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Long Term Prolapse Outcomes after Uterine Preservation or Hysterectomy

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Abstract

Uterine preservation is increasingly offered during surgery for uterovaginal prolapse, but comparative long-term findings do not support a single durability estimate for all procedures. This narrative review examines randomized trials, extended follow-up, systematic reviews, comparative cohorts, and consensus publications, with a targeted PubMed update on 11 October 2026. A structured evidence table contrasts procedures, samples, endpoints, effect estimates, and interpretation limits. At ten years, SAVE U found no statistically significant difference in clinically defined apical failure, but the 93 of 208 participants assessed were a selected follow-up sample; the estimates cannot establish equivalence or non-inferiority. The SUPeR abstract reported a borderline estimate favoring vaginal mesh-augmented hysteropexy for cumulative composite failure; this finding is not directly generalizable to current native-tissue procedures. A large retrospective native-tissue cohort instead associated hysteropexy with more long-term retreatment. These findings concern different operations, populations, and outcomes, rather than interchangeable estimates of retaining the uterus. Shorter operative time and reduced blood loss are frequent advantages of preservation, although route-specific comparisons can differ and their clinical importance requires direct assessment. Counseling should distinguish anatomical recurrence, bothersome symptoms, and retreatment; disclose attrition and residual confounding; and compare the actual procedures available. Uterine preservation remains an option for selected women without an independent indication for hysterectomy. This targeted synthesis, without formal certainty grading, supports informed choice rather than universal superiority or long-term equivalence.

Keywords

Pelvic Organ Prolapse, Uterine Preservation, Hysterectomy, Hysteropexy, Long-Term Outcomes

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1. Introduction

Pelvic organ prolapse (POP) is a pelvic floor disorder characterized by descent of the uterus, anterior vaginal wall, posterior vaginal wall, or vaginal apex as a consequence of impaired muscular, fascial, and ligamentous support. POP can cause vaginal bulge symptoms, urinary and bowel dysfunction, sexual difficulties, and substantial reductions in quality of life. Pelvic floor muscle training and pessary therapy are appropriate for many women, whereas reconstructive surgery remains an important treatment for patients with bothersome or advanced prolapse who do not achieve adequate symptom control with conservative management.

For decades, vaginal hysterectomy combined with apical suspension was considered a standard surgical approach for uterine prolapse. This practice was based partly on the assumption that removal of the prolapsed uterus was integral to correcting the disorder. Anatomical work identifies level I suspensory tissue as critical to support of the vaginal apex [1]. This provides a rationale for correcting apical support while retaining a uterus without intrinsic disease, rather than treating uterine descent alone as an indication for removal.

Systematic reviews have often found similar short- and intermediate-term outcomes after uterine preservation and hysterectomy-based reconstruction, with perioperative advantages in several comparisons [2]-[6]. Earlier pooled findings were less consistent [7]. Extended randomized follow-up now reaches approximately 7 - 10 years [8]-[10], while a large native-tissue observational cohort associates hysteropexy with higher long-term retreatment [11]. The apparent disagreement is clinically important: a patient asking about durability needs to know whether an estimate concerns anatomical descent, bothersome prolapse, or the need for another treatment, and whether it applies to the operation being offered.

This review provides a structured interpretation of the discordant findings. It places long-term studies beside a contemporary prospective cohort, separates the effect of uterine retention from differences in reconstructive technique, and translates uncertainty into procedure-specific counseling. The 2026 global consensus statements and evidence on incidental uterine and cervical pathology provide the context for patient selection [12]-[14].

2. Methods

2.1. Scope and Literature Identification

This focused narrative review concerns reconstructive surgery for primary uterovaginal prolapse in adult women. Relevant evidence compared uterine-preserving repair with hysterectomy plus apical suspension, or informed procedure selection, safety, symptoms, and subsequent treatment. Randomized studies, extended trial reports, comparative cohorts, systematic reviews, and consensus guidance were prioritized. The principal concepts were uterine or uterovaginal prolapse; uterine preservation, hysteropexy, or hysteropreservation; hysterectomy; apical suspension; and the Manchester procedure. These concepts describe the scope of this narrative synthesis; a complete dated query history and prospective screening log

for the initial assembly were unavailable for this revision.

A documented supplementary PubMed/MEDLINE search on 11 October 2026 covered publications dated 1 January-11 October 2026 and returned 111 unique records (**Appendix**). During revision on 20 October 2026, the archived titles and available abstracts were reassessed against the review scope. Eight records were already cited; nine additional records were potentially relevant. One of these, an abdominal mesh safety cohort, was added after full-text checking [15]. The other eight candidates were not added because they concerned shorter or less directly comparable cohorts, functional subgroups, pathology series, or economic analyses outside the central durability question. Record-level decisions for all 111 records appear in Supplementary File 1. This retrospective audit does not reconstruct the original screening chronology or establish exhaustive study identification.

2.2. Evidence Extraction and Interpretation

For the seven central comparative reports, extraction covered the procedures, design, numbers randomized or enrolled, analysis populations, available follow-up or extension samples, follow-up duration, endpoint, and effect estimate with its 95% confidence interval where available. SAVE U at five and ten years, SUPeR at five years, and the seven-year laparoscopic sacrohysteropexy report were checked against accessible full texts. SUPeR at ten years, the Akavian cohort, and HUPPS were assessed from indexed or publisher abstracts and are marked ABSTRACT ONLY. Their interpretations remain provisional where matching denominators, censoring, or extension assessments could not be verified. Reports from the same randomized cohort are linked, not treated as independent trials. No new meta-analysis, formal risk-of-bias scoring, certainty grading, registered protocol, or independent dual-reviewer screening was undertaken.

