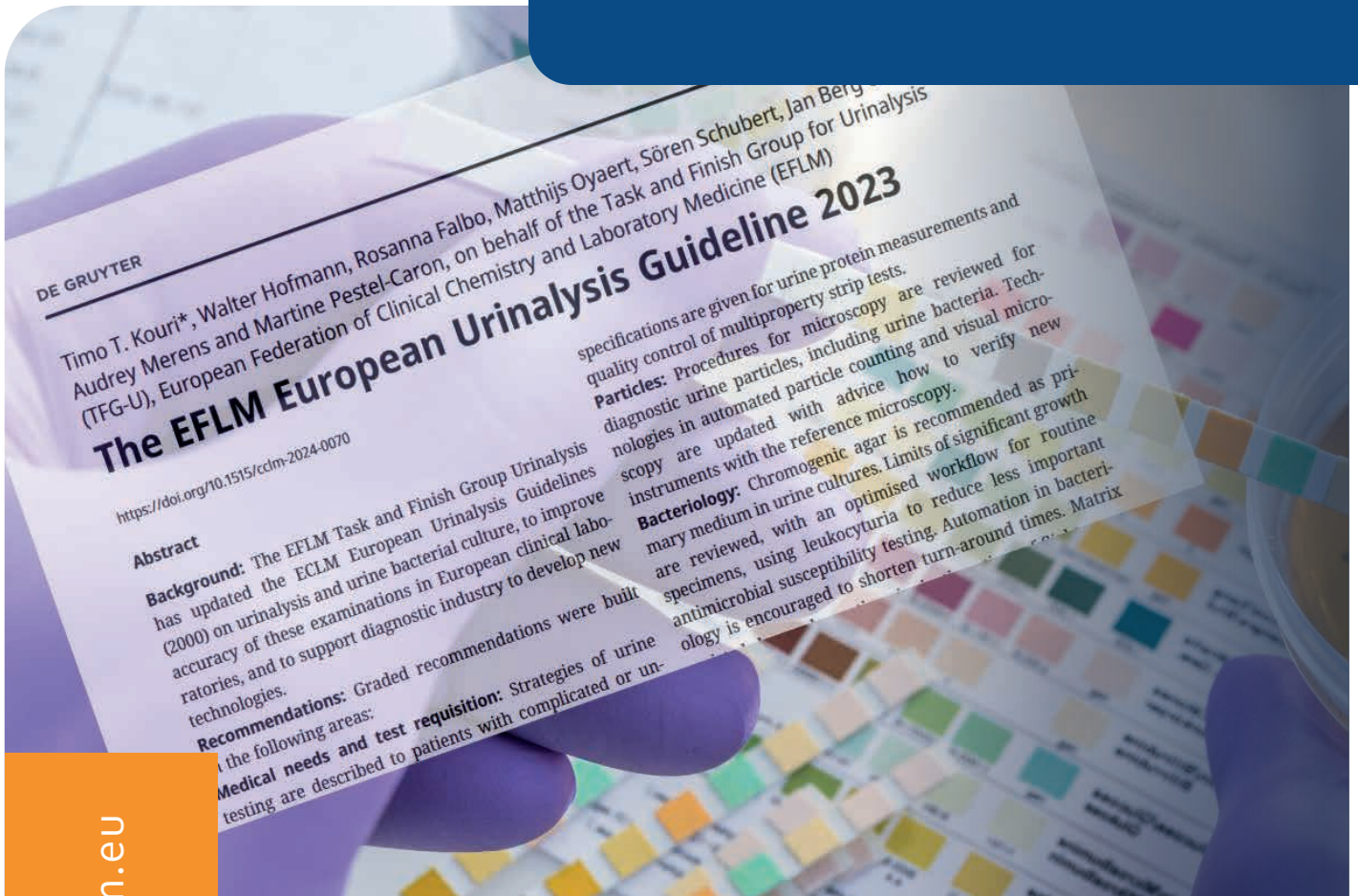


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July • August
2024

EuroLab News

THE EFLM BI-MONTHLY NEWSLETTER



www.eflm.eu

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Foreword

In this warm summer holiday season, the EFLM brings you another refreshing issue of the EuroLabNews. Mario Plebani, EFLM President, on behalf of the EFLM Executive Board informs us about the new EFLM European Urinalysis Guideline 2023. The first author Timo Kouri summarized the main message of the updated guideline published in a recent issue of the CCLM. From the EFLM Office, Silvia Cattaneo presents the EFLM Essentials, the all you need to know about the EFLM.

