# Comparison of non-elastic slings for ISD-associated stress incontinence

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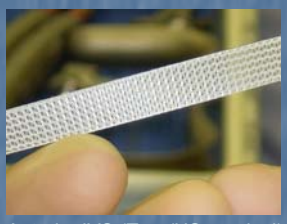
## Objective

To compare the efficacy of two non-elastic retropubic slings in the management of intrinsic sphincter deficiency (ISD)

I-STOP (CL Medical) and Anterior IVS (Tyco/US surgical).

I-Stop (CL Medical)



Anterior IVS (Tyco/US surgical)

## Background

Inherent mesh characteristics such as filament structure, pore size and type of material have been shown to be significant factors in erosion rates.

Elasticity is the ability of a material to deform under external stress but return to its original shape.

A "non-elastic" mesh is used synonymously as "non-deformable" mesh in the Urogynecologic literature and this property plays a role in its tensioning ability.

The use of a polypropylene tape with minimal elasticity may allow for a more precise individualized tensioning in order to improve sphincteric function [1].

## Methods

Our Urogynecologic clinical database was queried for all patients with ISD, defined as:

- SUI with urethral hypermobility
- Maximal urethral closure pressure (MUCP) ≤ 20 cm H2O or
- Valsalva leak point pressures (VLPP) ≤ 60 cm H2O

who underwent Anterior IVS or I-STOP slings. Patients' demographics, self-assessment responses, incontinence episodes per day, pad use per day, results of standardized stress test (ST) and presence of postoperative urgency & urge incontinence were obtained.

Success was defined as:

- Cured or greatly improved subjectively
- No incontinence episodes/day
- No daily pad use
- Negative Stress Test.

A 2-sample *t*-test or wilcoxon rank sum test was used to compare continuous measures.

A Pearson Chi-square test or a Fisher's exact test was used for comparing success rates within each category, as well as comparing pre and post-operative urge incontinence rates. All analyses were performed using SAS software (Cary, NC) or R 2.5.1 software.

## Results

A total of 318 I-Stop & Anterior IVS slings were performed from March 2001 and January 2009. *187 patients* (73 vs. 114, respectively) with follow-up time >/= 6 months were included for analysis. Mean post-operative follow-up period was 73 weeks (range 24-240 weeks). Anterior IVS patients were older (72.9 vs. 68.6 years, $p = 0.009$). There was no difference in height, weight, parity, or menopausal status. I-STOP patients fared better than Anterior IVS patients, based on self-assessment ratings (93.2% vs. 81.6%, $p = 0.026$). There was no difference in any of the remaining outcome measures (Table).

De novo urge incontinence rates were similar in each group (22.2% vs. 18.9%, respectively, $p = 0.68$). There were eight erosions requiring excision in the IVS group and none in the I-Stop group.

## Conclusions

Non-elastic slings are effective for patients with ISD. I-STOP suburethral sling demonstrated better success rates than Anterior IVS sling based on patient self-assessment scoring.

## Outcome measures

| | *Overall* | *I-STOP* | *Ant IVS* | |
|---|---|---|---|---|
| *Success Rates* | **N (%)** | **N (%)** | **N (%)** | *p* |
| **Self-Assessment** | 161(86.1) | 68 (93.2) | 93 (81.6) | ***0.026*** |
| **Incontinence/day** | 154 (82.4) | 62 (84.9) | 92 (80.7) | *0.46* |
| **Pads/day** | 160(85.6) | 64 (87.7) | 96 (84.2) | *0.51* |
| **ST** | 184(98.4) | 73 (100) | 111 (97.4) | *0.28* |

[1] Rechberger, T et al. A randomized comparison between monofilament and multifilament tapes for stress incontinence surgery. Int Urogynecol J (2003) 14 432-436