Source availability varied among the other cited publications. When only an indexed or publisher abstract was accessible, the discussion was restricted to findings reported in that source. The LAVA report was checked using the corresponding chapter in the author's thesis and the published journal abstract; the final journal text was not available for a complete version comparison. Source access for these comparative reports is identified alongside the extracted outcomes.

3. Evolution of Surgical Concepts in Uterine Management

The anatomical rationale for uterine preservation rests on level I support. The uterosacral-cardinal ligament complex and adjacent connective tissues support the uterus and vaginal apex; failure of this support permits apical descent [1]. Earlier surgical practice often focused on removing the prolapsed uterus. Repairing the apical support defect offers a way to correct the prolapse while retaining a uterus without intrinsic disease.

Assessment of POP surgery now extends beyond the postoperative anatomical examination. Vaginal bulge symptoms and the need for further treatment help

establish whether the repair has been clinically effective. Urinary, bowel, and sexual function, recovery, quality of life, and satisfaction also matter to patients. In their review, Meriwether *et al.* described variation in recurrence patterns and adverse events among hysteropexy techniques [16]. These differences limit what can be inferred from an outcome reported simply under the label "uterine preservation".

The patient's reasons for retaining or removing the uterus also deserve attention. In the study reported by van IJsselmuiden *et al.*, many women favored preservation when the expected anatomical and functional results were described as similar [17]. Ramage *et al.* found that women weighed recurrence and complications alongside cancer concerns, body integrity, the personal significance of the uterus, and advice from their surgeon [18]. A discussion of these considerations helps explain why patients with similar prolapse findings may choose different operations. The decision should account for those preferences and the clinical indications in each case.

The 2026 global consensus supports offering native-tissue hysteropexy alongside hysterectomy with apical repair and emphasizes that hysterectomy alone is inadequate treatment for primary apical prolapse [12]. These recommendations establish preservation as an option; they do not supply a precise ten-year risk for every technique or patient. Recent extended follow-up and routine-practice data therefore remain relevant to individualized counseling.

4. Uterine-Preserving Surgical Options

4.1. Sacrospinous Hysteropexy

Sacrospinous hysteropexy (SSH) is one of the best-studied native-tissue vaginal procedures for uterine prolapse. The cervix or adjacent supporting tissue is suspended to the sacrospinous ligament, thereby restoring apical support without hysterectomy.

The SAVE U trial randomized 208 women with stage II or greater uterine prolapse to SSH or vaginal hysterectomy with uterosacral ligament suspension (VH-USLS). Its one-year primary endpoint met the prespecified non-inferiority criterion [19]. At ten years, only 93/208 women (44.7%) contributed follow-up assessments. They were a selected subset of the randomized cohort, with younger age and less severe baseline prolapse than nonresponders [8]. The ten-year estimates therefore cannot establish either equivalence or non-inferiority. The original one-year conclusion should not be transferred to this selected long-term sample; the five-year findings were sensitive to missing-data assumptions [20].

A 2026 single-center retrospective comparison of SSH with vaginal hysterectomy plus sacrospinous ligament fixation included 148 women. At a median follow-up of 15 months, apical failure rates were 9.0% and 12.9%, respectively ($P = 0.45$); SSH had lower blood loss and shorter operating time [21]. This comparison uses the same suspension ligament in both groups, but its size and non-randomized design limit conclusions about equivalence.

SSH has procedure-specific limitations, including buttock or sacrospinous pain, altered vaginal axis, and recurrence in non-apical compartments. A SAVE U secondary analysis associated recurrence with body mass index, smoking, and preoperative anterior compartment descent [22]. These are prognostic associations; they do not establish which patients benefit more from hysterectomy than from hysteropexy. Such factors should inform risk discussion without becoming an unvalidated rule for choosing uterine removal.

4.2. Sacrohysteropexy

Sacrohysteropexy is usually performed laparoscopically or robotically and restores apical support by suspending the uterus or cervix toward the sacral promontory. It shares the biomechanical principle of sacrocolpopexy while avoiding removal of the uterus.

In the randomized follow-up reported by Izett-Kay *et al.*, laparoscopic sacrohysteropexy (LSH) was compared with vaginal hysterectomy and apical suspension at a mean of 100 months. Apical reoperation was less frequent numerically after LSH, but its confidence interval was wide; only 62 of 101 randomized women attended long-term follow-up. Greater total vaginal length and more proximal Pelvic Organ Prolapse Quantification (POP-Q) point C did not translate into a demonstrated advantage in the main patient-reported symptom measure [10]. Campagna *et al.* reported similar 24-month success with laparoscopic sacral hysteropexy and laparoscopic sacrocolpopexy plus supracervical hysterectomy, with shorter operating time after preservation [23].

Hwang *et al.* randomized 146 women to laparoscopic or robotic sacrohysteropexy or VH-USLS. They reported one-year non-inferiority for recurrence, with rates of 16.4% and 15.8%, respectively, and a reported confidence interval for the difference of −13.0 to 14.2 percentage points [24]. The prespecified margin and detailed missing-data handling could not be verified from the accessible abstract, so this finding is reported as the authors' conclusion. Sacrohysteropexy took longer and caused more early postoperative pain, with no detected difference in blood loss or hospital stay. Preservation therefore does not invariably reduce perioperative burden.

