

ICS teaching module: Clinical stress test for urinary incontinence

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International Continence Society
Educational Module



ICS teaching module:

Clinical stress test for urinary incontinence

Dr. Abdullah Gedik

Clinical Testing For SUI – Cough Stress Test (CST)

International Consultation Incontinence

[ICS Standard Terminology 2002]:

- ‘The stress test involves observation for urine loss with coughing or Valsalva manoeuvre ...
- Can be used to help make the diagnosis of SUI (objective test done in clinic) especially prior to surgical management
- Can be used as objective outcome measure when reporting treatment effects.

Endorsed By Many Societies

- **French College of Gynaecologists and Obstetricians (CNGOF)**
 - Fritel X et al. French College of Gynaecologists and Obstetricians. Diagnosis and management of adult female stress urinary incontinence: guidelines for clinical practice from the French College of Gynaecologists and Obstetricians. *Eur J Obstet Gynecol Reprod Biol.* 2010 Jul;151(1):14-9
- **International Federation of Gynecology and Obstetrics (FIGO)**
 - Medina CA et al. Evaluation and surgery for stress urinary incontinence: A FIGO working group report. *Neurourol Urodyn.* 2017 Feb;36(2):518-528
- **International Urogynecological Association (IUGA)**
 - Ghoniem G, Stanford E, Kenton K et al. Evaluation and outcome measures in the treatment of female urinary stress incontinence: International Urogynecological Association (IUGA) guidelines for research and clinical practice. *Int Urogynecol J Pelvic Floor Dysfunct* 2008; 19:5-33
- **American College of Obstetricians and Gynecologists (ACOG)**
 - Evaluation of uncomplicated stress urinary incontinence in women before surgical treatment. Committee Opinion No. 603. The American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2014; 123:1403–7

Reliability of CST (UDS as gold standard)

- CST combined with the symptom of SUI:

- PPV 78-97%

Harvey MA, Versi E. Predictive value of clinical evaluation of stress urinary incontinence: A summary of the published literature. *Int Urogynecol J* 2001; 12:31-7

- CST with simple bladder filling:

- Sensitivity 88%
- Specificity 77%
- PPV 82%
- NPV 84%

Wall LL, Wiskind AK, Taylor PA. Simple bladder filling with a cough stress test compared with subtracted cystometry for the diagnosis of urinary incontinence. *Am J Obstet Gynecol.* 1994 Dec;171(6):1472-7

- Agreement between CST and UDS:

- 89% ($k=0.51$)

Price DM, Noblett K. Comparison of the cough stress test and 24-h pad test in the assessment of stress urinary incontinence. *Int Urogynecol J.* 2012 Apr;23(4):429-33

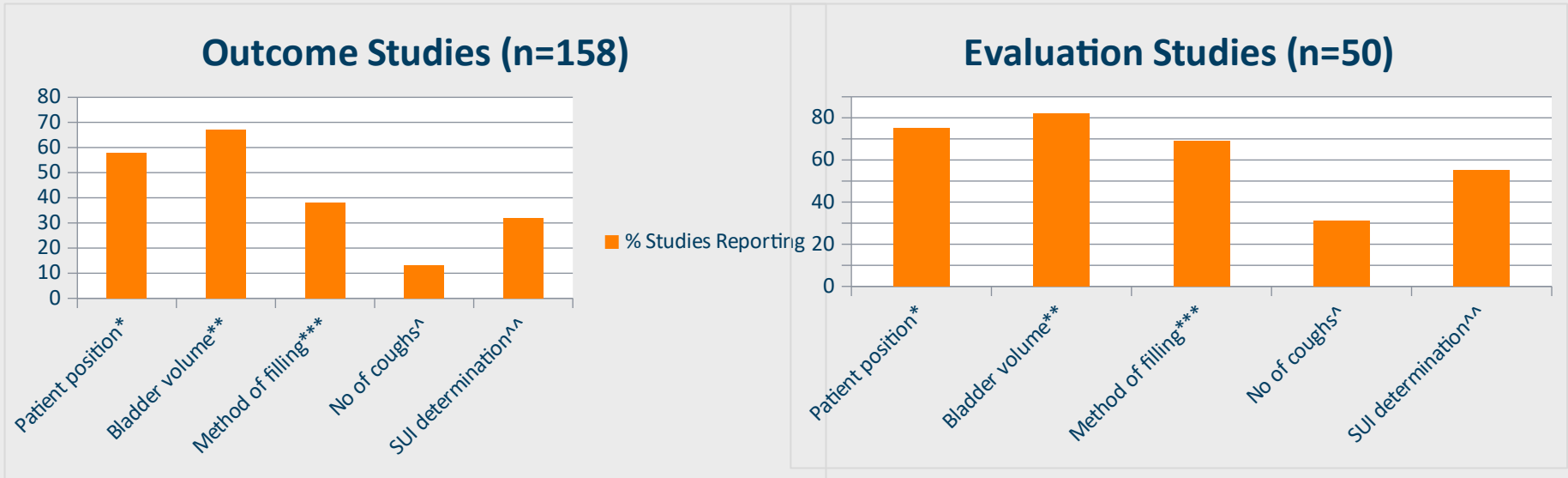
- Agreement between CST and 24 hr pad test:

