

## W23: ICS CORE CURRICULUM (FREE) How do Invasive Urodynamic Studies Affect my Clinical Decision in Non-Neurogenic Lower Urinary Tract Dysfunction? A Workshop of the ICS Urodynamics Committee Based on Interactive Case Discussions

Workshop Chair: Tufan Tarcan, Turkey  
25 October 2024 14:00 - 15:30

Start	End	Topic	Speakers
14:00	14:10	Introduction	Tufan Tarcan
14:10	14:30	How do UDS affect my clinical decision in Male LUTS?	Carlos D'Ancona
14:30	14:50	How do UDS affect my clinical decision in female stress and stress-predominant mixed urinary incontinence and prolapse?	Maurizio Serati
14:50	15:10	How do UDS affect my clinical decision in OAB and female LUTS?	Christopher Harding
15:10	15:30	Questions	All

### **Description**

Background information:

More than 50 years ago, Bates and associates described the bladder as an “unreliable witness,” emphasizing that, in some instances, the bladder was found to be empty when the patient claimed it to be full and vice versa (1). Since lower urinary tract symptoms (LUTS) often do not reflect underlying pathologies, urodynamic studies (UDS) are recommended to achieve the most accurate diagnosis before potentially irreversible management is implemented. According to the recent ICI, UDS should be performed to objectively measure, document and diagnose the entirety of lower urinary tract (LUT) function and/or dysfunction (2). It was stated that UDS should be done when they can have consequences for the patient’s management, including pretreatment patient counselling, and/or when part of a surveillance or a research program. ICS standard urodynamic testing (ICS-SUT) includes uroflowmetry and PVR plus transurethral cystometry and pressure-flow study (3). ICS-SUT is should always be a part of ICS standard urodynamics protocol (ICS-SUP)

(2). Besides ICS-SUT, the ICS-SUP further includes collection of a clinical history, valid symptom and bother scores and medication list, relevant clinical examination, bladder diary, representative uroflowmetry with post-void residual (PVR).

Indications for UDS in non-neurogenic LUTD and their role in decision-making:

**Female Urinary Stress or Stress-predominant Urinary Incontinence and Prolapse:** The EAU guidelines recommend not to routinely carry out UDS when offering treatment for uncomplicated stress urinary incontinence (4). However, the ratio of uncomplicated stress urinary incontinence (SUI) differs between 5- 33% of patients with SUI and therefore, uncomplicated patients represent only a minority of SUI cases (1). The EAU guidelines also state that there may be inconsistency between history and urodynamic results (4). The EAU guidelines further recommend to perform preoperative UDS in cases of SUI with associated storage symptoms, cases in which the type of incontinence is unclear, cases in which voiding dysfunction is suspected, and cases with associated pelvic organ prolapse or prior surgery for SUI (4). Even in the uncomplicated group, the preoperative UDS change the clinical diagnosis in more than 50% of cases (e.g. revealing hidden voiding dysfunction in 10%) and may change the treatment decision (1). The presence of preoperative DO may be associated with persistence of urgency postoperatively in women undergoing surgery for SUI (4).

**Female Overactive Bladder (OAB):** OAB is are initially managed based on a symptom or syndrome-based diagnosis without performing invasive UDS to explore the exact pathophysiology. For example, The EAU guidelines do not recommend routine UDS when

offering first-line treatment to patients with uncomplicated OAB symptoms (4). There is a considerable consensus that invasive UDS are indicated when conservative measures fail to solve the symptoms and/or invasive treatments are needed.

**Male LUTS:** Male LUTS have a multifactorial aetiology and are not always caused by prostatic obstruction. According to the EAU guidelines, invasive UDS are recommended only in individual patients for specific indications prior to invasive treatment or when further evaluation of the underlying pathophysiology of LUTS is warranted (5). When considering invasive treatment ICS-SUT is needed in the following populations:

- men who have had previous unsuccessful (invasive) treatment for LUTS.
- men considering invasive treatment who cannot void > 150 mL.
- men with bothersome predominantly voiding LUTS and Qmax > 10 mL/s.
- men with bothersome, predominantly voiding LUTS with a post void residual > 300 mL.
- in men with bothersome, predominantly voiding LUTS aged > 80 years.

- men with bothersome, predominantly voiding LUTS aged < 50 years.

In the further analysis of the UPSTREAM trial, it has been clearly demonstrated that men with good bladder contractility and who are obviously obstructed benefit more from prostatectomy compared with their counterparts.

Thus, invasive UDS play an important role in the decision making in these 3 domains of non-neurogenic LUTD that will be the core message of the ICS Urodynamics Committee workshop.