4.3. Heterogeneity among Uterine-Preserving Procedures

Uterine-preserving surgery encompasses several distinct operations. Differences in fixation site, route of access, use of native tissue or graft, cervical management, and vaginal axis can lead to different efficacy and complication profiles. In the LAVA trial, laparoscopic sacrohysteropexy and SSH had similarly low apical failure at 12 months, although some urinary, bowel, and dyspareunia outcomes differed [25]. Gutman *et al.* likewise showed that different mesh-based hysteropexy routes can produce comparable short-term cure rates despite substantial differences in operative time [26].

Results for the Manchester procedure illustrate the consequences of grouping

different operations together. Enklaar *et al.* randomized 434 women undergoing a first operation for uterine descent that did not extend beyond the hymen. Among 393 women in the as-randomized analysis, composite success at 2 years was 87.3% after the Manchester procedure and 77.0% after SSH. SSH did not satisfy the prespecified criterion for non-inferiority [27]. A 2024 review of five randomized trials found no statistically significant difference in several outcomes when SSH was compared with other procedures that retained the uterus [28]. The small evidence base and differences among the operations studied limit that finding. An absence of detected differences across pooled outcomes does not establish that all forms of hysteropexy can be substituted for one another. Comparisons with hysterectomy therefore need to specify the reconstruction used in each group.

Technical variation also matters within the Manchester procedure. The 2026 systematic review and global expert consensus examined differences in cervical management and the ligaments used for suspension [13]. Both may affect anatomical outcomes, but direct comparisons remain limited. Selection of a uterus-preserving operation should consequently take account of the anatomical defect to be corrected, as well as the patient's wish to retain the uterus. A separate 2026 systematic and scoping review found favorable recurrence and perioperative outcomes for the Manchester procedure but advised restricting it to women who have completed childbearing because pregnancy-outcome evidence is limited and concerning [29]. The consensus review could not identify an optimal operation specifically for cervical elongation because definitions and measurements were inconsistent [13].

5. Hysterectomy with Pelvic Floor Reconstruction

Vaginal hysterectomy with apical suspension remains an established treatment for uterine prolapse. Contemporary reconstructive principles emphasize that hysterectomy alone does not correct the underlying apical support defect; therefore, removal of the uterus should usually be accompanied by uterosacral ligament suspension, sacrospinous fixation, sacrocolpopexy, or another form of durable apical reconstruction.

Hysterectomy may be particularly appropriate when a patient has abnormal uterine bleeding requiring definitive treatment, premalignant or malignant endometrial or cervical disease, clinically important fibroids, adenomyosis, or another uterine disorder that independently warrants removal. In such settings, hysterectomy treats both the prolapse and the coexisting gynecologic condition.

In women without uterine pathology, hysterectomy adds vascular control, parametrial dissection, and vaginal cuff management. Pooled comparisons have not shown a consistent prolapse-specific efficacy advantage for routine hysterectomy, while uterine-preserving procedures often offer perioperative benefits [2]-[7]. A recent observational cohort nevertheless found lower long-term retreatment after hysterectomy with native-tissue apical suspension [11]. The clinical decision

should therefore consider the specific repair, anticipated durability, surgical burden, and any independent indication for uterine removal.

6. Comparative Clinical Outcomes

Table 1 summarizes outcome domains.

Table 1. Outcome domains relevant to uterine preservation versus hysterectomy with apical reconstruction.

Outcome	Evidence summary	Implication for counseling	Key references
Anatomical success	Short- and intermediate-term studies often report similar success, with heterogeneous anatomical and clinical definitions.	Define success before quoting a rate.	[3]-[5] [12]
Anatomical recurrence	Many randomized and pooled comparisons show no significant difference; definitions and follow-up vary.	Interpret by procedure and endpoint	[3]-[5] [7] [8] [19] [20]
Retreatment and reoperation	Recent pooled comparisons often show no reoperation difference; an earlier review favored hysterectomy. A native-tissue cohort reports more long-term retreatment and reoperation after hysteropexy.	Long-term evidence is discordant	[3]-[5] [7] [11]
Operative time	Most pooled evidence shows shorter procedures with uterine preservation.	Favors uterine preservation in many comparisons	[3]-[6]
Blood loss	Average blood loss is lower with uterine preservation in several meta-analyses.	Favors uterine preservation in many comparisons	[2]-[5]
Hospital stay	Some meta-analyses show modestly shorter hospitalization after uterine preservation.	Possible modest advantage	[3]-[5]
Major complications	No stable difference in major perioperative complications.	Discuss procedure-specific adverse events.	[3] [4] [6]
Visceral injury	Some pooled evidence suggests fewer visceral injuries with hysteropexy.	Limited evidence	[6]
Mesh exposure	May be lower with uterine preservation in selected mesh-based procedures.	Highly procedure-specific; should not be generalized	[2] [30]
Urinary and bowel function	Direct comparisons show no consistent urinary or bowel advantage; symptoms may also differ between preserving techniques.	Interpret by procedure; uterine retention alone does not establish a functional advantage.	[5] [9] [25]
Sexual function	Both strategies may improve sexual function after prolapse repair; no consistent comparative advantage.	No evidence that uterine preservation guarantees superior sexual function	[31] [32]

Continued

Quality of life	Patient-reported outcomes generally improve after either strategy; results depend on the instrument and comparison.	Generally comparable	[8] [10] [19] [20] [23] [24] [33] [34]
Long-term durability	Extended randomized cohorts show durable benefit in observed patients; a routine-practice native-tissue cohort reports more long-term retreatment.	Discuss anatomical recurrence, bothersome symptoms, and retreatment separately; disclose follow-up loss and uncertainty. See **Table 2**.	[8]-[11] [20]

Note: These are qualitative summaries of heterogeneous evidence, not a formal certainty assessment. A non-significant comparison does not establish equivalence, and pooled results do not provide a common ten-year risk.

