrohysteropexy as well as abdominal and vaginal hysterectomy. Robotic surgery utilises computerised technology and allows the surgeon to view the operative field in magnified 3-dimensional vision. The robot offers the best view, the most precise control and the best ergonomics for the surgeon of any current surgical technique available, whilst also offering the benefits of minimally invasive surgery in terms of less pain, decreased length of stay and faster return to normal activities. The robot is ideally suited to operations that take place in a defined anatomical area like the pelvis. Worldwide, gynaecology is now the major speciality in robotic surgery in terms of case numbers. However, in POP surgery, randomized data comparing the different approaches are limited. Nevertheless, minimally invasive abdominal procedures appear likely to become the preferred approaches to POP repair.

Setting up a Robotic Service
The major obstacle to the expansion of robotic surgery is undoubtedly the financial implications. Health economics is a complex area to tease out the true cost-benefit relationships of new technologies. Despite an overall demonstrable benefit to society, the different stakeholders are unlikely to adopt easily expensive new technologies. There is a further layer in the interaction with the
medical industry companies who, if they do not have sufficient competition, are less likely to be flexible on pricing.

In developing a business case the following financial aspects are essential to be addressed:

**Cost Analysis**

Capital cost of purchase of the system and ancillary equipment
- Ongoing unavoidable costs
  - Straight line depreciation
  - Annual maintenance contract
- Charity money
- Procedure Tariffs
- Other sustainable factors / costs
  - Sterilisation
  - Equipment cost reduction in other procedures
  - Outside referrals
  - Private cases
  - Reduced complication and emergency readmission rates
  - Profit yielded from beds that are freed up for other work
  - Cost vs. open cases

**Considerations of the wider health and social implications**

- General Practice implications
- Lost working days
- Quality of Life

**Local benefits**

**National/International benefits**
Reconstructive Surgery of Female Pelvic Floor Prolapse: Sacrocolpopexy

Introduction and Evidence

Dr Salma Kayani
MSc, DFS&RH, MRCOG
Consultant Gynaecologist
Advanced Minimal Access Surgeon
in Excisional Benign Gynaecology

Background

POP is seen in 50% of parous women

- Beck 1991
10-30 per 10,000 women

- Brubaker 2002
Up to 300,000 women undergo surgery for pelvic organ prolapse in the USA each year.

Incidence & Recurrence

By age 80, women have an 11% risk of either POP surgery or urinary incontinence surgery. Of these 11% almost a third of the women have a second surgery. Olsen 1997, Brubaker 2006

Treatment for vaginal prolapse is associated with a high recurrence rate, with the reoperation rate reported at 17% within 10 years, although even this was considered to underestimate the true rate (Denman et al, 2008)

RULE OF 11

Women have an 11% lifetime risk of pelvic organ prolapse surgery.

Women who undergo surgery for pelvic organ prolapse are at 11% risk of requiring a re-operation within the next 11 years, usually at a different site.

Historical - Ancient Egypt

Kahun Gynaecological Papyrus (2000 BC)
• Pelvic organ prolapse and its consequences have been reported since 2000 BC.

Ebers Papyrus (1500 BC)
• An Egyptian Medical Papyrus. Among the oldest and most important medical papyri of ancient Egypt.

Historical Background

Ἱπποκράτης; Hippokrátēs (470-360 BC)
• Described numerous nonsurgical treatments for pelvic organ prolapse.

Soranus of Rome (98-138 AD)
• First described the removal of the prolapsed uterus when it became black.
From the early 1800s through the turn of the century, various surgical approaches have been described to correct pelvic organ prolapse.

