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LETTER TO EDITOR

UrOP position paper in support of the new classification of urinary tract infections: From "uncomplicated/complicated" to "localized/systemic"

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Dear Editor,

For a few decades, *urinary tract infections* (UTIs) have been classified according to the dichotomy "*uncomplicated*" and "*complicated*" (1). This classification has been widely used in academic settings and in clinical practice. However, it has long proven to have limits and to be misleading in real-world patient management. For urologists working across both public and private healthcare settings, the distinction is often ambiguous: what exactly qualifies as "*complicated*"? And when should an infection that appears "*uncomplicated*" actually be considered clinically significant or at risk of deterioration?

In 2025, *Bonkat et al.* provided the scientific community with a new perspective (2). The proposal abandons the traditional terminology and introduces a classification system grounded in immediately recognizable clinical criteria: localized UTI and systemic UTI. This new approach is clear, intuitive, and especially most directly applicable at the bedside, from the very first patient visit.

The underlying principle is straightforward: localized UTIs are characterized by lower urinary tract symptoms frequency, dysuria, urgency, suprapubic pain without systemic signs of infection. On the contrary, systemic UTIs may be associated with fever, hypotension, tachycardia, or flank pain, pointing toward renal, prostatic, or other severe infections with systemic involvement. What previously required lengthy reasoning can now be addressed by a single and easy clinical question: does the patient show systemic signs or not? This simple question provides immediate guidance for clinical decision-making.

For the UROP (*Unione degli Urologi Ospedalità Gestione Privata*), which is a scientific society involving both hospital-based and private-practice urologists, this is particularly relevant. It may allow us to deliver high-quality care that is rapid, safe, and sustainable, while optimizing the use of healthcare resources.

First, the localized/systemic classification and distinction enables faster decisions regarding the appropriate treatment setting. Patients with localized UTI and no major risk factors can be managed in an outpatient setting: urinalysis, urine culture, basic imaging when needed (i.e. ultrasound), and targeted therapy can all be completed at home or in a day-hospital setting, avoiding unnecessary emergency department visits or hospital admissions. Conversely, patients with systemic UTI are directed immediately to the hospital and specific settings where monitoring, intravenous antibiotics, and further investigations are available. In private healthcare, this translates into streamlined and secure patient pathways, improved satisfaction, and reduced pressure on public hospitals (3).

A second major benefit is the reduction of unnecessary hospital burden. Many cases that have been ambiguously labeled as "*uncomplicated*" now clearly fall into the localized category and can be treated outside the hospital. This reduces avoidable hospital admissions, increases hospital resources for more severe conditions, and generates direct economic advantages: fewer costs for patients, and lower inpatient care expenses for the healthcare system (4-8).

The new terminology also enhances physician-patient relationship and communication. Telling a patient, "*this is a localized infection*" is immediately comprehensible and reassuring. The phrase "*uncomplicated infection*," while intended to calm, often raises confusion: if it is "*not complicated*," why does it still require treatment? The new terms improve transparency, strengthen trust, and encourage better adherence to therapy.

Furthermore, from a therapeutic standpoint, the classification also serves as a strong tool to support antimicrobial stewardship (9-14). Localized UTIs can be managed with short, targeted oral regimens, while systemic infections call for empiric broad-spectrum intravenous antibiotics, refined according to culture and sensitivity. This approach optimizes outcomes, minimizes side effects, reduces costs for patients, and mitigates the environmental impact of unnecessary antibiotic use.

The advantages are especially clear in the private practice setting. Immediate clinical triage shortens waiting times and accelerates access to care. Continuity is maintained, with the same specialist responsible for diagnosis, therapy, and follow-up. Avoiding unnecessary hospitalization also may reduces the stress for patients and families. Furthermore, this approach may be also useful in private section for patients with postoperative infections and UTIs that may complicate the surgical procedure performed in private setting, especially endoscopic procedures for benign diseases (15), but that sometimes may be localized and be managed without hospitalization.

