

# 26107 - The Impact of Stress Urinary Incontinence Procedures on Bladder and Voiding Function: A Comparison between Tension-free Vaginal tape (TVT), Autologous Fascial Sling (AFS) and Burch Colposuspension (BC)

Rahman. A | Bugeja. R | McCrossan. K | Jha S

Department of Urogynaecology, Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, United Kingdom



## Introduction

Stress urinary incontinence (SUI) is common and affects approximately one in three women.

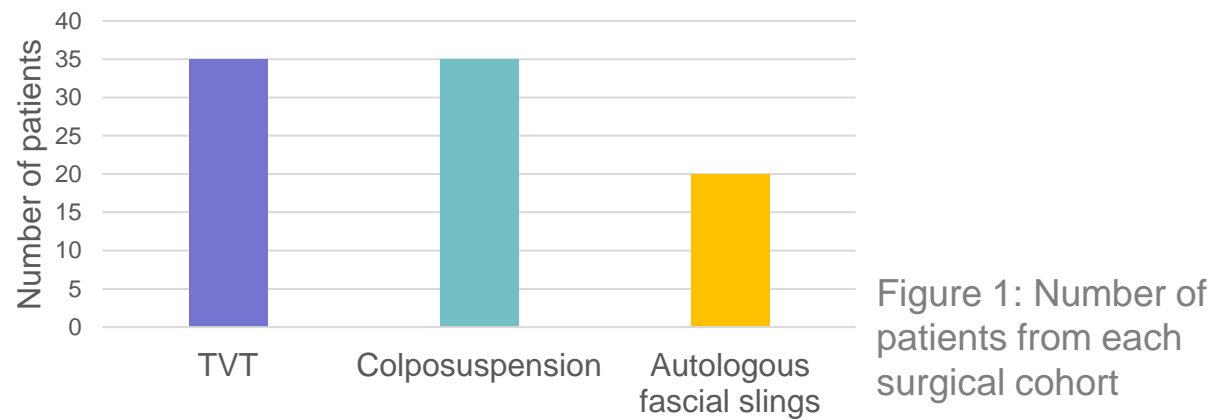
Studies assessing the impact of stress incontinence surgery collectively on pain, voiding, overactive bladder in addition to quality of life and stress incontinence have been conflicting. Published evidence has suggested that these symptoms can worsen, improve, resolve or occur de novo following surgery.

The effect of the different types of SUI surgery on these symptoms is poorly understood and can affect patient satisfaction.

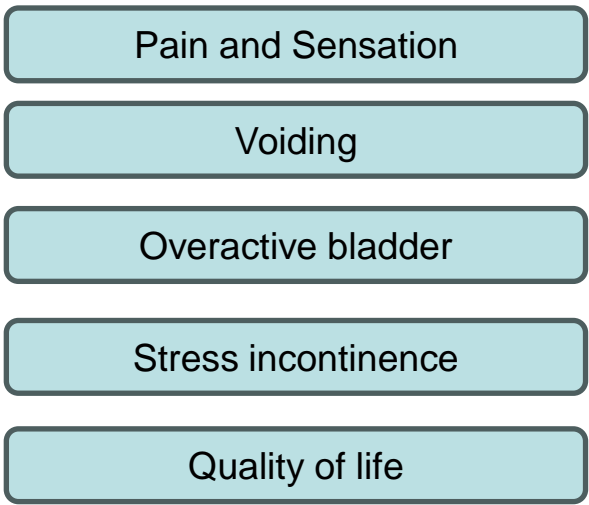
The aim of this study is to evaluate the preoperative and postoperative outcomes on bladder function following different SUI surgery.

## Materials and Methods

- Retrospective study of **100 patients** that underwent stress urinary incontinence procedures at a UK tertiary centre between 2005 – 2024



- Pre-operative and post-operative Electronic Personal Assessment Questionnaires (ePAQ) data were used to assess change in symptoms
- 5 domains** included as part of the urinary dimension



- Domain scores were calculated, and paired T-test used to analyse change in score
- One-way analysis of variance (ANOVA) used to determine if the type of surgery had a statistically significant impact on symptoms

## Results

Mean age of women included in the study is 51 years.