New members to the EFLM family are presented by Silvia Terragni of the EFLM Office. Evgenija Homsak, Chair EFLM Profession Committee, draws our attention to the EFLM Syllabus course with over 40 modules and 300 lectures available to all EFLM members on the EFLM website. Tomris Ozben, Chair EFLM Task Force Green and Sustainable Laboratories, reiterates the 4 simple actions to be a more sustainable and green laboratory. Nancy Larocca from Spain, share her dear and pleasant LabX training experience. Emeline Gemez, EFLM Young Scientist Member, reports on the experience of EFLM Young Scientists at the 26th IFCC-WorldLab International Congress in Dubai, UAE. Silvia Terragni, EFLM Office, enumerates the latest EFLM scientific papers published recently. A special hand to Guillermo Valesco de Cos, Young Scientist from the EFLM Young Scientists Task Group, for his superb infographics of the EFLM publication on the APS calculator. The Organizing Secretariat summarize the 42nd Vicenza Course AKI-CRRT-ECOS in Vicenza, Italy. Silvia Terragni, from the EFLM Office, announces the change of guard at the Portuguese Society of Clinical Chemistry, Genetics and Laboratory Medicine, Academy of Clinical Science and Laboratory Medicine in Ireland and the Order of Biochemists, Biologists and Chemists in the Romanian Health System. Under news from National Societies, the Spanish and the Finnish Societies presents their respective latest events. The IFCC corner showcases the global scene in laboratory medicine. Mark your calendar for a variety of upcoming EFLM events and conferences, among others, also the 4th EFLM Strategic Conference 2024 in Padova, Italy.



Reported by **Harjit Pal Bhattoa**,
Editor EFLM EuroLabNews

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The new EFLM European Urinalysis Guideline 2023

by Mario Plebani, EFLM President

I am delighted to announce that the EFLM Task and Finish Group Urinalysis (TFG-U) has completed the goal to update the European Urinalysis Guidelines (Scand J Clin Lab Invest 2000; 60, suppl 231: 1-96) with the aim to improve accuracy of these examinations in European clinical laboratories and to support the diagnostic industry to develop new technologies.

A special open-access issue of CCLM has been recently dedicated to this important EFLM outcome.

It was a huge work that started in 2018 by the EFLM Task & Finished Group "Urinalysis" under the great chairmanship of Timo Kouri, Dept of Clinical Chemistry, University of Helsinki and HUSLAB HUS Diagnostic Center, Hospital District of Helsinki and Uusimaa, Helsinki, Finland.

This guideline represents a good example interface between clinicians and laboratory specialists working together to provide quality care to patients. Therefore, I am inviting all interested laboratory professionals to carefully read the guideline and to apply it in clinical practice to improve the quality of care.

Our thanks go to Timo and his group composed of:

Representing: Bacteriology

- Jan Berg Gertsen, Dept of Clinical Microbiology, Aarhus University Hospital, Skejby, Denmark
- Audrey Merens, Service de Biologie Médicale, Hôpital d'Instruction des Armées Bégin, Saint Mandé, France
- Martine Pestel-Caron, Dept of Microbiology CHU Rouen, University Rouen Normandie INSERM, DYNAMICURE, Rouen, France
- Sören Schubert, Max von Pettenkofer-Institute for Hygiene and Med. Microb., Faculty of Medicine, Ludwig-Maximilians-University LMU, Munich, Germany

Timo T. Kouri*, Walter Hofmann, Rosanna Falbo, Matthijs Oyaert, Sören Schubert, Jan Berg Gertsen, Audrey Merens and Martine Pestel-Caron, on behalf of the Task and Finish Group for Urinalysis (TFG-U), European Federation of Clinical Chemistry and Laboratory Medicine (EFLM)

The EFLM European Urinalysis Guideline 2023

<https://doi.org/10.1515/cclm-2024-0070>

Abstract

Background: The EFLM Task and Finish Group Urinalysis has updated the EFLM European Urinalysis Guidelines (2000) on urinalysis and urine bacterial culture, to improve accuracy of these examinations in European clinical laboratories, and to support diagnostic industry to develop new technologies.

