Non-Mesh Treatment of SUI

Shachar Aharony MD
AUA SUI Guidelines 2017

American Urological Association (AUA) / Society of Urodynamics, Female Pelvic Medicine & Urogenital Reconstruction (SUFU)

SURGICAL TREATMENT OF FEMALE STRESS URINARY INCONTINENCE: AUA/SUFU GUIDELINE

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Position Statement on Mesh Midurethral Slings for Stress Urinary Incontinence

The polypropylene mesh midurethral sling is the recognized worldwide standard of care for the surgical treatment of stress urinary incontinence. The procedure is safe, effective, and has improved the quality of life for millions of women.

Midurethral Sling Task Force
This position statement was drafted by members Charles Nager, Paul Tulikangas, and Dennis Miller from AUGS and Eric Rovner and Howard Goldman from SUFU.

Approved by the AUGS Board of Directors and the SUFU Board of Directors January 3, 2014.
### AUA SUI Guidelines 2017

#### Treatment

**Non-Surgical**
- Continence pessary
- Vaginal inserts
- Pelvic floor muscle exercises

**Surgical**
- Bulking agents
- Midurethral sling (synthetic)
- Autologous fascia pubovaginal sling
- Burch colposuspension

If a midurethral sling surgery is selected, either the retropubic or transobturator midurethral sling may be offered. A single-incision sling may be offered to index patients who are informed as to the immaturity of evidence regarding their efficacy and safety. Physicians must discuss the specific risks and benefits of mesh as well as alternatives to a mesh sling.

#### Special Cases

1. **Fixed Immobile urethra**
   - Pubovaginal sling
   - Retropubic midurethral sling
   - Urethral bulking agents

2. **Concomitant surgery for POP repair and SUI**
   - Any incontinence procedure

3. **Concomitant NLUTD**
   - Surgical treatment following appropriate evaluation and counseling

4. **Child-bearing, diabetes, obesity, geriatric**
   - Surgical treatment following appropriate evaluation and counseling

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*MU* = mixed urinary incontinence; *NLUTD* = neurogenic lower urinary tract dysfunction; *OAB* = overactive bladder; *POP* = pelvic organ prolapse; *PVR* = post-void residual; *SUI* = stress urinary incontinence
Urethral Support Devices

- ROUNDED TIP FOR COMFORTABLE INSERTION
- GRIP
- STRING
- SMOOTH PLASTIC APPLICATOR
- NON-ABSORBENT BLADDER SUPPORT

Diveen Applicator®
- Applicator tube
- Push rod
- Ring
- Removal cord
- Rigid part

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Bulking Agents

- In office
- Local anesthesia / sedation
- Minimally invasive
- Minimal adverse events
- Somewhat effective
Surgical Treatment of SUI

- **Anterior Repair** – Kelly plication
- **Retropubic Suspensions**
  - MMK
  - **Burch**
- **Transvaginal Suspensions**
  - Pereyra
  - Stamey
  - Raz
- **Slings**
  - In situ vaginal wall
  - **Autologous fascial**
  - Other biologic (cadaveric, SIS, dermis, etc.)
  - Synthetic
    - Bladder neck
- **Midurethral**
  - **Retropubic**
  - Transobturator
  - Minisling
  - Fascia

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Choice of Surgery

• The Gold Standards
• Long-term (>5 years) outcomes data
  – Traditional Burch procedure
  – Autologous Fascial Sling
  – Retropubic Synthetic Mid-Urethral Sling
  – Transobturator Synthetic Mid-Urethral Sling

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Burch long term results


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Burch long-term results

• N = 44    93% responded
• Follow up – average 8 ½ years
• 78% cured of SUI
• 12% significantly improved

Valansky et al, Ceska Gynekol, 2002

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Autologous Fascial Sling

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Autologous Fascial Sling

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Autologous fascia - Outcomes

- Multiple authors report 75-85% cure with > 5 year f/u
  - No dyspareunia
  - 5-15% voiding dysfunction
  - Definition of success dated
- Gold standard sling in the past
  - Recent resurgence in light of mesh “issues”
**SISTEr Study**

- Randomized: Burch Vs. Autologous Sling
- N = 665, 79% completed study
- Results at 24 months
- SUI success:
  - Sling 66%
  - Burch 49%
- Significantly more women who had sling had voiding dysfunction and UTI’s

Other Biologic Materials

• Other biologic slings
  – Data shows more of a decline in efficacy than autologous slings
Cadaveric full sling - Initial results

• Compared autologous to cadaveric fascia
• Cadaveric – 12 mo f/u – 85% cure
• Autologous – 44 mo f/u – 90% cure
• Many patients didn’t f/u

• Rec – cadaveric as good as autologous

Brown et.al., J Urology 2000
• 8 cadaveric slings failed at an average of 6.5 months
• Rec – have returned to autologous material for many of their patients
Sling Placement

Bladder Neck Sling

Midurethral Sling

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Autologous Transobturator Urethral Sling Placement for Female Stress Urinary Incontinence: Short-term Outcomes

Brian J. Linder and Daniel S. Elliott

- 33 patients
- Mean fu 15 months
- 5/33 needed retreatment
- 92% of 28 significant improvement

Urology, 2016
The Midurethral Fascial “Sling on a String”: An Alternative to Midurethral Synthetic Tapes in the Era of Mesh Complications

Nadir I. Osman, Christopher J. Hillary, Altaf Mangera, Reem Aldamanhooi, Richard D. Inman, Christopher R. Chapple.

Section of Functional and Reconstructive Urology, Department of Urology, Royal Hallamshire Hospital, Sheffield, UK; University of Dammam, Kingdom of Saudi Arabia

- 106 patients
- Retropubic
- Mean fu – 9 months

<table>
<thead>
<tr>
<th>Indication for surgery</th>
<th>Subjectively cured</th>
<th>Subjectively improved</th>
<th>No change in symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary SUI (n = 49)</td>
<td>43 (87.8%)</td>
<td>6 (12.2%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Complex/recurrent SUI (n = 57)</td>
<td>41 (72.0%)</td>
<td>10 (17.5%)</td>
<td>6 (10.5%)</td>
</tr>
</tbody>
</table>

Fisher’s exact test: $p = 0.0561$ $p = 0.5833$ $p < 0.05^*$

SUI = stress urinary incontinence.
Non-Mesh SUI Treatment

- Pelvic Floor Therapy (PFMPT)
- Urethral Supports devices
- Bulking Agent
- Surgical
  - Burch suspension
  - Autologous fascial sling – bladder neck
  - Midurethral autologous fascial sling

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