OBJECTIVES: To compare 5-year surgical outcomes of uterosacral ligament suspension (ULS) versus (vs) sacrospinous ligament fixation (SSLF) in women with advanced pelvic organ prolapse (POP). Secondarily, to explore differences in outcomes between advanced vs stage II POP.

MATERIALS AND METHODS: A secondary analysis was conducted in a subset of women with advanced (stages III-IV) POP from a multi-center randomized trial comparing (1) SSLF vs ULS and (2) peri-operative behavioral with pelvic floor muscle training (BPMT) vs usual care. Publicly accessible de-identified datasets of the index trial with 5-year follow-up were analyzed. The primary outcome was time to surgical failure, defined as (1) apical descent >1/3 into vaginal canal or anterior/posterior vaginal wall beyond the hymen, (2) bothersome vaginal bulge symptoms, or (3) retreatment (pessary or surgery) for POP. Secondary outcomes included symptom severity measured by the Pelvic Organ Prolapse Distress Inventory (POPDI), and adverse events (AEs). Outcomes in women with advanced stage POP were also compared to those with stage II POP.

RESULTS: Of 285 women in the index study, 90 of 147 (61.2%) in the ULS group and 88 of 138 (63.8%) in SSLF had advanced POP. Baseline characteristics did not differ between groups (mean age ULS = 61.0 ± 10.1 vs SSLF = 60.2 ± 9.9, P = 0.58). Surgical failure increased over 5 years in both groups with no intergroup difference (P = 0.42, Figure). By year 5, the estimated surgical failure rate was 67.7% for ULS vs 71.5% for SSLF (adjusted difference [a-diff] = 3.8; 95% CI = 21.9, 14.2). No difference was noted in individual failure components (Figure); anatomic: 56.7% ULS vs 65.2% SSLF (a-diff = 8.4; 95% CI = 28.0, 11.2), symptomatic: 38.8% ULS vs 43.1% SSLF (a-diff = 4.3; 95% CI = 22.6, 14.1), retreatment: 20.0% USL vs 15.9% SSLF (a-diff = 4.1; 95% CI = 9.4, 17.7). POPDI scores improved from baseline to 5 years in both groups without intergroup difference (ULS = 68.0 ± 61.1 vs SSLF = 69.9 ± 60.3, a-diff = 0.1; 95% CI = 20.0, 19.9). AEs such as granulation tissue, suture exposure, and midurethral sling exposure did not differ over 5 years. Comparing women with advanced stages vs stage II POP, the estimated surgical failure did not differ over 5 years; 69.8% advanced vs 55.7% stage II (a-diff = 14.1%; 95% CI = 33.7, 5.6). However, anatomic failure was higher in women with advanced POP (61.1% advanced vs 33.8% stage II, a-diff = 27.3%; 95% CI = 47.5, -7.0). There was no difference in symptomatic failure (41.4% advanced vs 33.3% stage II, a-diff = 8.1; 95% CI = 25.3, 9.1) or retreatment (11.7% advanced vs 8.0% stage II, a-diff = 3.6; 95% CI = 12.0, 4.7).

CONCLUSION: In women with advanced stage POP, surgical failure, symptom severity, and AEs did not differ between ULS and SSLF over 5 years. Compared to stage II POP, women with advanced POP had higher anatomic failure.

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OBJECTIVES: We aimed to compare rates of postoperative gluteal and posterior thigh pain in women undergoing sacrospinous ligament fixation using an anchor-based versus suture-capturing device.
fixation (SSLF) with a suture-capturing device (Capio Slim) versus an anchor-based device (Anchorsure). Our secondary objectives were to compare device efficiency, surgeon satisfaction, and intraoperative complications.

**MATERIALS AND METHODS:** We performed a single-center, randomized trial of patients undergoing native-tissue vaginal prolapse repair via SSLF with an anchor-based versus a suture-capturing device. Patients with significant preoperative gluteal and posterior thigh pain or regular opioid pain medication utilization were excluded. Pain in the gluteal, posterior thigh, and general pelvis was assessed via Numerical Rating Scales preoperatively, postoperative day 1, week 1, and week 6. A pain score difference of 2.5 from baseline was used as a level of clinical significance. Opioid pain medication use was recorded for the first week post-operation. Device performance data (SSLF attachment time, device application success rate, and 5-point Likert scale surgeon satisfaction scores) as well as changes in Pelvic Floor Distress Inventory-20 and Pelvic Floor Impact Questionnaire-7 scores at 6 weeks were collected. Bivariate analysis with Wilcoxon rank-sum tests and Fisher’s exact tests were performed.