Recommendations: Graded recommendations were built in the following areas:

Medical needs and test requisition: Strategies of urine testing are described to patients with complicated or uncomplicated urinary tract infection (UTI), and high or low-risk to kidney disease.

Specimen collection: Patient preparation, and urine collection are supported with two quality indicators: contamination rate (cultures), and density of urine (chemistry, particles).

Chemistry: Measurements of both urine albumin and α -microglobulin are recommended for sensitive detection of kidney disease in high-risk patients. Performance

specifications are given for urine protein measurements and quality control of multiproperty strip tests.

Particles: Procedures for microscopy are reviewed for diagnostic urine particles, including urine bacteria. Technologies in automated particle counting and visual microscopy are updated with advice how to verify new instruments with the reference microscopy.

Bacteriology: Chromogenic agar is recommended as primary medium in urine cultures. Limits of significant growth are reviewed, with an optimised workflow for routine specimens, using leukocyturia to reduce less important antimicrobial susceptibility testing. Automation in bacteriology is encouraged to shorten turn-around times. Matrix assisted laser desorption ionization time-of-flight mass spectrometry is applicable for rapid identification of uropathogens. *Aerococcus urinae*, *A. sanguinicola* and *Actinotignum schaalii* are taken into the list of uropathogens. A reference examination procedure was developed for urine bacterial cultures.

Keywords: bacteriological techniques; kidney diseases; practice guideline; reference measurement procedures; urinalysis; urinary tract infections

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Representing: Particles

- Rosanna Falbo, Univ Dept of Laboratory Medicine, ASST Brianza, Pio XI Hospital, Desio, Italy
- Matthijs Oyaert, Dept of Laboratory Medicine, University Hospital Ghent, Ghent, Belgium
- (and Timo Kouri)

Representing: Chemistry

- Walter Hofmann, Synlab MVZ, Augsburg and Dachau, Germany
- (and Timo Kouri)

Our thanks go also to the IVD industry supporting this EFLM achievement.

After 20 years, the European Urinalysis Guidelines needed an update, now under the EFLM. An official endorsement by the ESCMID (European Society of Clinical Microbiology and Infectious Diseases) was obtained as before. Improvement of automated particle counting now allows screening strategies not only for urine particles, but also for samples remaining negative in urine cultures. Moreover, automation in bacteriology laboratories has taken huge steps to improve identification of species and shorten turn-around times of urine cultures. The current tools of specimen collection include standardised techniques and have started to improve preservation of samples, allowing regional laboratory workflows. Recommendations for standardisation of examinations and preanalytical processes now challenge clinical laboratory professionals to verify their local practices against the suggested reference procedures and preanalytical instructions with quality indicators. The strategy should include discussions on urinalysis tests also with the clinical customers to optimise costs and benefits of the requested tests and quality of instructed specimens.

The background of the EFLM European Urinalysis Guideline 2023, received comments and responses by the EFLM TFG-U are publicly shared in the Supplemental material to allow tracing the evidence and obtained professional correspondence (see <https://doi.org/10.1515/cclm-2024-0070>). The guideline was prepared into seven Sections from preanalytical to analytical phase, and interpretation of results, supported with two Annexes with detailed information. Out of these, a total of 65 recommendations were built and graded based on evidence. The numbered sections below refer to the those in the actual EFLM European Urinalysis Guideline 2023, containing links to each subsection and linked lists of Tables, Figures, and Recommendations.

Section 1, Medical needs and test requisition

Strategies of urine testing were described in Section 1, specifically to patients with complicated or uncomplicated urinary tract infection (UTI) (Figure 2), and those with high or low-risk to kidney disease (Figure 3).