- 67% ($k=0.26$)

No Standardization of Performance/Reporting of CST

- Variables to consider:
 - Patient position (supine/lithotomy/seated/standing)
 - Bladder volume and method of determination
 - Number of coughs
 - Method of SUI detection

Many Reports Fail to Describe How The CST Was Done



- positioning included: supine/lithotomy, semi-lithotomy, seated, standing
- ** bladder volumes included “empty”, “comfortably/symptomatically full”, “full”, 100-700mL
- *** natural fill or retrograde fill via catheter (often done during UDS)
- ^ number of coughs ranged from 1-10 or reported as “a series of coughs”
- ^^ direct visualization of incontinence or pad testing

ICS Uniform Cough Stress Test (ICS-UCST)

Provisional (consensus)

- To standardize performance/reporting of CST to allow for easier, more consistent interpretation
- Recommendations of ICS working group based on review of more than 200 articles that have some mention of stress test
- To be done during uro-gynecological examination

Inform patient:

- ... there are diverse causes of urinary incontinence
- ... physical effort as one of the causes will be tested
- ... through a forceful cough during the clinical examination
 - vaginal inspection
- ... not pleasant, nor elegant, but helps select the best management

ICS-UCST Variables

(Evidence base in accompanying manuscript)

- Patient Position:
 - Supine/lithotomy
- Bladder volume:
 - 200-400mL
- Method of bladder filling:
 - Natural:
 - Patient advised to present with comfortably full bladder
 - Use ultrasound or voided volume + PVR after ICS-UCST to determine
 - Retrograde:
 - Specific volume instilled by examiner

ICS-UCST Variables:

- Number of coughs (up to 4):
 - Patient coughs forcefully x 1
 - If no SUI, patient then coughs 3 more times
 - if SUI noted after 1 cough, additional coughs not needed
- Method of SUI detection:
 - Examiner spreads labia and directly visualizes leakage of urine per urethral meatus

Interpretation ICS-UCST:

- ICS-UCST is **positive** when urine (fluid) is observed, leaving the meatus *coincident/simultaneous* to one or more of the coughs
- ICS-UCST is **negative** when there is no urine (fluid) lost or leakage of urine (fluid) lasts longer than the cough/delayed from the cough (cough induced detrusor overactivity)
 - Report: '... incontinence is not demonstrated during ICS-UCST.'

Other Tests (Accessory Stress Tests):

- ‘Stress tests -variants’
 - In other positions or with alternative provocation
 - *Standing / seated*
 - Generally recommended that upright CST be done if supine CST is negative in patient with complaint of SUI
 - *Strain / Valsalva*
 - Other bladder volumes:
 - *Empty (Supine Empty Stress Test, SEST)* – may help identify potential intrinsic sphincter deficiency
 - *“full bladder” (>300mL)*
- Cystometry (e.g. LPP testing):
 - Confirming or refuting (U)SUI

Scientific Reporting

- Report proportion (%) of patients (recruited or included) with:
 - Positive ICS-UCST
 - Positive accessory tests (specify)
 - Cystometry

Conclusion:

- ICS-Uniform Cough Stress Test is presented
 - ICS-UCST:
 - Supine/lithotomy position
 - Bladder volume 200-400mL
 - 1-4 forceful coughs
 - Incontinence seen coincident/simultaneous to the cough(s)
- Accessory stress tests may be used when ICS-UCST negative to further clarify diagnosis
 - Not standardized

Future

- Validity of ICS-UCST should be determined/quantified:
 - Specificity
 - Sensitivity (compare with accessory tests, UDS)
 - Predictive value towards outcome of management

Thank you!

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