**RESULTS:** Between October 2018 and August 2020, 47 patients (24 anchor and 23 suture-capturing) were randomized and underwent surgery. The mean age was 69.9 years old, BMI 29.5, and stage of prolapse 2.77. There was no difference in the mean gluteal and posterior thigh pain score or in the change in pain from baseline at the day 1, week 1, or week 6 postoperative time-points between the groups (Table 1). Overall, 65% of patients had an increase in pain on the side of SSLF at day 1, 90% during the first week, and 19% at week 6 post-operation. However, only 1 patient reported a clinically significant increase in pain in 6 weeks post-surgery and no patients required suture release. No differences were seen between groups in opioid pain medication utilization ($P = 0.293$). Performance was similar between the anchor-based device and the suture-capturing device for SSLF attachment time (6.3 minutes +/- 5.4 vs. 6.9 minutes +/- 6.8, $P = 0.894$), satisfaction scores (3.8 +/- 1.7 vs. 4.3 +/- 1.4, $P = 0.189$), and rates of successful SSLF application on first attempt (93% +/- 15 vs. 92% +/- 17, $P = 1.000$). There were no cases of intraoperative hemorrhage due to SSLF. The devices similarly improved PFDDI-20 (-82 +/- 40 vs. -74 +/- 57, $P = 0.587$) and PFIQ-7 (-19 +/- 74 vs. -3 +/- 76, $P = 0.837$) scores.

**CONCLUSION:** An anchor-based delivery device did not reduce postoperative pain compared to a suture-based device in women undergoing SSLF. Both devices performed well with very low rates of persistent pain at 6 weeks.

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**Surgical correction of the genital hiatus at the time of sacrocolpopexy -- are concurrent posterior repairs cost-effective?**

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**OBJECTIVES:** Correcting the genital hiatus with posterior repair (PR) during sacrocolpopexy reduces prolapse recurrence, but may result in complications or dyspareunia requiring subsequent treatment. Our objective was to perform a cost-effectiveness analysis of posterior repair performed at the time of laparoscopic sacrocolpopexy.

**MATERIALS AND METHODS:** We used TreeAge Pro® to construct a decision model comparing sacrocolpopexy with and without concurrent posterior repair (SCP and SCP + PR). Using a time horizon of 1 year, we modeled prolapse recurrence, prolapse retreatment, and complications including rectal injury, rectovaginal hematoma requiring OR take-back, and postoperative dyspareunia. Costs included index surgery, surgical retreatment, and complications. Costs, probabilities, and utilities were gathered from Medicare reimbursement data, published literature, and institutional billings department (Table 1). We modeled effectiveness as quality-adjusted-life years (QALY). Cost-effectiveness was defined as an incremental cost-effectiveness ratio (ICER) and willingness to pay (WTP) of $100,000/QALY. Base-case, tornado plots, sensitivity analyses were performed.

**RESULTS:** In the base case scenario, SCP was the dominant strategy with lower cost and higher effectiveness. Tornado plots showed CEA results were most influenced by the cost of SCP, cost of SCP + PR, and probability of dyspareunia after SCP. In one-way sensitivity analyses, the model outcome would change only if the cost of SCP was greater than SCP + PR or if the probability of dyspareunia was 80.8% after SCP. SCP + PR costs more than SCP, but we analyzed what would happen if costs were equal. In this hypothetical scenario, SCP + PR still only became the optimal strategy if the recurrence rate after SCP was >20% (base case 9.2%) while at the same time dyspareunia after SCP + PR was <10% (base case 29%). These unlikely scenarios further support the strength of our model. Similarly, when the probability of prolapse recurrence after SCP was increased to 30%, SCP + PR only became the optimal strategy if every patient undergoes prolapse retreatment after SCP and SCP + PR.

**CONCLUSION:** In this cost-effectiveness analysis, SCP without concurrent PR was the dominant strategy. SCP + PR costs more with lower effectiveness than SCP alone due to higher surgical cost of SCP + PR and higher probability of dyspareunia after SCP + PR.