6.1. Anatomical Success, Recurrence, and Reoperation

Comparison of recurrence across studies is complicated by inconsistent definitions. Anatomical recurrence may be defined by POP-Q stage, descent beyond the hymen, or compartment-specific thresholds, whereas clinically meaningful failure may require bothersome bulge symptoms, pessary use, or repeat surgery. Absolute recurrence rates should therefore not be compared without considering the outcome definition and length of follow-up.

An earlier meta-analysis by de Oliveira *et al.* identified some outcomes favoring hysterectomy, including a lower reoperation rate for prolapse in pooled analyses, but the included studies combined randomized and non-randomized designs and heterogeneous operations [7]. Several subsequent pooled comparisons found no statistically significant difference. He *et al.* analyzed 12 randomized trials involving 1177 women and found no significant difference in recurrence or reoperation between uterine preservation and hysterectomy [5]. Porcari *et al.* included 38 studies focused on procedures more representative of contemporary practice and found no significant differences in objective success, subjective success, or reoperation [3]. Ruffolo *et al.*, focusing specifically on vaginal native-tissue repair in 2544 women, similarly found no significant differences in apical recurrence, global anatomical success, subjective success, or reoperation [4].

These pooled results support offering uterine preservation to suitable patients, but the same trials recur across reviews. Concordant meta-analyses should not be counted as independent replications of the evidence. Their heterogeneous operations, endpoints, and follow-up also prevent a non-significant pooled estimate from establishing equal long-term durability [2]-[7]. The recent retreatment signal in the Akavian cohort warrants disclosure alongside the randomized findings [11].

6.2. Perioperative Outcomes

Perioperative outcomes represent one of the most consistent areas in which uterine preservation may offer an advantage. In the meta-analysis by He *et al.*, uterine-

preserving procedures were associated with 25.68 mL less blood loss, 11.30 minutes shorter operative time, and 0.63 days shorter hospitalization [5]. Porcari *et al.* reported reductions of 22.7 minutes in operative time, 61.7 mL in blood loss, and 0.35 days in hospital stay [3]. Ruffolo *et al.*, focusing on vaginal native-tissue surgery, found that hysterectomy added approximately 29 minutes of operating time, 80 mL of blood loss, and 1.1 days of hospitalization [4].

These mean differences describe operative or resource use; they do not alone establish a clinically important improvement in recovery. Benefits in pain, return to usual activity, or recovery quality require direct patient-centered measurement and appropriate thresholds for clinical importance.

Avoiding uterine vessel ligation, parametrial dissection, and cuff closure can reduce surgical burden. The net benefit nevertheless includes the time and morbidity of the reconstructive operation itself. Some differences in the Porcari review attenuated in laparoscopic comparisons [3], and Hwang *et al.* found longer operating time and more early pain after minimally invasive sacrohysteropexy than after VH-USLS [24]. Counseling should therefore use the route and technique planned, rather than promise a shorter operation solely because the uterus is retained.

6.3. Surgical Complications

Current evidence does not demonstrate a consistent difference in major perioperative complications between the two strategies. Porcari *et al.* found no significant differences in major or minor intraoperative or postoperative complications [3]. Azadi *et al.* similarly reported comparable overall safety, while their meta-analysis suggested fewer visceral injuries with hysteropexy [6].

A 2026 retrospective abdominal mesh cohort reported an association between concomitant total hysterectomy and mesh exposure after laparoscopic sacrocolpopexy at a median 32-month follow-up [15]. The comparison included 169 hysterectomies and only 29 uterus-preserving operations; the adjusted odds ratio had a wide confidence interval (9.9, 95% CI 1.5 - 199.0). Age and mesh-placement techniques also differed. This is a procedure-specific safety signal, not evidence that uterine removal itself caused the excess exposure.

Mesh outcomes require separate consideration of vaginal and abdominal placement. Earlier sacral mesh comparisons suggested lower exposure with uterine preservation [2], and a transvaginal mesh meta-analysis reported more exposure with concomitant hysterectomy [30]. SUPeR documented mesh exposure in 8% of its hysteropexy group at five years [33]. The U.S. Food and Drug Administration ordered manufacturers to stop selling mesh for transvaginal POP repair in 2019; currently no FDA-approved products for that indication are marketed in the United States [35]. This restriction concerns transvaginal prolapse mesh and should not be conflated with abdominal mesh placement. Availability and regulatory restrictions differ by jurisdiction; local rules and product availability must be checked before applying graft-augmented trial results.

6.4. Urinary, Bowel, and Sexual Function

Stress urinary incontinence, difficulty voiding, overactive bladder symptoms, constipation, and obstructed defecation often accompany POP. He *et al.*'s synthesis of randomized studies did not find a significant difference in constipation or voiding dysfunction between uterine preservation and hysterectomy [5]. Patient-reported urinary and bowel symptoms were also similar between the groups at 10 years in the randomized cohort reported by Nager *et al.* [9]. These findings do not demonstrate a functional advantage attributable to retaining or removing the uterus.