Pink = Female higher than male
Green = Equal
Blue = Male higher than female
Grey = No data see also

Aetiology of Pelvic Organ Prolapse
- Connective Tissue Abnormalities
- Denervation or Weakness of Pelvic Floor
- Menopause
- Ageing
- Pregnancy and Childbirth
- Chronically raised intra-abdominal pressure

Surgery (Herniation)
- Protrusion of a viscus in part or whole through a normal or abnormal opening in relation to the abdomen
  - Demonstrations of Physical Signs in Clinical Surgery
  - Professor Hamilton Bailey
  - 17th Edition
- Current treatment options for upper vaginal prolapse include:
  - Pelvic floor muscle training (PFMT)
  - Use of pessaries (mechanical devices such as rings or shelves)
  - Surgery
- Surgical repair with mesh include:
  - Sacrocolpopexy
  - Infracoccyeal sacrohysterectomy (also known as Posterior IntraVaginal Slingplasty, IVS)
  - Uterine suspension sling (including sacrohysterectomy); and
  - Other mesh techniques such as sacrocolpopereineopexy.
- Surgical repair without mesh include:
  - Hysterectomy
  - Cervical amputation (often called Manchester repair); and
  - Uterine/vault suspension (without sling/Sacrospinous colpopexy).

Just how much good has medicine done over the years, and how much harm does it continue to do?
The Straight and Narrow Evidence Based Medicine

Two Reviews

Cochrane Review- 40 RCT

- **Comparison 1**: One type of upper vaginal prolapse repair versus another (15 RCTs)
  - Abdominal SCP vs Vaginal Sacrospinous Colpopexy
  - Abdominal SCP + Abdominal hysterectomy vs Mayo McCall+ Vaginal hysterectomy + ant + post repair
  - Uterine suspension vs Vaginal hysterectomy
    - Abdominal uterine suspension vs vaginal hysterectomy and repair
    - Vaginal Sacrospinous uterine suspension vs vaginal hysterectomy
  - Hysterectomy with High Levator Myorrhaphy vs hysterectomy with uterosacral vault suspension
  - Open Abdominal sacral colpopexy vs Laparoscopic Sacral Colpopexy
  - Vaginal sacrospinous colpopexy vs Posterior Intra vaginal Slingplasty (infracoccygeal sacropexy)
  - Prolapse repair without continence surgery vs prolapse repair with any continence surgery
  - One type of graft vs another type of graft in Sacrocolpopexy
Abdominal Sacro Colpopexy

Pros
- Lower recurrent vault prolapse
- Reduced grade of residual prolapse
- Greater length of time to recurrence
- Lower incidence of dyspareunia than vaginal sacrospinous colpopexy

Cons
- Longer operating time
- Longer time to return to daily activities
- Increased cost

Abdominal SCP
- Less post op stress incontinence
- Lower re operation rate in the abdominal group (did not reach statistical significance)
- Less recurrence with mesh
Remains to be assessed

• Value of the addition of a continence procedure to a prolapse repair operation in women who are dry before operation

Sacro Colpopexy

• 4456 women
• Average follow up 2 years (8-66 months)

Mesh Sacro Colpopexy

• Objective failure: range 0% to 6% at an average follow up of two years.
• Subjective failure: range 3% to 31%
• No evidence of a statistically significant difference between SCP (mesh) and sacrospinous colpopexy (no mesh) in subjective and objective failure but the numbers were small.
• Need for further prolapse surgery: range 2% to 14%
• Risks from adverse effects such as
  – blood transfusion (range 0% to 17%)
  – infection (range 1% to 69%)
  – mesh erosion (range 4% to 12%) and
  – the need for a further operation for mesh erosion (range 1% to 11%).

SCP Safety

• The proportion of women who required a blood transfusion for sacrocolpopexy ranged from 0% to 17% (19 studies, n=2080).
• The range for women with organ damage varied from 0% to 7.9% (15 studies, n=1723).
• Mesh erosion occurred in 0% to 12% of women (27 studies, n=2922), of whom 0% to 11% required an operation for mesh erosion (17 studies, n=2074).
• New urinary symptoms in women who did not have these symptoms at baseline occurred in 3.8% to 9.2% (4 studies, n=294).
• The estimate for new bowel symptoms (0.1% to 2.7%) was based on a single study, and the estimate for new sexual symptoms (range 9.1% to 15%, n=87) was based on 2 small studies.
• The range of infection was wide (0.8% to 68%, 17 studies, n=1391).

