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## Opinion: Open Science

# Lower Urinary Tract Symptoms: A Unique Platform for Urologists' Fundamental Role in Overall Health

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COVID-19 has challenged us to become more dynamic than ever before in assuming new responsibilities in patient care and serving our community via new means. Through all the upheaval, a consistent beacon of hope can be found in our community's reinvigorated commitment to issues beyond the genitourinary tract and overall health [11]. As we continue to advance in our fight against COVID-19, we must reflect on how these lessons learned may transcend the pandemic and be leveraged to improve future practice.

In many respects, the extent to which we have been asked to work hand-in-hand with general practitioners, hospitalists, and other specialty services actually bears resemblance to the means by which current European Association of Urology (EAU) and American Urological Association (AUA) guidelines ask us to approach lower urinary tract symptoms (LUTS) in routine practice. Multiple LUTS have been increasingly described as clinically relevant predictors, markers, and central features of serious medical conditions, such that best-practice management often requires a multidisciplinary treatment plan and medical disease optimization [1,2]. The importance of “nonurologic” causes of LUTS is particularly evident in the case of nocturia, which is prognostic of all-cause mortality and has been identified as a hallmark of several systemic cardiovascular, respiratory, renal, hepatic, endocrine, neurologic, and immunologic disease states [3].

Long before beginning to receive attention as a standalone entity, LUTS were most relevant in major urology consensus guidelines as the clinical manifestation of common genitourinary abnormalities such as benign prostatic hyperplasia (BPH). The first major rendition of the

EAU guidelines on BPH in 2001 did acknowledge that “chronic conditions, such as hypertension or diabetes, have been related to clinical BPH” [4]. However, the document subsequently downplayed the possibility of a causal relationship, stating, “but given the frequent occurrence of these conditions in ageing men, a large proportion of patients can be expected to suffer from such an association.” Consistently, recommendations regarding diagnosis were squarely centered on the genitourinary tract, and the seemingly benign nature of LUTS provided the basis for watchful waiting as a first-line management strategy:

“BPH affects quality rather than the quantity of life. The risk of serious sequelae following a watchful waiting policy is small. The only related morbidities are the development of acute urinary retention or impairment of renal function.”

The first AUA guidelines on BPH were published in 2003 and similarly described medical disease to be most relevant as a clinical distractor and implicit grounds for exclusion [5]:

“The challenge in patients with LUTS is to establish that the symptoms are due to BPH. Nonprostatic causes of symptoms can be excluded in a significant number of patients on the basis of a medical history, physical examination, and urinalysis. (. . .) A medical history should be taken to identify other causes of voiding dysfunction or comorbidities that may complicate treatment.”

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In 2010, the EAU *Guidelines on BPH* were rebranded as the EAU *Guidelines on Conservative Treatment of Non-neurogenic Male LUTS* [6]. As the authors explained themselves, contemporary scientific advances had provided the nidus for this change in nomenclature:

“The latest knowledge and developments suggest that not all bladder symptoms of elderly men are necessarily linked to the prostate (BPH-LUTS) (. . .) This more distinguished view of LUTS has led to re-formation of the content and panel of the EAU guidelines.”

The intricate relationship between LUTS and systemic disease has been further expanded in the most recent major revisions to the EAU (2019) and AUA (2018) guidelines. Current EAU guidelines contend that causes unrelated to lower urinary tract dysfunction “have to be considered in all cases” [2]. This concept has been operationalized in the current International Continence Society Consensus statement on the diagnosis and treatment of nocturia, which details a holistic, patient-oriented diagnostic and therapeutic algorithm for nocturia that may be generalized to other LUTS [7]. Likewise, the AUA guidelines now feature the complex etiology of LUTS as a pressing future research direction [8]:

“There are enormous gaps in knowledge and, therefore, ensuing opportunities for discovery. These include but are not limited to many unanswered questions, such as the role of inflammation, metabolic dysfunction, obesity, and environmental factors in etiology, as well as the role of behavior modification, self-management, and evolving therapeutic algorithms in both the prevention and progression of disease.”

Taken together, the past two decades of EAU and AUA guidelines on BPH reflect a fundamental shift in the way in which contemporary evidence on LUTS has been interpreted, synthesized, and disseminated by the primary urological professional societies in Europe and the USA. This theme is likewise salient in current evidence on urinary incontinence and overactive bladder syndrome [9]. Once most relevant as a clinical distractor in the evaluation of other genitourinary abnormalities, medical disease has become a central tenet in the evaluation and management of LUTS.

The importance of a comprehensive medical assessment was emphasized in a recent systematic review of nocturia by the EAU guidelines panel for male LUTS, which affirmed that “the symptom of nocturia is an important one, since there may be a significant medical cause, [and] potentially an opportunity to screen for undiagnosed or suboptimally-managed disease . . .” [10]. Nocturia and other LUTS, as potential harbingers of serious systemic disease, thus provide another unique platform from which urologists

may tangibly improve overall health and survival. Therefore, a comprehensive medical examination, often warranting referral to another specialty and a multimodal care plan, must now be considered a fundamental responsibility in the management of a patient presenting with LUTS. To this end, even in the wake of COVID-19, our reinvigorated spirit of interdisciplinary collaboration must not be forgotten.

**Conflicts of interest:** Karel Everaert is a consultant and lecturer for Medtronic and Ferring and has received institutional grants from Allergan, Ferring, Astellas, and Medtronic. Alan J. Wein has served as an advisor/consultant for Bulkamid, Medtronic, Serenity, Urovant, and Velicept. Jeffrey P. Weiss is a consultant for Ferring and the Institute for Bladder and Prostate Research. Thomas F. Monaghan and Jason M. Lazar have nothing to disclose.

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