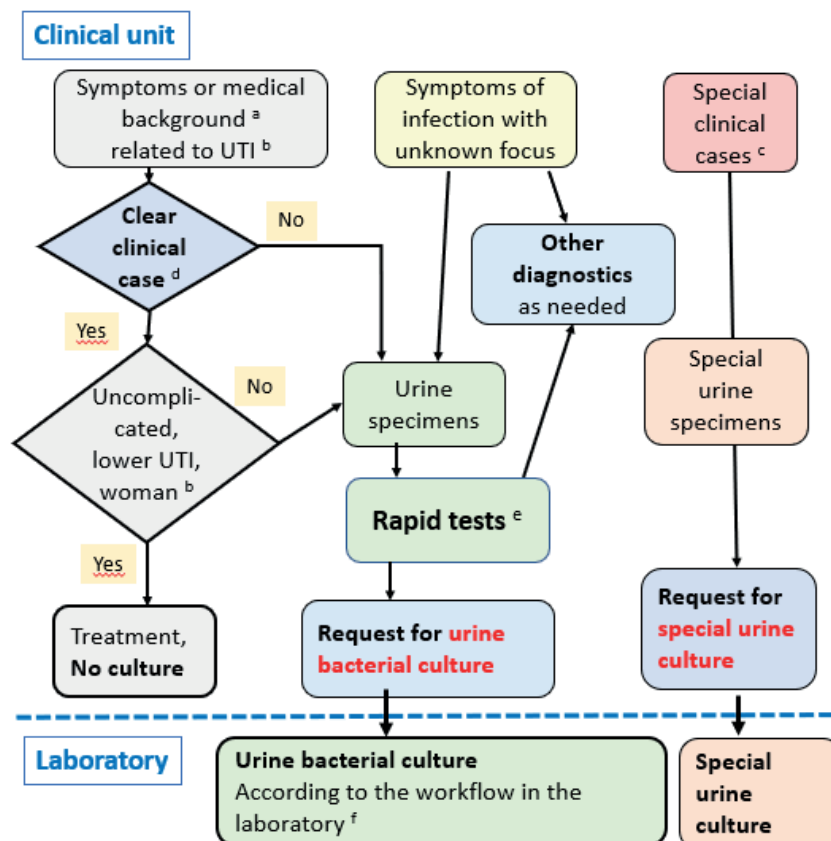


Figure 2. Urine examinations in suspicions of urinary tract infection. The figure divides the activities in a clinical unit and in a laboratory. Rapid tests may be organised locally in several ways depending on health care setting. Explanations to the footnotes: **a** Medical record known to predispose UTI (urinary tract infection) **b** Patient groups, see Section 7.1.2 and Table 32 **c** Special cases, see Section 1.2.1.2 **d** Application of the Acute Cystitis Symptoms Score, see Sections 1.2.1.1 and 7.1.1 **e** Rapid tests to detect leukocytes and bacteria to increase the probability of UTI, see Section 7.3.2 **f** Routine workflow in bacterial culture, see Section 7.5.2, and Figure 8

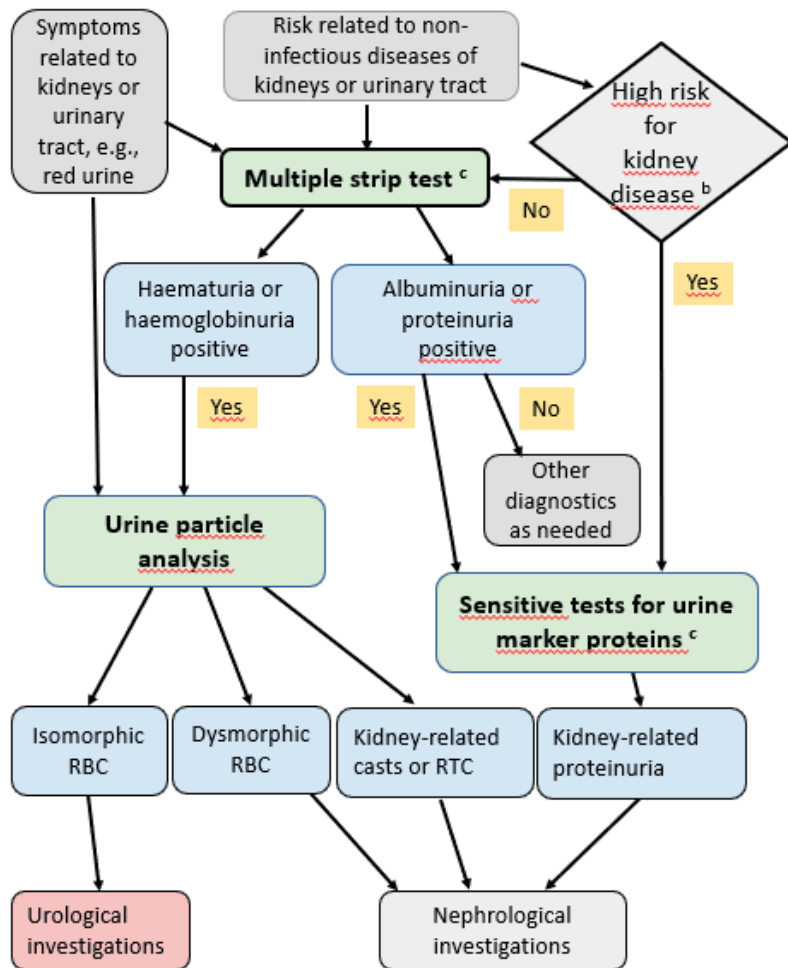


Figure 3. Urine examinations in suspicions of non-infectious disease of kidneys or urinary tract a.

