

Start	End	Topic	Speakers
10:30	10:35	Concept and clinical evaluation	David Castro-Diaz
10:35	10:50	Role of urodynamics and urethral function tests	Claire Hentzen Dudley Robinson
10:50	11:00	Tips and tricks on how to optimize conservative and medical therapy	Claire Hentzen
11:00	11:10	Tips and tricks on mid urethra synthetic slings: how I do it	David Castro-Diaz Benoit Peyronnet
11:10	11:20	Tips and tricks on autologous slings	David Castro-Diaz
11:20	11:30	Tips and tricks on bulking agents	Dudley Robinson
11:30	11:40	Tips and tricks on artificial urinary sphincter	Benoit Peyronnet
11:40	12:00	Presentation and discussion on typical SUI/ISD cases	David Castro-Diaz Claire Hentzen Dudley Robinson Benoit Peyronnet

Description

Stress urinary incontinence (SUI) in women is thought to be due to a lack of vaginal support and urethral hypermobility or intrinsic sphincter deficiency (ISD). However, the contemporary view considers that majority of women may have both conditions compromising continence. The urethral function is currently considered as a continuum where ISD, with the highest amount of weakness or low urethral resistance, is located at the extreme end. Some women may have a fixed urethra, particularly if they have undergone a previous surgical procedure to correct incontinence. Some other women may have both urethral hypermobility and ISD being controversial the most appropriate treatment. Some patients might respond to correction of hypermobility while others might continue complaining of urinary incontinence. A few may have also voiding difficulties, needing clean intermittent catheterization, while others may develop detrusor overactivity after surgery. Despite there is no laboratory method to diagnose ISD in a precise manner, surgical decisions are usually made depending on the clinician's impression of whether the patient has the condition and its severity.

Aetiology of ISD may be related to neural causes, from central or peripheral sympathetic neural injury. Furthermore, peripheral neural injuries incurred at the time of radical pelvic surgery can be also associated with transient or permanent ISD. Nevertheless, it has been reported that majority of women who are found to have ISD would have had prior anti-incontinence or pelvic surgery. Previous surgery over the lower urinary tract or previous gynaecologic or general surgery may damage the intrinsic sphincter or even the peripheral sympathetic innervation of the urethra. Other recognized possible causes of ISD include ischaemic compression during birth, peripheral nerve injury, sacral spinal cord injury, radiation, and urethral surgery. The aim of evaluation is to determine whether the predominant problem is urethral hypermobility, ISD or a combination of the two. For this purpose, we can use several evaluation instruments. tools.

Primary evaluation should include a complete clinical history, micturition diary, physical examination and postvoid residual. It has been reported that the more severe symptoms of urinary incontinence, the higher the possibility of ISD. In fact, ISD is usually related to a more severe leak of urine even with minor movements. Validated questionnaires and pad test may help to determine the severity of urinary incontinence. It is also essential to determine the impact of urinary incontinence on quality of life.

Clinical evaluation is of paramount importance. It has been found that the more severe the symptoms of urinary incontinence, the higher the possibility of ISD. In other words, the degree of urinary incontinence was found to be one relevant clinical factor in predicting ISD. Properly performed pad testing may help to determine the severity of urinary incontinence although might have some limitations associated to the technique and the duration of the testing.

Physical examination is an essential step of the evaluation of a patient with SUI. It should include demonstration of SUI through provocation manoeuvres and evaluation of urethral hypermobility. Furthermore, evaluation should demonstrate or rule out the coexistence of pelvic prolapse, the strength, and innervation of pelvic floor muscle as well as the vaginal epithelial lining. The supine stress test is easy, quick, and inexpensive. A positive test is a reliable predictor of ISD. A negative test is highly correlated with the absence of ISD during video urodynamic testing. This test is more reliable in diagnosing intrinsic urethral sphincter dysfunction than other non-urodynamic tests reported in the literature. The supine stress test can be a useful supplement to the cotton swab testing for urethral hypermobility in determining the appropriate management for stress urinary incontinence.

Although no single parameter is predictive of SUI and ISD, helpful tools that can be obtained from urodynamic studies include maximum urethral closure pressure (MUCP), and leak point pressure (LPP). A low urethral closure pressure (LUCP), defined as <20 cmH₂O has been found as a risk factor for failure of surgery for SUI as well as a predictor of persistent incontinence after pelvic reconstructive surgery. However, the European Association of Urology (EAU) and the International Consultation on

Incontinence (ICI) do not recommend the use of urethral pressure measures to choose the procedure for surgical correction of SUI. Video urodynamics is probably the best investigation for evaluating urinary incontinence. Some findings as leakage in the absence of funnelling of the urethro-vesical junction may suggest ISD. However, video urodynamics also has limitations and it is not within the standard approach in clinical practice.

Perineal ultrasound is useful to evaluate urethral hypermobility and to determine whether a mid-urethra tape after surgery, is properly located. Nevertheless, the predictive value for SUI is low and there is overlap between measures of urethral mobility in both continent and incontinent women.

There are several options for managing urinary incontinence due to either hypermobility or ISD.

Optimizing conservative therapy might help as changes in style of life, weight loss and pelvic floor muscle training has shown to be often effective to reduce incontinence. Local estrogen therapy may be helpful particularly in menopausal women.

Intravaginal devices and pessaries or disposable intravaginal devices may offer a temporary or conservative alternative in some cases. Medical therapy with antimuscarinics, beta-3-agonists and duloxetine may help but do not usually cure urinary incontinence.

Many surgical procedures have been implemented for the treatment of SUI. More than 100 techniques have been introduced indicating that none of them is perfect. In the late 90' the introduction of the tension-free-vaginal tape and its successive modifications were internationally implemented as the gold standard. Some authors even suggested the retropubic approach as more effective for ISD than the trans-obturator (TOT) approach, although there are some contradictory data.