SCP: Operation time & hospital stay

• Average operation time:
  – varied from 89 minutes to 267 minutes (based on 15 studies)
• Average hospital stay after sacrocolpopexy
  – ranged from 1 to 7 days.
  – majority of the studies reported 3 to 5 days (11/14 studies).
SCP Safety & Efficacy

- Current guidance for using mesh for SCP for vault repair is adequate, provided the arrangements are in place for clinical governance and audit.
- Clinicians should ensure patients understand that there is risk of recurrence and complication such as mesh erosion.
- Carried out by surgeons specialising in the management of POP and female urinary incontinence.
- This evidence on efficacy and safety is limited to 5 years.

SCP with hysterectomy

- Current evidence on the safety and efficacy of SCP with hysterectomy using mesh for uterine prolapse repair is inadequate in quantity and quality. This procedure should only be used with special arrangements for clinical governance, consent and audit or research.
- Clinicians wishing to undertake this procedure should inform their clinical governance leads and ensure patients understand the uncertainty re the procedure.
- BSUG database.
- Procedure should be carried out by surgeons specialising in the management of POP and female urinary incontinence.
- NICE encourages future research in SCP with hysterectomy using mesh.

N=138
- Follow Up: 1-5.2 years, average 2.1 years
- Abdo SCP> SSF (Better objective cure)
- SSF: more blood loss, longer catheterisation, longer hospital stay, more sexual dysfunction

Maher 2004, Evidence Level 1b

Abdominal SCP
- Longer op time
- Slower return to normal activities
- Higher Cost
- Complications:
  - Bladder injury (1)
  - Incisional hernia (2)
  - Mesh rejection (1)
  - Wound infection(1)

Sacro Spinous Colpopexy
- No difference in
  - Objective cure
  - Subjective cure
  - Urinary, bowel, sexual function, QoL.
- Complication
  - Blood transfusion (1)
  - Bladder injury (1)
  - Rectovaginal haematoma (1)
  - Vaginal pain (1)
Criteria considered when helping women choose between two procedures

**Abdominal Sacro Colpo Pexy**
- Mesh can be extended anteriorly and posteriorly, however concomitant vaginal repair can be undertaken
- Laparotomy can be used to do another procedure at the same time
- Operative morbidity reduced with laparoscopic surgery
- More suited for sexually active women (as SSF is associated with exaggerated retroversion of vagina leading to less physiological
- Vaginal length maintained

**Vaginal Sacro Spinal Fixation**
- Requires: adequate vaginal length & vault width to enable reaching the SS ligament.
- Coexistent ant and post wall prolapse can be managed at the same time, but this may cause shortening and narrowing leading to dyspareunia
- Suitable for frail patients
- No difference in pain

Are laparoscopic procedures recommended? (RCOG)

- Clinicians should be aware that laparoscopic procedures involve a high level of expertise and longer operation times. Lap SCP appears to be as effective as open SCP. (B)
- The ureters are particularly at risk during laparoscopic uterosacral ligament suspension (B)

Laparoscopic SCP—Evidence Level III

- Enhanced view
- More anatomical repair
- Less scarring
- Reduced post op morbidity
- Shorter hospital stay
- Requires skill, training, longer op time
- Same technique as open, therefore as effective (RCTs awaited)
- Conversion to open is 8% but become 1% with experience
- Complications: bladder and bowel injury, wound haematoma, UTI

Grade A—Research recommendations

- Sacrocolpopexy based abdominal POP surgery is likely to result in a better and possibly more durable anatomical outcome that Sacrospinous based vaginal reconstruction

Patient selection

- Patient assessment
- Skill
- Women’s choice: priorities/attitudes
- Facilities/healthcare systems

Technique

- Dissection
- Reconstruction
Mesh

• Types of Mesh?
• Mesh Size?
• Mesh Surface?
• Where to attach the mesh?
  – Vagina
  – Promontory
  – Pelvic floor
• How to attach the mesh?

Tension

• How much tension should be given to the Mesh?
• How to assess the tension?
• Little evidence

Peritonealisation?

• Does the peritoneum need closure?
• Evidence?

Stress Incontinence

• Does it improve/worsen after SCP
• When to treat it at the time of SCP
• When to leave it, and to perform it as a second procedure

Outcome

• Long term results
  – Structure
  – Function
• Questionnaire QOL
  – Pre Op
  – Post Op