Furthermore, private hospital may provide clinical Apps to better follow the patients at home, without hospitalization. Internal protocols should be updated, and the classification integrated into clinical software systems to facilitate its daily use. In addition, data collection before and after implementation will be key, monitoring hospital admissions, antibiotic duration, and patient satisfaction, in order to demonstrate the tangible impact of this strategy.

In conclusion, the new classification of urinary tract infections is not merely a change in terminology; it represents a genuine paradigm shift. It may improve clinical quality, optimizes time and costs, provides patients with safer and more personalized care, eases the pressure on public hospitals, and fosters rational antibiotic use. For UROP, it is an opportunity to evolve towards a more modern, effective, and patient-focused model of urological care.

References

1. Kranz J, Bartoletti R, Bruyère F, et al. European Association of Urology Guidelines on Urological Infections: Summary of the 2024 Guidelines. Eur Urol. 2024; 86:27-41.

2. Bonkat G, Wagenlehner F, Cai T, et al. Classification of Urinary Tract Infections in 2025: Moving Beyond Uncomplicated and Complicated. Eur Urol Open Sci. 2025; 75:44-47.

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3. Leonardi R, Bellinzoni P, Broglia L, et al. Hospital care in Departments defined as COVID-free: A proposal for a safe hospitalization protecting healthcare professionals and patients not affected by COVID-19. Arch Ital Urol Androl. 2020; 92:67-72.

4. Britton CJ, Cortese BD, Talwar R. Economic impact of tariffs on healthcare costs in urology. Nat Rev Urol. 2025.

5. Welliver C, Feinstein L, Ward JB, et al. Evolution of healthcare costs for lower urinary tract symptoms associated with benign prostatic hyperplasia. Int Urol Nephrol. 2022; 54:2797-2803.

6. Ciani O, Grassi D, Tarricone R. An economic perspective on urinary tract infection: the "costs of resignation". Clin Drug Investig. 2013; 33:255-61.

7. Gaitonde S, Malik RD, Zimmern PE. Financial Burden of Recurrent Urinary Tract Infections in Women: A Time-driven Activity-based Cost Analysis. Urology. 2019; 128:47-54.

8. Callan A, O'Shea E, Galvin S, et al. The Economic Cost Of Urinary Tract Infections In The Community: Results From Ireland. Value Health. 2014; 17:A468.

9. Huang BM, Lo CL, Lin WL, et al. Application of antimicrobial stewardship interventions improves outcomes in adults with bloodstream infection caused by multidrug-resistant Enterobacteriaceae. J Microbiol Immunol Infect. 2025:S1684-1182(25)00155-0.

10. Mike-Ogburia MI, Monsi TP, Nwokah EG. Prevalence and determinants of multidrug-resistant uropathogenic Klebsiella species and associated antimicrobial resistance genes in Port Harcourt, Nigeria. BMC Infect Dis. 2025; 25:1036.

11. Rizvi M, Khan M, Al-Jardani A, et al. Mapping antimicrobial susceptibility of community-acquired uropathogenic Escherichia coli across low, middle and high-income countries highlights significant differences: insights for empiric treatment. IJID Reg. 2025; 16:100706.

12. Arends SJR, McCreary EK, Helgeson M, et al. Retrospective analysis of antimicrobial resistance among Escherichia coli causing community-acquired urinary tract infections in the United States from 2010-2022. J Glob Antimicrob Resist. 2025; 44:442-448.

13. Wilson GM, Jackson R, Abdelrahim S, et al. Determining appropriateness of treatment by evaluating providers' documentation of UTI symptoms. Am J Infect Control. 2025:S0196-6553(25)00472-9.

14. Goebel MC, Trautner BW, Grigoryan L. The Five Ds of Outpatient Antibiotic Stewardship for Urinary Tract Infections. Clin Microbiol Rev. 2021; 34:e0000320.

15. Leonardi R. The LEST technique: Treatment of prostatic obstruction preserving antegrade ejaculation in patients with benign prostatic hyperplasia. Arch Ital Urol Androl. 2019; 91:35-42.

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