The examinations differ depending on the presence of symptoms, and the level of risk to kidney disease in asymptomatic individuals. Explanations to the footnotes: a Urine specimens should be examined for the presence of non-infectious diseases of kidneys or urinary tract only after exclusion of a urinary tract infection to allow for correct interpretation of leukocyturia and haematuria.

b Patients with increased risk for chronic kidney disease include at least patients with diabetes and cardiovascular diseases, see Section 5.3.1.

c Details of multiple strip tests, see Section 5.2, those of protein markers, see Section 5.3 Concentrations of proteinuria markers should be given together with a measurement of volume rate, e.g., urine relative density together with a strip test result, or urine creatinine concentration with quantitative albumin or other specific protein measurement, see Section 5.4.

Sections 2-3, Patient preparation and Specimen collection

Patient preparation and urine collection were supported with quality indicators for contamination rate (a maximum permissible rate 15% of urine bacterial cultures) and density of urine (chemistry, particles; to assess concentrations against volume rate).

Section 4, Accuracy levels of urinalysis examinations

A description of accuracy levels for various examinations (including classification of particles or bacteria) was given to support clinical verification of instrumental or visual measurements, or nominal classifications, since a higher order of accuracy is needed to approach true values in comparisons of field methods (Section 4, Table 5).

Section 5, Chemistry

Measurements of both urine albumin and α 1-microglobulin were recommended for sensitive detection of kidney disease in high-risk patients, due to various types of proteinuria (Figure 4). Performance specifications and procedure advice were given for urine protein measurements, and multiproperty strip tests.

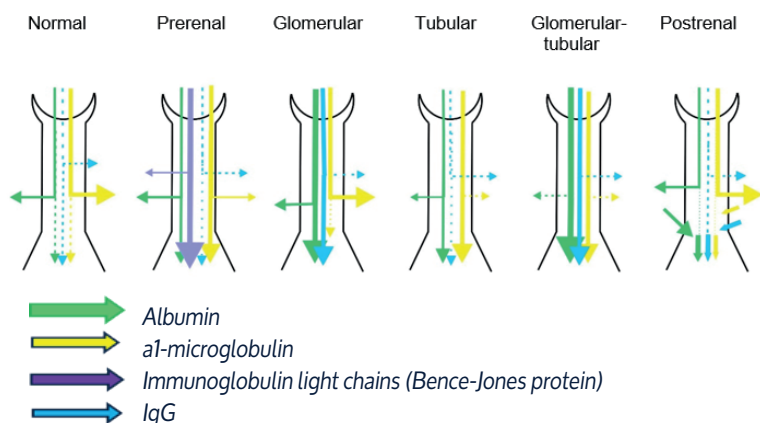


Figure 4. Graphical presentation of proteinuria types.

Schematic excretion of example proteins in the pathophysiological categories: Normal, prerenal, glomerular, tubular, mixed (glomerular + tubular), and postrenal proteinuria. The coloured arrows depict excretion of the given example proteins.

Section 6, Particles

Procedures for microscopy were reviewed for diagnostic urine particles, including urine bacteria. Technologies in automated particle counting and visual microscopy were updated with suggested verification procedure for new instruments. Clarification of different analytical limits in urine particle counting were given for performance evaluation (Figure 6). Also, a standardised procedure was described for assessment of dysmorphic haematuria.