The route of repair and the resulting vaginal geometry may have greater relevance to functional recovery. In LAVA, selected bladder and bowel outcomes, as well as dyspareunia, differed between laparoscopic sacrohysteropexy and SSH, although both operations preserved the uterus [25]. Patients should therefore be counseled about the functional results of the proposed technique. Whether the uterus remains in place provides only part of that discussion.

The comparative studies offer little support for promising better sexual function solely because the uterus is retained. Overall sexual function did not differ significantly at 24 months between SSH and VH-USLS in the SAVE U secondary analysis [32]. Chang *et al.* observed improvement after native-tissue POP repair, without a clear advantage associated with uterine preservation or hysterectomy [31]. Stoter *et al.* reported similar improvements after the Manchester procedure and SSH, both uterus-preserving operations [36]. Relief of prolapse may improve sexual well-being after either strategy. The available results support discussing that possibility while acknowledging that preservation alone has not shown a consistent independent benefit.

6.5. Durability: What the Extended Follow-Up Actually Shows

Table 2 is a purposive evidence map: it links the five- and ten-year SAVE U and SUPeR reports, adds the seven-year laparoscopic randomized follow-up and the long-term native-tissue cohort, and uses the large prospective HUPPS cohort as a shorter-term observational counterpoint. These reports permit comparison of techniques, endpoints, follow-up loss, and conflicting associations. Table 2 is not a catalogue of every eligible comparison: shorter procedure-specific studies and comparisons between uterus-preserving procedures are discussed elsewhere. No claim is made that all other long-term reports were systematically identified and excluded.

The absolute rates across Table 2 are not directly interchangeable. Separate five- and ten-year reports from SAVE U and SUPeR are shown to make changes in sample retention and analysis visible; they represent two original randomized cohorts, not four independent trials.

For SAVE U, the favorable five-year apical result with last observation carried forward was not statistically significant in conservative-imputation or time-to-event analyses [20]. At ten years, the difference remained compatible with both

Table 2. Structured comparison of extended trial reports and routine-practice evidence.

Study and comparison	Design, sample, and follow-up	Primary endpoint and published result	Interpretation and source access
SAVE U, five years [20] Native-tissue SSH versus VH-USLS	Extended randomized cohort: 208 originally randomized. LOCF analysis: 102 per group; these are analysis denominators, not complete five-year attendance counts.	Apical stage ≥ 2 with bothersome bulge, or repeat apical surgery. LOCF: 1/102 versus 8/102; difference −6.7 percentage points (95% CI −12.8 to −0.7).	Full text. Conservative imputation and time-to-event analyses did not show a statistically significant difference. Benefit depends on the analysis used.
SAVE U, ten years [8] Same original comparison	208 originally randomized. Ten-year follow-up participants: 93 (44 SSH versus 49 VH-USLS), or 44.7%; usable POP-Q assessments: 89 (43 versus 46). Median 10.7 years. Endpoint denominators are reported separately.	Clinically defined apical failure: 3/44 (6.8%) versus 7/49 (14.3%); published difference −6.6 percentage points (95% CI −19.9 to 6.7).	**Full text checked.** Selected complete-case sample; responders were younger and had less severe baseline prolapse. Neither equivalence nor non-inferiority established.
SUPeR, five years [33] Vaginal mesh-augmented SSH versus VH-USLS	183 randomized; 175 eligible for intention-to-treat analysis (88 versus 87). Actual five-year completion: 156/175 (81 versus 75; 89%).	Cumulative composite failure: anatomical descent beyond hymen, prolapse symptoms, or retreatment. Five-year estimates: 37% versus 54%; adjusted HR 0.58 (95% CI 0.36 - 0.94).	Full text. Endpoint includes anatomical failure. Proportional-hazards assumption not met; interpret the summary HR cautiously. Mesh exposure: 8% versus 0.
SUPeR, ten years [9] ABSTRACT ONLY Same original comparison	183 originally randomized; 175 eligible (88 versus 87). Extension participants: 112/175 (55 versus 57; 64%) during years six to ten. Actual ten-year assessment counts not verified.	Failures through ten years: 35/88 (40%) versus 46/87 (53%); adjusted HR 0.64 (95% CI 0.41 - 1.00), P = 0.05.	**ABSTRACT ONLY.** Borderline cumulative estimate; no evidence that the advantage increased in years six to ten. Unmasked extension. Censoring and assessment details unverified; interpretation provisional. Not native-tissue superiority.
Izett-Kay *et al.*, seven years [10] LSH versus VH with apical suspension	Single-center randomized cohort: 101 randomized; 62 attended (33 versus 29). Mean 100 months, range 84 - 119.	Reoperation for apical prolapse: 6.1% versus 17.2%; RR 0.34 (95% CI 0.07 - 1.68), P = 0.17.	Full text. Underpowered, substantial attrition, route and reconstruction differ. Anatomical advantages do not prove a patient-reported benefit.
Akavian *et al.*, long-term cohort [11] ABSTRACT ONLY Native-tissue hysteropexy versus hysterectomy with apical suspension	Retrospective TriNetX cohort with propensity matching. Overall reported long-term groups: 876 versus 2499; median 8.7 versus 9.1 years. These are NOT verified matched event denominators; matched sample size unavailable.	Retreatment ≥ 30 days after surgery: 15.0% versus 9.6%; HR 1.63 (95% CI 1.24 - 2.14). Reoperation: 11.1% versus 6.5%; HR 1.77 (95% CI 1.27 - 2.45).	**ABSTRACT ONLY.** Matched-analysis associations; denominators and detailed adjustment unverified. Interpretation provisional. Mixed suspensions, residual confounding, and record-based ascertainment limit causal inference.