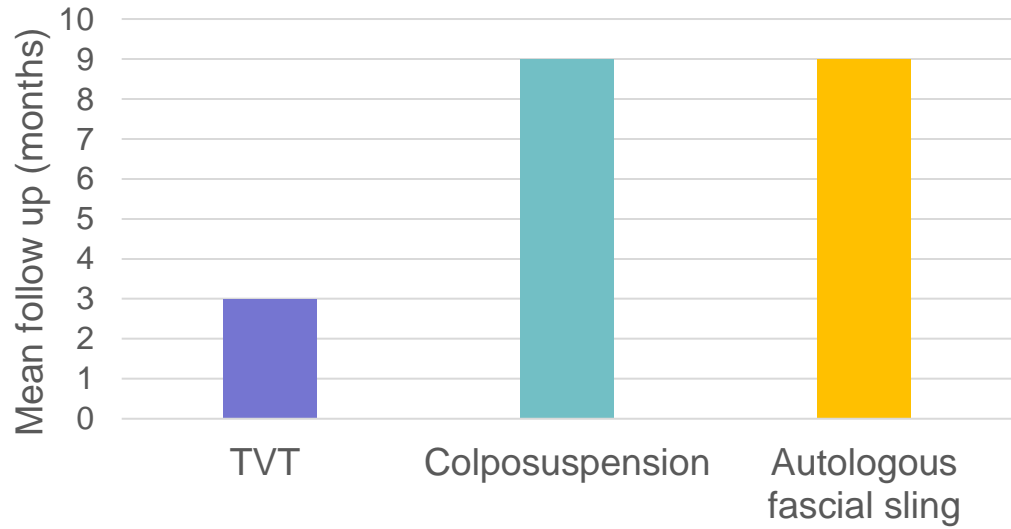


Figure 2: Mean follow up in each surgical cohort

All women had follow-up within 3-9 months post surgery. Mean follow up was 6.7 months

All women underwent urodynamics assessment prior to surgery. 3 women in the TVT group, 4 women in the BC group and 5 women in the AFS group did not have any details available on urodynamic studies in their medical records.

Urodynamic diagnosis	TVT	BC	AFS
Urodynamic stress incontinence (USI)	88%	92%	84%
Mixed incontinence (USI and Detrusor Overactivity)	12%	8%	8%
Normal urodynamics	0%	0%	8%

Table 1: Urodynamics diagnosis for patients within each surgical cohort

### Impact of SUI surgery on domain scores

Domain scores	TVT			BC			AFS		
	Mean	Mean difference	p-value	Mean	Mean difference	p-value	Mean	Mean difference	p-value
Pain and Sensation Domain									
Pre-op	16.6			15.8			15.3		
Post-op	11.1	5.5	0.12	14.6	1.2	0.28	12.7	2.6	0.2
Voiding Domain									
Pre-op	11.4			15.1			20		
Post-op	11.6	-0.2	0.47	12.9	2.2	0.1	12.2	7.8	0.03
Overactive Bladder Domain									
Pre-op	41.1			33.2			27.3		
Post-op	19.1	22	<0.001	21.7	11.5	<0.001	20.6	6.7	0.05
Stress Incontinence Domain									
Pre-op	60.6			63.7			65.3		
Post-op	12.6	48	<0.001	20.8	42.9	<0.001	21.5	43.8	<0.001
Quality of Life Domain									
Pre-op	75.5			79.5			71.1		
Post-op	18.4	57.1	<0.001	25.3	54.2	<0.001	33.9	37.2	<0.001

Table 2: Pre-operative and post-operative domain scores and paired T-test results

- Although improvement was seen in the pain and sensation scores, the change was **not significant**
- Voiding function showed **statistically significant improvement** in the AFS cohort
- All SUI surgeries showed **statistically significant improvement** in overactive bladder, stress incontinence symptoms and quality of life.

Domain	Mean difference			ANOVA
	TVT	AFS	BC	p
Pain and Sensation	5.5	1.5	1.0	0.56
Voiding	-0.2	5.8	1.6	0.31
Overactive bladder	22	7.6	12.9	0.01
Stress incontinence	48	42	47.0	0.76
Quality of life	57	39.1	57.5	0.09

Table 3: ANOVA results for each urinary function domain

### Limitations

- Retrospective nature of the study could lead to potential bias
- Small number of patients in each surgical group
- Mean length of follow up was 7 months therefore unable to evaluate for long term outcomes

## Conclusion

This study demonstrates that all three SUI procedures significantly improve stress incontinence and QoL. OAB symptoms improved in all three groups; however, the type of surgery did have a statistically significant impact on symptoms. This can aid clinicians in effective patient counselling. Further research is warranted to analyse this further.

## References

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