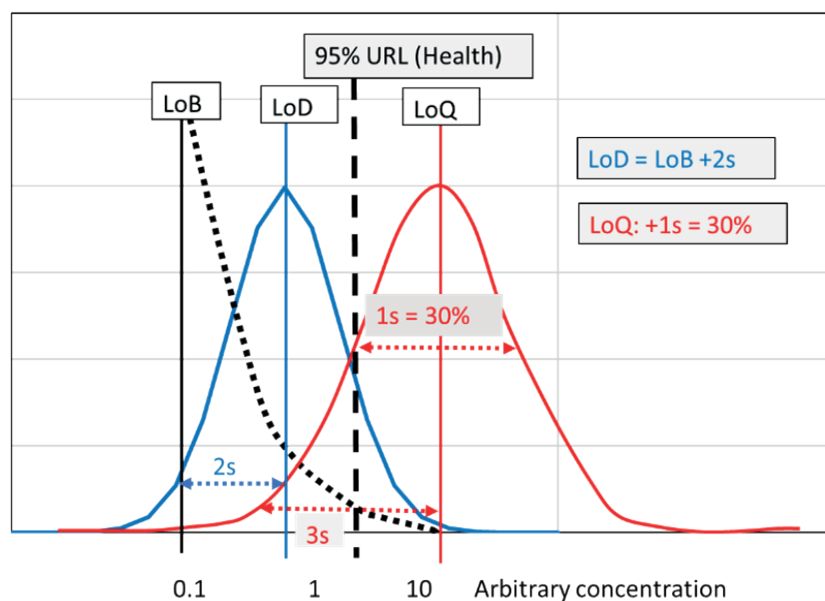


Figure 6. Schematic order of analytical limits in urine particle counting. A typical distribution of health-associated concentrations of urine particles is shown with a dashed line, with a 95% upper reference limit (URL). The baseline = Limit of Blank (LoB) needs to be confirmed in the method. Limit of Detection (LoD) is 2 standard deviations above LoB. Limit of Quantitation (LoQ) is at the concentration where the CV of analytical imprecision is 30%.

Section 7, Bacteriology

Chromogenic agar was recommended as primary medium in urine cultures. Limits of significant growth were optimised to standard workflow for routine specimens, using leukocyturia to reduce less important antimicrobial susceptibility testing (Figure 8). Automation in bacteriology was encouraged to shorten turn-around times. Matrix assisted laser desorption ionization time-of-flight mass-spectrometry is now available for rapid identification of uropathogens in larger laboratories. *Aerococcus urinae*, *A. sanguinicola* and *Actinotignum schaalii* were taken into the list of uropathogens. A reference examination procedure was developed for urine bacterial cultures.

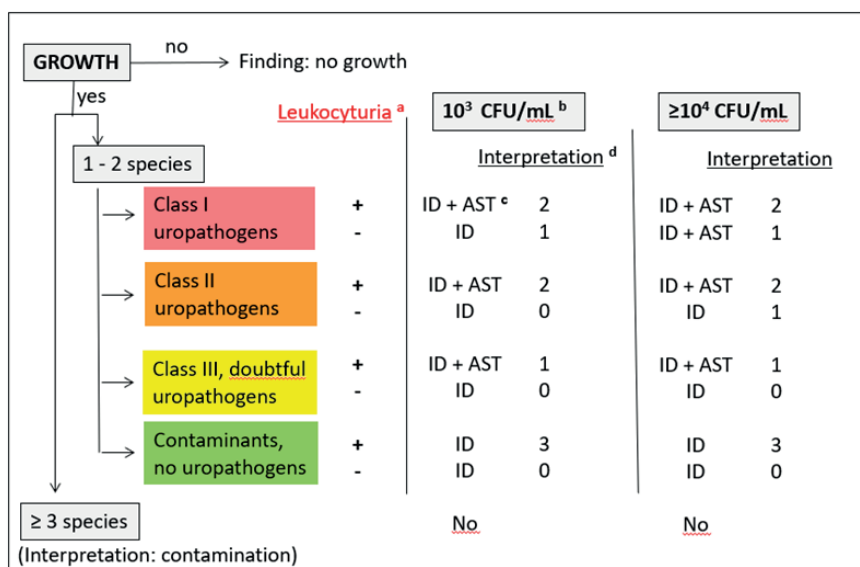


Figure 8. General workflow of primary bacterial cultures from routine urine specimens.

The Figure provides an outlook how to organise routine workflow of most urine cultures. Local adaptations or additional details may be considered as needed.