Continued

HUPPS, one year [34] ABSTRACT ONLY Native-tissue preservation versus hysterectomy with vault suspension	Prospective patient-choice cohort with inverse probability weighting. 321 enrolled (151 versus 170); retention > 90% at one year. Exact assessment counts not verified from accessible abstract.	Apical descent ≥ 50% of total vaginal length: 7.5% versus 17.2%; adjusted RR 0.35 (95% CI 0.15 - 0.83).	**ABSTRACT ONLY.** Short-term anatomical association favors preservation; no long-term inference. Detailed weighting and selection assumptions unverified; interpretation provisional.

Abbreviations: SSH, sacrospinous hysteropexy; VH, vaginal hysterectomy; VH-USLS, vaginal hysterectomy with uterosacral ligament suspension; LSH, laparoscopic sacrohysteropexy; LOCF, last observation carried forward; CI, confidence interval; HR, hazard ratio; RR, risk ratio. Note: Results are shown as preservation versus hysterectomy. Randomized, eligible analysis, extension participation, and actual assessment counts refer to different populations and are not interchangeable. The 44.7% SAVE U retention is calculated from published counts. Risk differences may differ from simple subtraction because of the estimation method. ABSTRACT ONLY marks unverified full-report methods; matching, censoring, and extension-related inferences remain provisional. Overall Akavian group counts are not verified matched event denominators. Outcomes should be read as anatomical recurrence, bothersome symptoms, and retreatment, while preserving each report's actual endpoint definition. No quantitative pooling is performed.

meaningful benefit and some disadvantage for SSH. The 93/208 assessed women were a selected follow-up sample, not a reconstituted randomized population; the estimates establish neither equivalence nor non-inferiority [8]. Likewise, the LSH comparison was too imprecise to establish a durable reoperation advantage [10]. Durable improvement in observed patients should be distinguished from certainty about the relative durability of the operations.

SUPeR favored vaginal mesh-augmented hysteropexy at five years [33]. Its ten-year abstract reported a borderline adjusted estimate for cumulative composite failure (HR 0.64, 95% CI 0.41 - 1.00; P = 0.05). The authors found no evidence that the durability advantage over the native-tissue hysterectomy procedure increased during years six to ten [9]; this does not establish no difference or equivalence during the extension. The interpretation remains provisional because complete methods and censoring details were unavailable. The Akavian abstract instead associated native-tissue hysteropexy with more retreatment, but its matched denominators and detailed adjustment could not be verified [11]. These findings require the qualifications in Section 2 and **Table 2**.

7. Patient Selection and Shared Decision-Making

Uterine preservation can be considered after appropriate uterine and cervical evaluation when the patient values retaining the uterus and no independent indication for removal is present. A wish for future pregnancy requires additional discussion: major comparative trials generally excluded women seeking fertility, and prolapse durability does not establish reproductive safety [19] [33]. Evidence on pregnancy after hysteropexy is limited, and the Manchester procedure should generally be avoided before childbearing is complete [29]. The absence of reproductive plans is not itself an indication for hysterectomy.

Applicability differs between pivotal trials. SAVE U enrolled women with uter-

ine POP-Q stage ≥ 2 and median ages of approximately 62 years; menopause was not an entry restriction and its distribution was not reported [19]. SUPeR required at least one year of amenorrhea, was overwhelmingly postmenopausal, and predominantly included overall POP-Q stage III-IV prolapse [33]. Uterine stage in SAVE U and overall stage in SUPeR are different measures. Extrapolation to menstruating premenopausal women, women planning pregnancy, recurrent prolapse, or uterine disease requiring separate treatment is less directly supported; previous-surgery exclusions also differed between trials.

Unexplained abnormal bleeding, suspicious uterine or cervical findings, or symptomatic uterine disease requiring treatment should be investigated before choosing reconstruction. Confirmed premalignant or malignant disease requires pathology-specific management. Cervical elongation and the pattern of compartment defects influence the operation considered, but evidence does not identify one optimal procedure for every cervical-elongation phenotype [13].

Counseling about malignancy should distinguish a theoretical risk from a known preoperative lesion. The 2026 pathology review found incidental malignancy uncommon and did not support hysterectomy solely to reduce occult endometrial cancer risk in otherwise low-risk women [14]. For routine prolapse reconstruction, endometrial carcinoma and premalignant lesions, particularly endometrial intraepithelial neoplasia or atypical endometrial hyperplasia, preclude proceeding directly to uterus-preserving repair and require pathology-specific management [12] [14] [37]. Benign findings and hyperplasia without atypia should not automatically be treated as equivalent contraindications: treatment, surveillance, and the timing of prolapse surgery should be individualized [38]. Suspicion of cervical malignancy also requires appropriate evaluation before reconstruction [12] [14].

Chang *et al.*'s 2025 clinical review recommended offering uterine-preserving prolapse surgery to suitable patients without contraindications [39]. The discussion should compare the potential benefits and disadvantages of preservation and hysterectomy. It should also explain the follow-up responsibilities that accompany a retained uterus, including cervical screening when indicated by age, history, risk, and local guidance and appropriate investigation of abnormal uterine bleeding. These issues allow patients to weigh preservation against the alternative with a clearer understanding of postoperative care.