The fascial sling has been the most common procedure used to correct failed SUI surgery and ISD but not standard technique for adjustment has been reported.

Adjustable slings have been introduced in recent years allowing to adjust compression and coaptation in a more precise manner. However, there is no standard approach to this technique.

Injectable agents have been used for many years although its use has increased very much recently due to the banning of synthetic mid urethra slings in several countries. The last resort is the artificial urinary sphincter. This device has not been commonly used so far due to the technical difficulties and undesired complications. However, after the implementation of laparoscopic and robotic approach, this procedure has gained more popularity and is more commonly used as the last resort for management of SUI in women with ISD.

Aims of Workshop

Stress urinary incontinence (SUI) in women is considered as due to urethral hypermobility or to intrinsic sphincter deficiency (ISD). Surgery for urethral hypermobility involves providing support while surgery for ISD implies improving urethral coaptation and compression. However a majority of patients, may have varying proportions of support related factors and ISD, being not easy to determine if a patient would benefit of hypermobility correction or may need urethral coaptation and compression as well. The aim of this workshop is to provide insights on how to select SUI patients as well as tips and tricks to obtain best outcome.

Educational Objectives

Evaluation of urethral function at the time of considering surgical treatment is a complex issue. It has been suggested that severe grades of SUI usually cohabit with ISD. However, some patients complaining of severe incontinence and suspected ISD, may become continent after hypermobility correction only, while others might not void after surgery. Several urodynamic tests (have been proposed for proper evaluation of urethral function (Abdominal leak point pressure, urethral profilometry, videourodynamics, cystoscopy, etc.), although none of them is completely reliable. The International Consultation on Incontinence and European Association of Urology do not recommend the use of urethral pressure measures to choose the surgical procedure. There are several treatment possibilities that might allow patients to improve their continence status and/or get rid of incontinence improved conservative therapy, mid urethral slings, fascial slings, injectable agents and artificial urinary sphincter. In this workshop we shall provide those tips and tricks that we use to obtain the best outcome of treatment based on proper evaluation and selection of patients and procedures.

The second part of the workshop will include a 20 minutes of open discussion examining typical clinical cases that might benefit with the different current available therapeutic possibilities considering advantages, disadvantages as well as possible alternatives.

Learning Objectives

1. To evaluate urethral function from the clinical and urodynamic point of view
2. To use complementary tests for proper evaluation
3. To learn tips and tricks in order to obtain the best therapeutic outcome

Target Audience

Urology, Urogynaecology and Female & Functional Urology, Conservative Management

Advanced/Basic

Intermediate

Suggested Learning before Workshop Attendance

- 1: Parrillo LM, Ramchandani P, Smith AL. Can intrinsic sphincter deficiency be diagnosed by urodynamics? *Urol Clin North Am.* 2014 Aug;41(3):375-81, vii. doi: 10.1016/j.ucl.2014.04.006. Epub 2014 May 22. PMID: 25063593.
- 2: Hosker G. Is it possible to diagnose intrinsic sphincter deficiency in women? *Curr Opin Urol.* 2009 Jul;19(4):342-6. doi: 10.1097/MOU.0b013e32832ae1cb. PMID: 19444119.
- 3: Shah SM, Gaunay GS. Treatment options for intrinsic sphincter deficiency. *Nat Rev Urol.* 2012 Nov;9(11):638-51. doi: 10.1038/nrurol.2012.177. Epub 2012 Oct 2. PMID: 23027065.
- 4: Lo TS, Ng KL, Lin YH, Hsieh WC, Kao CC, Tan YL. Impact of intrinsic sphincter deficiency on mid-urethral sling outcomes. *Int Urogynecol J.* 2022 Apr;33(4):887-896. doi: 10.1007/s00192-021-04757-3. Epub 2021 May 18. PMID: 34003308.
- 5: Ford AA, Ogah JA. Retropubic or transobturator mid-urethral slings for intrinsic sphincter deficiency-related stress urinary incontinence in women: a systematic review and meta-analysis. *Int Urogynecol J.* 2016 Jan;27(1):19-28. doi: 10.1007/s00192-015-2797-3. Epub 2015 Jul 29. PMID: 26220506.
- 6: Hillary CJ, Osman N, Chapple C. Considerations in the modern management of stress urinary incontinence resulting from intrinsic sphincter deficiency. *World J Urol.* 2015 Sep;33(9):1251-6. doi: 10.1007/s00345-015-1599-z. Epub 2015 Jun 10. PMID: 26060138.
- 7: Zheng Y, Rovner E. Update on Urethral Bulking for Stress Urinary Incontinence in Women. *Curr Urol Rep.* 2022 Oct;23(10):203-209. doi: 10.1007/s11934-022-01099-5. Epub 2022 Jul 4. PMID: 35781870.
- 8: Wlzlak E, Viereck V, Kociszewski J, Kuszka A, Rautenberg O, Walser C, Surkont G, Gamper M, Fehr MK. Role of intrinsic sphincter deficiency with and without urethral hypomobility on the outcome of tape insertion. *Neurourol Urodyn.* 2017 Sep;36(7):1910-1916. doi: 10.1002/nau.23211. Epub 2017 Jan 31. PMID: 28139863.
- 9: Kassis NC, Washington BB, Korbly NB, Lopes VV, Sung VW. Effect of intrinsic sphincter deficiency on midurethral sling outcomes in women with mixed urinary incontinence. *Female Pelvic Med Reconstr Surg.* 2013 May-Jun;19(3):132-6. doi: 10.1097/SPV.0b013e31827cd5e2. PMID: 23611929.