UROPULSE
TRENDS & TREATMENTS

LUTS, from the importance of initial assessment, not forgetting to consider the detrusor

Dr Manuela TUTOLO

IRCCS San Raffaele Hospital, Unit of Urology
Urological Research Institute Vita-Salute
San Raffaele University Milan, Italy

Dr Manuela TUTOLO emphasized the need for a more nuanced and comprehensive assessment of lower urinary tract symptoms (LUTS), moving beyond the traditional focus on prostatic obstruction.

Click on the video or flash the QR Code to listen to Dr Manuela TUTOLO

THE MANAGEMENT OF MALE LUTS IS OFTEN BASED ON OBSTRUCTION[1]

LUTS are highly prevalent and impactful in urological practice, often more than prostate or bladder cancers in terms of patient burden. Despite their frequency, **the management of male LUTS is often empiric and based on presumed benign prostatic obstruction (BPO),** rather than individualized assessment.

CURRENT LUTS ASSESSMENT TOOLS IN MALE PATIENTS HAVE LIMITATIONS

Despite similar overactive bladder (OAB) prevalence in men and women, male LUTS patients are more often treated with alpha-blockers. This may be due to symptom overlap with prostatic conditions and the IPSS's limited assessment of storage symptoms, which includes only three related questions.

IPSS: International Prostate Symptom Score	
The voiding subscore (IPSS-V)	**The storage subscore (IPSS-S)**
Incomplete emptying	Frequency
Intermittency	Urgency
Weak Stream	Nocturia
Straining	

Adapted from Barny MJ, et al. J Urol. 2017 Feb;197(2S):S189-S197[2]

> **The current standard tool, IPSS, may insufficiently capture storage symptoms**

INDIVIDUALIZED LUTS MANAGEMENT STARTS WITH PROPER ASSESSMENT[3,6]

Up to 75% of men with BPO report OAB symptoms.

More than 50% of patients with urodynamically proven obstruction also exhibit detrusor overactivity (DO).

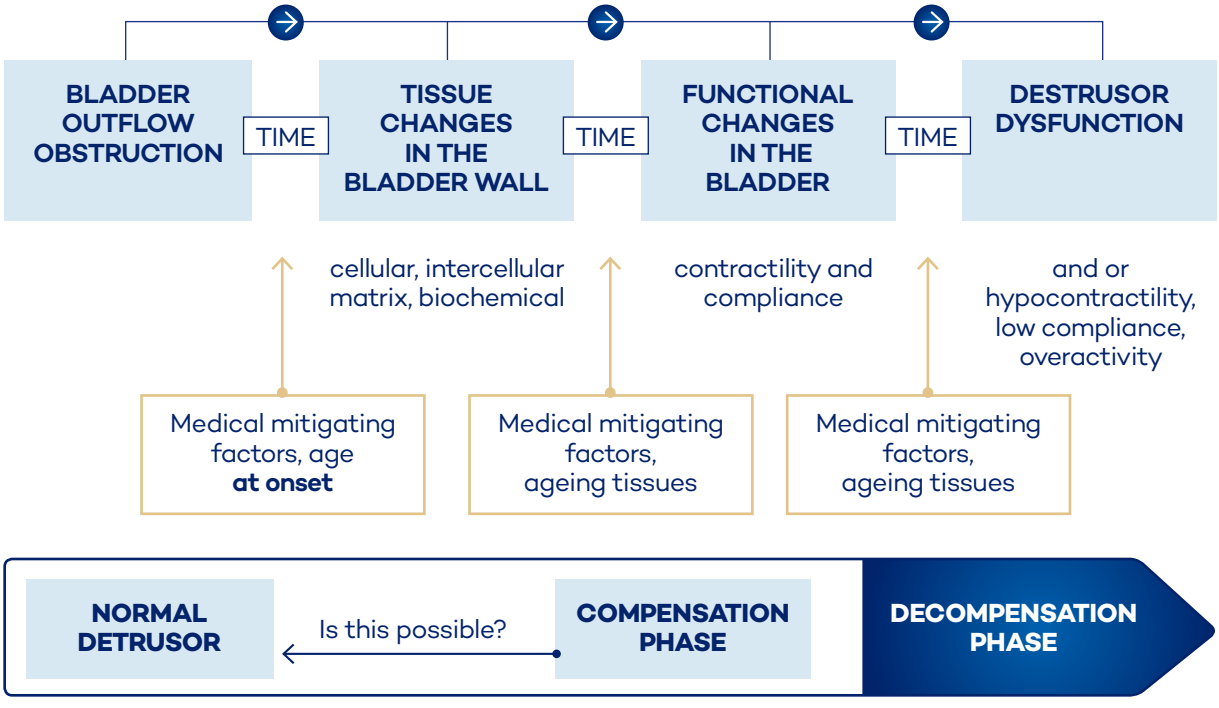
While DO is not a contraindication to deobstructive surgery, **1/3 of patients have persistent DO postoperatively,** and **30% may develop *de novo* OAB symptoms.** Additionally, LUTS are not always linked to obstruction: about **34% of LUTS patients have no obstruction, rising to 60% in men over 80,** underlining the importance of a differentiated, patient-specific approach.

