

Editorial

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EFLM European Urinalysis Guideline

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The current issue of the Journal contains the European Urinalysis Guideline (EUG) 2023 written and edited by the Task and Finish Group Urinalysis (TFG-U), working under the Science Committee of the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM). It is an update to the previous European Urinalysis Guideline published by the European Confederation of Laboratory Medicine (ECLM) in 2000 [1, 2]. After more than 20 years, these guidelines needed to be updated at least with respect to new diagnostic markers and infectious agents, development of automated particle counting, current tools of specimen collection, quality control processes and analytical performance specifications.

Two crucial features are important in this updated guideline:

- (1) It remains a laboratory process-oriented guideline as opposed to the most medical guidelines describing clinical perspectives of diagnostic procedures,
- (2) It is an expression of fruitful co-operation between clinical chemistry and clinical microbiology laboratories since a shared single-voided urine specimen is discussed from professional knowledge of both clinical laboratory disciplines.

The comprehensive document is published in seven sections covering different areas and techniques of urinalysis, with two detailed Annexes. The text describes shared test requisition strategies, preanalytical procedures, and partially even shared interpretation of analytical results. Examinations include chemical measurements with strip tests and quantitative procedures, and urine bacterial cultures with identification of species and antimicrobial

susceptibility tests. Urine particle analysis represents a shared expertise, organised in either clinical chemistry or clinical microbiology laboratories in different European countries, or occasionally still performed by the nephrologists themselves. Combination of these examinations into a shared diagnostic process allows optimisation of routine urinalysis and urine bacterial culture, while specific procedures and examinations are needed in specific cases and specimens.

The EFLM EUG 2023 contains numerous improvements compared to the previous ECLM guideline in 2000: The collected literature was structured based on the GRADE principles to provide levels of evidence (A–D) and strengths (1–2) to the given recommendations for laboratory tests [3, 4], as described in detail in the Introduction of the guideline. The EFLM EUG now provides a total of 65 graded recommendations in its seven sections. The assessment and grading by laboratory professionals is a new approach where reliability and consistency of laboratory examination-related evidence is assessed, for use in clinical diagnostic or prognostic outcomes.

The EUG 2023 discusses medical diagnostics of urinary tract infections (UTI) and kidney disease among different patient populations as its major topics. International clinical guidelines on these provided important backgrounds, as published, e.g., by the European Urology Association [5], and the Kidney Disease Improving Global Outcomes initiative [6]. To a lesser extent, other diseases were approached mostly at a screening level if the discussed measurements are used also for other purposes, such as detection of haematuria in urothelial cancers, or proteinuria or albuminuria in pregnancy.

It is obvious that a shared laboratory expertise is needed to recommend criteria for qualified testing strategies in urinalysis, adequate preanalytical processes, combination of different analytical results in points-of-care, general laboratories, and specialised laboratories, as well as relevant clinical interpretations. The established EFLM TFG-U is a multidisciplinary expert group that could benefit from special knowledge of four clinical chemists and four clinical microbiologists representing several European countries that were devoted to this task despite the COVID-19 pandemic in Europe.

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The EFLM TFG-U group received remarkable number of comments and suggestions for improvement into the primary draft distributed for public consultation to the National Societies of the EFLM and other stakeholders in the spring 2023. The provided 245 comments and responses to them are electronically available as Supplemental material to the guideline text. The Introduction transparently describes the details of voting among the National Societies of the EFLM. Out of 41 voting EFLM Member Societies, 28 countries replied with positive votes and 1 with negative vote – the EUG 2023 recommendations can thus be considered officially as an approved EFLM guideline. Moreover, the Guidelines Subcommittee of the European Society of Clinical Microbiology and Infectious Diseases (ESCMID) provided a public consultation for their members resulting in endorsement of the key clinical microbiology-related Sections 1, 3 and 7 of the EUG by the ESCMID.

The result of this work is a landmark document for the community of laboratory medicine. We hope that this revised guideline finds its professional users and provides valuable help in establishing and maintaining quality of the common clinical laboratory tests in urine, in parallel with the ISO 15189 standard for medical laboratories [7].

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