

## DETERMINANTS OF FAILURE AFTER SLING SURGERY FOR FEMALE STRESS URINARY INCONTINENCE

**Hypothesis / aims of study:** Published “dry” rates after pubovaginal sling surgery for stress urinary incontinence often exceed 80-90%. However, when broader definitions of success are employed, rates of success vary widely with the definition used. [1, 2] The aim of this study is to attempt to identify the basis for discrepancies among different definitions of success after sling surgery with various materials.

**Study design, materials and methods:** After Institutional Review Board approval, we retrospectively identified women who underwent a pubovaginal sling (with or without concomitant surgery) since 2002 at our institution. Women with less than 12 months of follow-up were excluded. Preoperative and postoperative assessment included detailed history, pelvic examination, cough-stress test, SEAPI assessment (stress incontinence, emptying, anatomy, protection, and inhibition), and validated quality of life (QOL) questionnaires (Incontinence Impact Questionnaire, Urogenital Distress Inventory, and Visual Analog Score (VAS) measuring global satisfaction (1-10)) A “global cure” was defined as subjective-SEAPI composite = 0 and VAS ≥ 8. A “SUI cure” was defined as no subjective SUI (SEAPI(S) = 0) and a negative CST. Demographics and perioperative details were abstracted from the hospital and clinic charts. Chi-square was used to make pairwise comparisons of outcome frequency. All statistical analyses were conducted using MedCalc 9.3.2 software (Belgium), p < 0.05.

**Results:** Of 728 women, 177 (24.3%) underwent autologous rectus fascia bladder neck slings, 259 (35.6%) underwent porcine dermis bladder neck slings, and 292 (40.1%) underwent polypropylene midurethral slings. The mean follow-up period for the entire cohort was 42 months. The “SUI cure” rate was 75.4% and “global cure” rate was 54.9% for the entire cohort. Of the 153 women (21%) who achieved SUI cure but not global cure, 143 (93.5%) had a SEAPI subjective composite score > 0. The reasons for failure included: emptying (43.1%), anatomy or bladder neck descent (9.2%), pad use (20.3%), and inhibition / urge incontinence (66%). A VAS < 8 was recorded in 36 (23.5%) women and 10 of these women (6.5%) failed for reasons not included in SEAPI (e.g. posterior and apical prolapse, pelvic and abdominal pain, dyspareunia, and urgency without incontinence). Despite women undergoing 3 different sling procedures differing in some demographic, urodynamic, and perioperative criteria, reasons for failure were not statistically different between sling types. A statistically significant improvement in all QOL indices was seen in “SUI cure” and failure groups, as well as “global cure” and failure groups.

**Interpretation of results:** Although the populations of women undergoing surgery with different sling materials differed from one another, the rate of SUI resolution appears to be similar. Likewise, the incidence of postoperative urinary urge incontinence, voiding dysfunction, pad use, and bladder neck mobility are also similar. If these factors are considered, along with symptoms not accounted for by the SEAPI scale, then the true cure rate after sling surgery is more modest than originally quoted. Despite the different cure rates, women appear to have a significant improvement in their quality of life after sling surgery.

**Concluding message:** Recurrent or persistent SUI may account for only a small portion of those women who “fail” pubovaginal sling surgery. Postoperative urge incontinence or voiding difficulty may exist in a significant percentage of women who are “dry from SUI.” Incorporating SEAPI, or other multi-component scales, into the definition of success may provide a more conservative, yet more accurate estimate of success after pubovaginal sling surgery.

### References

1. Kobashi KC, Govier F. The completely dry rate: a critical re-evaluation of the outcomes of slings. *Neurourology and Urodynamics* 2005; 24: 602-605
2. Rapp DE, Kobashi KC. Outcomes following sling surgery: importance of the definition of success. *J Urol* 2008; 180: 998-1002

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<b>What were the subjects in the study?</b>	HUMAN
<b>Was this study approved by an ethics committee?</b>	Yes
<b>Specify Name of Ethics Committee</b>	LSU Health Sciences Center - Shreveport, Institutional Review Board
<b>Was the Declaration of Helsinki followed?</b>	Yes
<b>Was informed consent obtained from the patients?</b>	Yes