> **LUTS are not always linked to obstruction, highlighting the importance of a differentiated, patient-specific approach**

OBSTRUCTION DRIVES DETRUSOR DYSFUNCTION[7,8]

Bladder outlet obstruction (BOO) induces a 3-stage remodeling process of the detrusor muscle: 1. Hypertrophy, 2. Compensation, and 3. Decompensation (if left untreated). This progression involves morphological changes, including nerve loss, fibrosis, and alterations in smooth muscle cell structure, driven by an imbalance between oxygen demand and supply.

> **While these adaptations initially aim to maintain voiding efficiency, they can also lead to aberrant detrusor overactivity, as the bladder's effort to compensate paradoxically promotes dysfunction.**

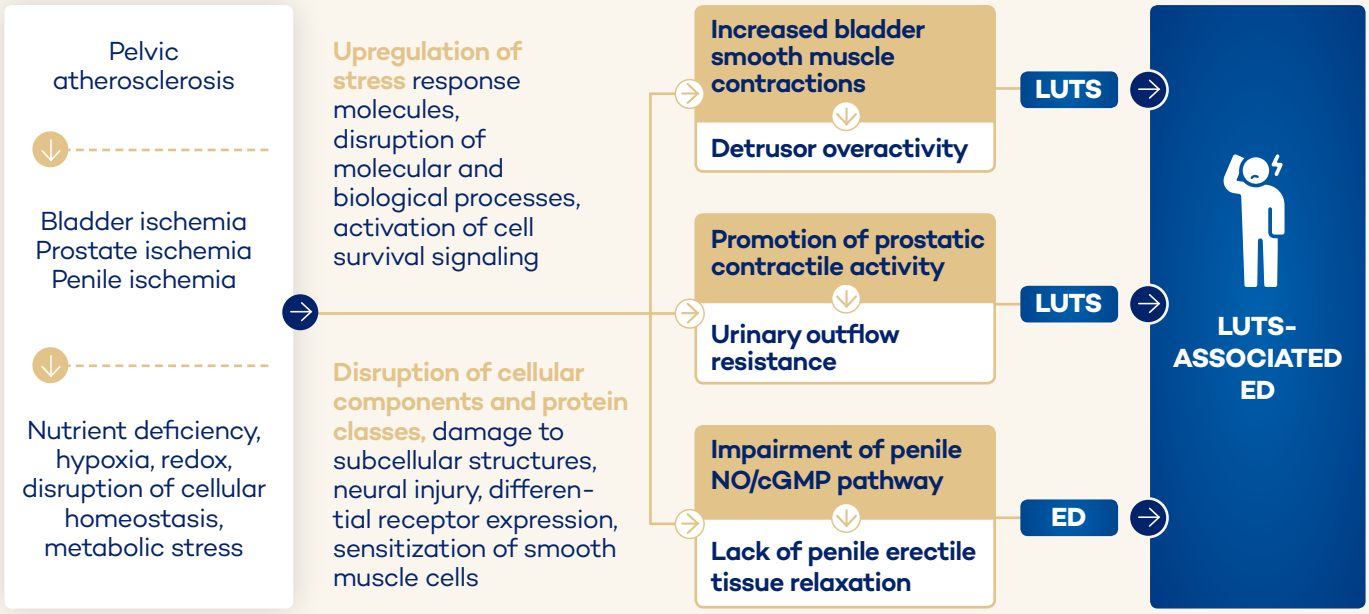


Phases involved in the development of detrusor dysfunction as a result of bladder outlet obstruction. Adpated from Bosch R,et al. Neurourol Urodyn.[7] 2019 Dec;38 Suppl 5(Suppl 5):S56-S65.

PELVIC ISCHEMIA: A NON-OBSTRUCTIVE MECHANISM OF LUTS[9]

Emerging theories suggest that pelvic atherosclerosis may cause ischemia of the bladder, prostate, and penis, leading to 1) detrusor overactivity (via bladder muscle hypercontractility) 2) urinary outflow resistance (via prostatic cell contraction) and 3) erectile dysfunction (via penile tissue alterations). This may explain LUTS in patients without obstruction but with concurrent sexual dysfunction.

> **LUTS in patients without obstruction could lead to erectile dysfunction**



Conceptual presentation of pelvic ischemia as a unifying mechanism of LUTS-associated ED. Adapted from Tarcan T, et al. Int J Mol Sci. 2022 Dec 15;23(24):15988.9

***cGMP:** cyclic guanosine monophosphate; **ED:** erectile dysfunction; **LUTS:** lower urinary tract symptoms; **NO:** nitric oxide;*

URODYNAMICS IN LUTS MANAGEMENT: SELECTIVE USE OVER ROUTINE[1, 10]

While urodynamic tests can help assess the functional mechanisms of LUTS - identifying DO, underactivity, obstruction, compliance issues, and supporting shared decision-making - **current guidelines do not recommend routine use due to insufficient evidence[1].**
The UPSTREAM trial[10] advised against systematic use in obstructive patients. However, **subgroup analysis suggests potential benefit in selected patients (high obstruction and contraction index without DO), where urodynamics may improve pre-surgical evaluation and outcome prediction.**

LUTS MANAGEMENT: NO ONE-SIZE-FITS-ALL

There is no universal approach to managing male LUTS. By decoupling detrusor function from prostate pathology, and using diverse assessment tools (e.g. questionnaires, tests), clinicians can personalize treatment strategies and timing — selecting the most appropriate medical, minimally invasive, or surgical options for each patient.

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LABORATOIRES
Pierre Fabre
Pharmaceutical Care