Key learning points:

- To learn when the invasive UDS are indicated in men with LUTS and how they affect the treatment choice. To learn how to diagnose bladder outflow obstruction and assess bladder contractility
- To understand the interpretation of invasive UDS in women with urinary incontinence and pelvic organ prolapse. To learn how to diagnose urodynamic stress urinary incontinence.
- To learn the role of UDS in decision-making in overactive bladder and female LUTS. To understand how to diagnose detrusor overactivity and female bladder outflow obstruction and detrusor underactivity.

Take home messages

As indicated by the recent ICI the invasive UDS are the best and only available tests (2):

- To demonstrate all elements of LUT(patho)physiology of the patient presenting with signs or symptoms of dysfunction;
- To identify all factors that contribute to the LUT dysfunction signs (e.g. urinary incontinence (UI)) and/or are the origin of the symptoms (e.g. frequent voiding) and assess their relative importance;
- To obtain information about all other aspects of LUT function or dysfunction, whether or not expressed as a symptom or recognizable as a sign;
- To allow a prediction of the possible consequences of LUTD for the UUT;
- To allow a prediction of the outcome, including undesirable side effects, of a contemplated treatment, and include the possibility of additional treatment options in preoperative patient counselling (e.g. inform between-treatment options);
- To confirm the effects of intervention or understand the mode of action of a particular type of treatment for a LUTD; especially a new and/or experimental one;
- To understand the reasons for failure of previous treatments for UI, or for LUTD in general.

### **Aims of Workshop**

Urodynamic studies (UDS) are the gold standard methods to assess lower urinary tract dysfunction (LUTD). ICS standard urodynamic testing includes uroflowmetry and PVR plus transurethral cystometry and pressure-flow study. UDS should be done when they can have consequences for the patient's management. This task is however challenging requires a thorough clinical and urodynamic expertise. The present ICS Urodynamics Committee workshop will solely focus on clinical cases with urodynamic charts and explore how UDS change our decision-making in different types of non-neurogenic LUTD including female urinary incontinence, pelvic organ prolapse, overactive bladder, and male lower urinary tract symptoms.

### **Educational Objectives**

The main philosophy of invasive UDS indicates that UDS should be done when the urodynamic findings will have consequences on patients' management. This task is challenging since there are not always clear boundaries to indicate when and how UDS will affect the clinical decision-making process. This fact is especially valid for non-neurogenic LUTD such as female urinary incontinence, pelvic organ prolapse, overactive bladder (OAB)/female LUTS and male LUTS.

The good urodynamic practice requires a thorough clinical evaluation according to ICS standard urodynamics protocol including a valid symptom and bother score, medication list, relevant clinical examination, bladder diary, representative uroflowmetry with post-void residual (PVR) and a complete ICS standard urodynamic test including a filling cystometry and a pressure-flow study. The workshop aims to share the best urodynamic practice in different domains of non-neurogenic LUTD with the audience utilizing real life cases in a most possible interactive way.

The interactive discussion with the audience will explore all the steps of the ICS standard urodynamics protocol and focus on the indication of UDS and interpretation urodynamic charts and their role in further decision-making. The clinical cases will include patients with female urinary incontinence, (OAB)/female LUTS and male LUTS.

### **Learning Objectives**

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- To understand the interpretation of invasive UDS in women with urinary incontinence and pelvic organ prolapse. To learn how to diagnose urodynamic stress urinary incontinence.
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### **Target Audience**

**Advanced/Basic**

Advanced

**Suggested Learning before Workshop Attendance**

1. Urodynamic Testing (Committee 5) Stefan De Wachter, Andrew Gammie; Peter Rosier; Hashim Hashim, Sanjay Sinha, Jian Gao Wen, Tufan Tarcan, Victor Nitti, Luis Abranches-Monteiro, Philip Tooze-Hobson. Editors: Paul Abrams, Linda Cardozo, Adrian Wagg, Alan Wein, Eric Rovner. In: Incontinence, 7th Edition 2023. 7th International Consultation on Incontinence. Pp:487-550 ISBN: 978-0-9569607-4-0.
2. Tarcan T, Finazzi-Agrò E, Kessler TM, Serati M, Solomon E, Rosier PFWM. How should prospective research be designed to legitimately assess the value of urodynamic studies in female urinary incontinence? *Neurourol Urodyn.* 2023 Nov;42(8):1639-1646.
3. Rosier PFWM, Schaefer W, Lose G, Goldman HB, Guralnick M, Eustice S, Dickinson T, Hashim H. International Continence Society Good Urodynamic Practices and Terms 2016: Urodynamics, uroflowmetry, cystometry, and pressure-flow study. *Neurourol Urodyn.* 2017 Jun;36(5):1243-1260.