Surgery for Stress Incontinence: What Workup and Which Sling?

Developed in collaboration

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Learning Objectives

Upon completion, participants should be able to:

- Describe office-based evaluation strategies for stress urinary incontinence
- Compare the safety and efficacy of the retropubic and transobturator slings

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45-Year-Old Woman With SUI

- “I leak every time I cough or laugh; it’s embarrassing”
- “I’ve stopped running and going to the gym”
- “Kegels haven’t worked”

First-Line Therapies That Work

- Pelvic floor muscle training
  - 55% report cure or improvement vs 3% with no treatment
  - RR, 17.33
- Weight loss in overweight/obese women
  - 6-month weight loss program (diet, exercise, behavior modification)
  - Mean 17-lb weight loss associated with 47% decrease in incontinence episodes per week vs 28% in controls

Dumoulin C, et al. *Cochrane Database Syst Rev*. 2014;CD005654; Subak LL, et al. *N Engl J Med*. 2009;360:481-90.

Before Proceeding With SUI Surgery:

- Correct diagnosis
- Trial of conservative therapy
- Patient is acceptable surgical candidate
- Patient does not desire fertility

Ford AA, et al. *Cochrane Database Syst Rev*. 2015;CD006375.

Basic Office Assessment

- A good history
  - Stress vs urge
  - Other lower urinary tract symptoms
  - Other pelvic floor disorders
  - Prior surgery or radiation
- Directed examination
  - BMI
  - Mental status, mobility
  - Prolapse? Urethral mobility?

Nager CW, et al. *N Engl J Med*. 2012;366:1987-97.

Basic Office Assessment (cont.)

- Tests
  - Urine dip-stick or urinalysis
  - PVR
  - Cough stress test

Nager CW, et al. *N Engl J Med*. 2012;366:1987-97.

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Urodynamics **Not** Needed Prior to Surgery If:

- Stress-predominant UI
- No significant prolapse
- Mobile urethra
- Normal urine dip
- PVR less than 150 mL
- Positive cough stress test result
- No prior SUI surgery or radiation

Nager CW, et al. *N Engl J Med*. 2012;366:1987-97.

Indications for Urodynamics Prior to Surgery:

- Urge-predominant mixed UI
- Prior incontinence surgery
- Voiding dysfunction/ elevated PVR
- Irritative voiding symptoms
- Prior radiation
- Neurologic disease
- No urethral mobility
- Advanced prolapse

Nager CW, et al. *N Engl J Med*. 2012;366:1987-97.

Golden "**Rule**"

No patient should receive surgery
for SUI without a positive stress test result.

Nager CW, et al. *N Engl J Med*. 2012;366:1987-97.

Choice of SUI Procedure Depends On:

- Primary vs recurrent procedure
- Urethral function (ISD)
- Urethral mobility
- Concurrent surgery

Ford AA, et al. *Cochrane Database Syst Rev*. 2015;CD006375.

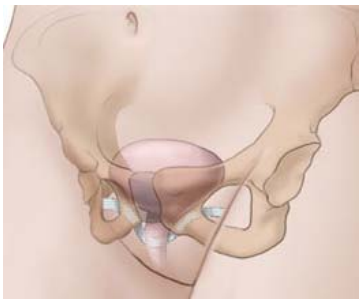
The “Gold Standards”*

- Superior efficacy and durability
- Supported by l**evel 1 evidence**
  - Retropubic urethropexy (Burch)
  - Traditional fascial sling
  - TVT
  - TOT/TVT-O
- **All other procedures are either inferior or have yet to demonstrate superior efficacy and durability**

*As of May 2017.
Nager CW, et al. *N Engl J Med*. 2012;366:1987-97; Jonsson Funk M, et al. *Am J Obstet Gynecol*. 2013;208:73.e1-7.

Midurethral Slings

Transobturator (TO)



Retropubic (RP)

Images courtesy of the Cleveland Clinic.
Ford AA, et al. *Cochrane Database Syst Rev*. 2015;CD006375.

Midurethral Slings (cont.)

- 81 RCTs evaluated 12,113 women
- More than 80% of women are cured or experienced improvement for up to 5 years after surgery
- Significant improvements in quality of life
- No difference between TO and RP
- Considered standard of care for SUI
  - Supported by AUGS, SUFU, ACOG, SGS, AAGL, NAFC, and WHF

Ford AA, et al. *Cochrane Database Syst Rev*. 2015;CD006375; Nager C, et al. *Female Pelvic Med Reconstr Surg*. 2014;20:123-5.

Midurethral Slings—Adverse Events

- Mesh exposure 2%—both RP and TO
- 9-year cumulative risk of revision/removal is 3.7%
- Risk of sexual difficulties and pain is low
- Retropubic:
  - Greater risk of bladder injury and voiding problems
- Transobturator:
  - Greater risk of groin pain

Ford AA, et al. *Cochrane Database Syst Rev*. 2015;CD006375; Jonsson Funk M, et al. *Am J Obstet Gynecol*. 2013;208:73.e1-7.

RP vs TO Sling: 5-Year Results

- TOMUS trial (n = 404)
- Slight benefit to RP in efficacy (8%), although satisfaction high in both (TO, 85%; RP, 79%)
- TO superior to RP in urinary urgency, sexual function, quality of life, and global impression of improvement
- No difference in mesh exposures or need for revision/retreatment

Kenton K, et al. *J Urol.* 2015;193:203-10.

Conclusion

- In appropriately selected patients with SUI, a basic office assessment including a cough stress test and PVR are adequate prior to surgery and urodynamics are not needed
- Retropubic and transobturator midurethral slings are both highly effective treatments for SUI and have good safety profiles

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Abbreviations/Acronyms
Surgery for Stress Incontinence

BMI = body mass index
ISD = intrinsic sphincter deficiency
PVR = post-void residual
RCT = randomized controlled trial
RP = retropubic
RR = relative risk
SUI = stress urinary incontinence
TO = transobturator
TOT = transobturator vaginal tape
TVT = tension-free vaginal tape
TVT-O = inside-out transobturator vaginal tape
UI = urinary incontinence