Table 3 translates these considerations into a counseling framework. It is a discussion aid, not a validated prediction model; no evidence-supported subgroup rule currently justifies selecting preservation or hysterectomy solely from the overall trial averages.

How the evidence is explained can influence the choice of surgery. Many women in the study reported by van IJsselmuiden *et al.* preferred preservation when the expected outcomes were similar [17]. Ramage *et al.* identified a belief among some women that hysterectomy necessarily prevents prolapse recurrence [18]. The POP-UP survey found that the presentation of outcome information could also

change gynecologists' own preferences [40]. Counseling needs to address such expectations. Describing hysterectomy as "more definitive" or "less likely to recur" without evidence for the specific comparison can obscure the decision. Patients need estimates of the benefits and risks of the actual operations under consideration.

Table 3. Clinical decision framework for primary uterovaginal prolapse, adapted from the authors' original framework and contemporary evidence [12]-[14] [29].

Clinical consideration	Reconstructive option to discuss	Counseling point
Independent uterine or cervical indication for removal	Hysterectomy with an appropriate apical suspension; tailor management to the pathology.	Investigate abnormal bleeding or suspicious findings before selecting prolapse surgery.
No independent indication for hysterectomy; patient prefers preservation	Consider a uterus-preserving repair after uterine and cervical assessment.	Discuss indicated screening, evaluation of future bleeding, and procedure-specific retreatment risk.
Vaginal native-tissue approach appropriate	Sacrospinous hysteropexy or another suitable native-tissue hysteropexy.	Balance expected durability, vaginal axis, pain, recovery, and surgical expertise.
Abdominal minimally invasive approach appropriate	Laparoscopic or robotic sacrohysteropexy where suitable.	Discuss mesh-related risks and outcomes of the proposed technique.
Cervical elongation or another phenotype suitable for cervical management	Consider the Manchester procedure in selected women who have completed childbearing.	No optimal procedure for cervical elongation is established; explain limited pregnancy evidence.
Patient prefers hysterectomy after informed discussion	Hysterectomy with an appropriate apical suspension.	Compare the benefits and risks of the specific reconstruction with preservation.
All patients	Shared decision-making about the actual operations available.	Integrate prolapse anatomy, pathology, reproductive plans, comorbidity, expertise, and patient priorities.

8. Interpreting Discordant Long-Term Evidence

8.1. The Comparison Includes More than Uterine Retention

The long-term studies do not estimate an identical treatment effect. SAVE U contrasts vaginal native-tissue SSH with VH-USLS; SUPeR adds a vaginal graft to the preserving arm; and the LSH trial changes both route and fixation method [8]-[10]. The Akavian cohort includes uterosacral and sacrospinous suspensions within broad operative groups [11]. Differences in support, concomitant repairs, operative selection, and mesh therefore accompany the decision to retain the uterus. A favorable result for one preserving technique cannot establish that uterine retention itself caused the benefit. Conversely, a higher retreatment rate in a mixed native-tissue cohort cannot invalidate every form of hysteropexy.

8.2. Endpoints Answer Different Patient Questions

SAVE U requires clinically defined apical failure, whereas SUPeR counts anatomical descent beyond the hymen as one component of cumulative failure. Akavian measures recorded further treatment rather than a uniform examination-based recurrence endpoint [8] [9] [11]. These differences explain why absolute failure percentages cannot be ranked across studies. In SUPeR at five years, anatomical failures were common even though most participants reported substantial improvement [33]. Repeat treatment additionally reflects symptom burden, patient preference, access, and readiness to undergo another procedure. Those influences are plausible interpretive mechanisms, not established explanations of the between-study disagreement. Reports should present anatomical recurrence, bothersome symptoms, and retreatment separately.

8.3. Precision, Attrition, and Confounding Limit the Inference

Randomization protects the initial comparison but does not remove selection introduced by long-term nonparticipation. SAVE U retained fewer than half of the original cohort, with younger and less severe responders; its complete-case findings may not represent every randomized patient [8]. The LSH comparison was also underpowered [10]. A confidence interval spanning the null is not evidence of equivalence. For SUPeR, the ten-year interval reaches the null and extension participation is reported rather than a full ten-year completion count [9]. Observational propensity adjustment addresses measured covariates but cannot guarantee balance in unmeasured severity, technical detail, or treatment preference [11] [34]. Neither study size nor long follow-up alone eliminates those limitations. During SUPeR's unmasked extension, awareness of uterine retention and mesh implantation could have influenced interpretation or reporting of bulge symptoms, or willingness to seek pessary treatment or repeat surgery [9] [33]. This is a plausible mechanism of reporting or treatment-decision bias, not an established explanation of the difference; its direction and magnitude cannot be determined from the accessible abstract.

8.4. Study Design Alone Does Not Resolve the Disagreement

The evidence cannot be reduced to trials favoring preservation and cohorts favoring hysterectomy. HUPPS, a prospective patient-choice cohort, found lower one-year anatomical recurrence after preservation, while the retrospective Akavian cohort found higher long-term retreatment [11] [34]. Different time horizons, endpoint definitions, populations, and operative mixes remain relevant within observational research itself. The defensible synthesis is that selected preserving operations provide durable benefit, but the relative long-term risk remains uncertain and technique dependent. Future comparisons should align both the clinical question and the endpoint before assessing whether the findings agree.

