



# Sling outcomes in diabetic and non-diabetic women: Do differences exist? A secondary analysis of the TOMUS data



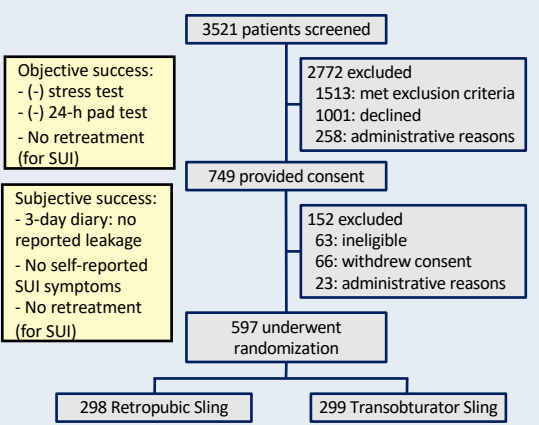
Chung D<sup>1</sup>, Abed H<sup>2</sup>, Brown HW<sup>3</sup>, Antosh DD<sup>4</sup>, Oliphant SS<sup>5</sup>, Grimes CL<sup>1</sup> for the Collaborative Research in Pelvic Surgery Consortium

1 – Columbia University Medical Center; 2 – Michigan State University; 3 – University of Wisconsin-Madison School of Medicine & Public Health; 4 – Methodist Center for Restorative Pelvic Medicine; 5 – University of Arkansas for Medical Sciences

## BACKGROUND: TOMUS

The Trial of Mid-Urethral Slings (TOMUS) (NCT00325039) was a multicenter, randomized equivalence trial conducted by the Urinary Incontinence Treatment Network (UITN) between 2006 and 2008 to compare subjective and objective success rates for urinary incontinence (UI) at 12 and 24 months following retropubic and transobturator mid-urethral sling (MUS) procedures. Secondary aims were to compare the resolution of overall and stress-specific UI, morbidity, the time to adequate voiding, satisfaction, and quality of life in the 2 groups (UITN, 2008).

Figure 1: Study Enrollment (Adapted from Richter, 2010)



**TOMUS CONCLUSIONS:**  
Similar objective and subjective success rates 12 mos following retropubic or transobturator mid-urethral sling. Retropubic: more voiding dysfunction Transobturator: more neurologic symptoms

## OBJECTIVE

Diabetes mellitus (DM) can lead to voiding dysfunction, including increased bladder capacity, impaired detrusor contractility, and incomplete bladder emptying (Ellenberg, 1980). Thus, our objective was **to examine the effect of DM on post-void residual (PVR) and lower urinary tract symptoms after mid-urethral sling placement using data from the Trial of Midurethral slings (TOMUS).**

## METHODS

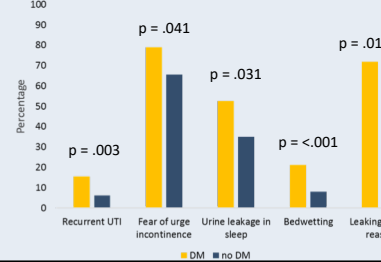
Baseline demographics and symptom scores between 597 subjects with and without DM were compared. Differences in absolute post-void residual (PVR) and change in PVR at 2 and 6 weeks post-op were contrasted. Subjective and objective treatment success were compared between groups. Chi-square, Fisher's exact Student's t-test, Mann-Whitney and logistic regression were used.

## RESULTS: SAMPLE DESCRIPTION

Characteristic	Retropubic (N=298)	Transobturator (N=299)
Age – years	52.7 +/- 10.5	53.1 +/- 11.5
Race / ethnicity		
Hispanic	33 (11.1)	38 (12.7)
Non-Hispanic white	240 (80.5)	233 (77.9)
Non-Hispanic black	8 (2.7)	9 (3.0)
Non-Hispanic other	17 (6.8)	19 (6.4)
Married / cohabiting	203 (68.1)	209 (69.9)
Body Mass Index	30.6 +/- 7.0	30.0 +/- 6.5
Vaginal Deliveries		
0	35 (11.7)	35 (11.7)
1 or 2	146 (49.0)	145 (48.5)
≥ 3	117 (39.3)	119 (39.8)
Previous UI surgery	38 (13)	41 (14)
Previous POP surgery	13 (4)	10 (3)
Postmenopausal	209 (70)	206 (69)
Current hormone tx	81 (27)	90 (30)

57 women (9.5%) had DM: 22 on oral medication; 31 diet-controlled.  
Women with and without DM no different:  
• BMI  
• Parity  
• Sling type

Figure 2: Preoperative Symptom Differences



## RESULTS: POST-OPERATIVE

Voiding Dysfunction: **No significant differences in absolute or change in PVR 2 & 6 weeks post-op. No differences in success.** Post-operative Symptom Differences:

- Women with DM more likely to report leakage related to physical activity (24.5% vs. 14.8%, p=0.054)
- Women with DM more likely to complain of pain when urinating, standing, or physically exerting (p=0.054)
- Women without DM more likely to report no urine leakage one year following surgery (p=0.009)

## CONCLUSIONS

- Differences in voiding symptoms pre-operatively may be related to DM.
- Preoperative counseling of women with DM planning MUS should acknowledge higher risk of leakage with activity, pain, and pelvic discomfort following MUS surgery.
- No significant differences in treatment success and post-void residuals after surgery, so MUS remains a safe and effective surgical option for treatment of SUI in women with DM.

References:  
1. Urinary Incontinence Treatment Network (UITN). The Trial of Mid-Urethral Slings (TOMUS): Design and Methodology. J Appl Res. 2008;8(1).  
2. Richter HE, Albo ME, Zyczynski HM, et al. Retropubic versus transobturator midurethral slings for stress incontinence. NEJM, 2010; 362(22):2066-76.  
3. Ellenberg, M., Development of urinary bladder dysfunction in diabetes mellitus. Ann Intern Med, 1980;92: p. 321.

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