8.5. Translating the Evidence into Counseling and Research

Counseling can proceed in three steps. First, establish whether uterine or cervical

disease creates an independent indication for removal. Second, identify the two operations actually available, including the route, apical suspension, and use of mesh. Third, explain their observed anatomical recurrence, bothersome symptoms, and retreatment outcomes over the follow-up available, together with the main uncertainty. For a woman considering native-tissue SSH, the long-term retreatment signal should be disclosed alongside the selected randomized follow-up, without presenting the cohort association as a causal prediction for her [8] [11].

For a woman considering native-tissue SSH versus VH-USLS, counseling might be: "Both operations restore support. We should discuss anatomical recurrence, bothersome symptoms, and retreatment separately. Only 93 of 208 SAVE U participants were assessed at ten years, so these findings cannot establish that the operations are equivalent. Keeping the uterus requires cervical screening when indicated and investigation of abnormal bleeding; SSH may cause buttock pain, whereas hysterectomy adds uterine removal. Your priorities and the specific reconstruction matter" [8] [19]-[20]. This illustrates communication, not an individualized risk prediction or a validated decision tool.

Future studies should prespecify long-term estimands, retain treatment assignment in follow-up, report reasons for nonparticipation and numbers at risk, and analyze missing data under more than one plausible assumption. Contemporary procedure-matched comparisons should separately report apical and other-compartment recurrence, bothersome symptoms, pessary use, reoperation, functional outcomes, and harms. Prognostic factors such as body mass index or prolapse severity require treatment-interaction evidence before they can guide selection of preservation over hysterectomy [22].

8.6. Limitations of This Review

This focused narrative synthesis is vulnerable to selective study inclusion and interpretive judgment. A dated screening log for the original evidence assembly was unavailable for this revision. The retrospective audit improves traceability of the archived update but cannot recover that original chronology. The reproducible update used PubMed only and a restricted publication-date interval, so relevant evidence may have been missed. Several cited publications were accessible only as abstracts, including three central comparative reports, limiting verification of operative detail, attrition, matching, and sensitivity analyses. For LAVA, checking an author thesis chapter and the published abstract did not establish complete agreement with the final journal text. No formal certainty rating was assigned, and the counseling framework has not been validated. Proposed explanations of discordance are hypotheses based on study differences. These limitations temper the strength of the clinical conclusions.

9. Conclusions

Uterine-preserving reconstruction is a reasonable option for appropriately evalu-

ated women who prefer it, but the current evidence does not establish a universal long-term equivalence or superiority over hysterectomy with apical suspension. Extended randomized follow-up and routine-practice cohorts address different operations and outcomes, with important limitations from attrition, statistical imprecision, and residual confounding. The recent retreatment signal after native-tissue hysteropexy deserves discussion rather than dismissal. The selected 93/208 SAVE U long-term sample cannot establish equivalence or non-inferiority.

The practical choice should compare specified procedures, distinguish anatomical recurrence, bothersome symptoms, and retreatment, and incorporate uterine pathology, reproductive plans, local availability, surgical expertise, and patient priorities. This is a targeted narrative synthesis without formal certainty grading; its counseling framework is not validated. Better long-term evidence requires more complete follow-up and closer alignment of the comparative question and measured outcomes.

Author Contributions

Xinyi Tan: Conceptualization, Investigation, Data curation, Writing—original draft, and Writing—review & editing. Cunjian Yi: Conceptualization, Writing—review & editing, and Supervision. Both authors have reviewed and approved the manuscript and agreed to its submission.

Data Availability

No primary participant data were collected for this narrative review. Extracted comparative outcomes are reported in **Table 2**, and the underlying evidence is available in the cited publications. The supplementary search query is provided in **Appendix**. The retrospective title/abstract audit of the archived update is supplied as Supplementary File 1.

Ethical Approval and Informed Consent

This narrative review uses published literature and involves no new recruitment of participants or collection of identifiable participant data. Ethical approval and informed consent are not applicable.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Appendix. Supplementary PubMed Search

Search performed: 11 October 2026. Publication-date interval: 1 January-11 October 2026. Records returned: 111 unique PMIDs. The original archive contains 110 journal-article records and one book-chapter record; abstracts were available for 109 records. The archived retrieval was reassessed at title/abstract level on 20 October 2026 during revision, not rerun with a new publication-date cutoff. This targeted update is not an inception-to-date systematic search.

(Pelvic Organ Prolapse [MeSH Terms] OR "uterovaginal prolapse" [Title/Abstract] OR "uterine prolapse" [Title/Abstract]) AND ("uterine preservation" [Title/Abstract] OR hysteropreservation [Title/Abstract] OR hysteropexy [Title/Abstract] OR hysterectomy [Title/Abstract] OR "Manchester procedure" [Title/Abstract] OR "apical suspension" [Title/Abstract]) AND ("2026/01/01" [Date - Publication]: "2026/10/11" [Date - Publication])

Retrospective audit summary: eight records were already cited. Nine additional records were potentially relevant; one abdominal mesh safety cohort was added to Section 6.3 after full-text checking [15]. The other eight candidates and 94 other records were not added to this focused revision, with reasons recorded individually in Supplementary File 1 (https://www.researchgate.net/publication/417651670_Supplementary_File_1). These counts describe the revision audit, not a prospectively documented original screening process or a full-text eligibility assessment.