Explanations to the footnotes:

a Presence of leukocyturia at WBC > 30 x 10⁶/L, with a grey zone at 10-30 WBC x 10⁶/L (measured with particle counting or test strip, depending on health care setting).

b Limiting colony counts divide the process, expressed using the conventional colony-forming unit CFU/mL. Alternative SI units are colony-forming unit/L (UK recommendation), or colony-forming bacteria, CFB/L may be adopted after national decisions. 10³ CFU/mL (equal to 10⁶ CFB/L) represents a borderline quantity of significant growth in routine cultures.

c ID = identification to species level; AST, antimicrobial susceptibility test.

d Clinical interpretation codes 0-3 are explained further in the text.

New EFLM publication: EFLM ESSENTIALS, all you need to know about EFLM

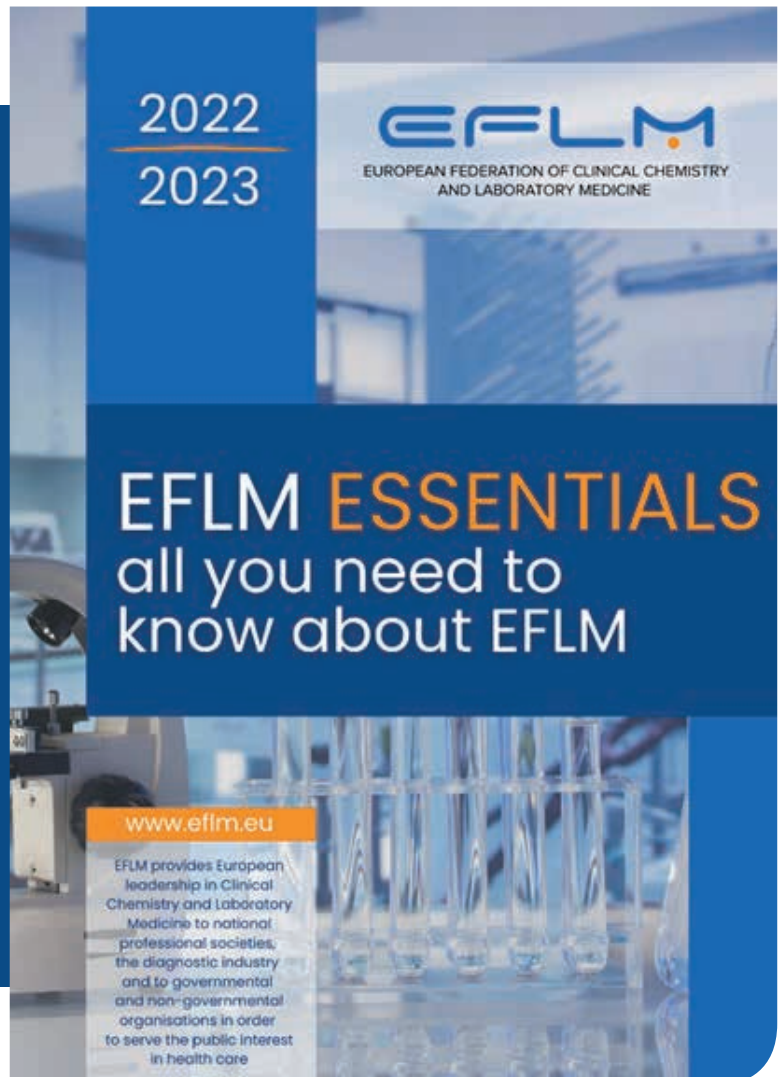
Reported by Silvia Cattaneo, EFLM Office

As per item 1.2 of the EFLM Strategic Plan 2022-2023, we are glad to inform you that a new EFLM publication “EFLM ESSENTIALS, all you need to know about EFLM” has been launched.

The aim of this publication is to recap the essential information covering the EFLM activities during the 2-year mandate of an EFLM President and Executive Board.

On the EFLM website has been recently published the guidebook covering the two-years term 2022-2023 under the EFLM Presidency of Prof. Tomris Ozben.

Enjoy the reading!



The EFLM family keeps growing!

Reported by Silvia Terragni, EFLM Office

The two last General Meetings, respectively held in November 2023 and June 2024, have expressed the willingness of having new Members on board. The applications received from National Societies and Companies have been unanimously approved.

EFLM OFFICE INFORMS

A warm welcome to the below new EFLM Members!

→ EFLM FULL MEMBER

- ASCLS - Azerbaijan Society of Clinical Laboratory Specialists

→ AFFILIATE MEMBER

- AEBM-ML - Spanish Association of Medical Biopathology-Clinical Laboratory Medicine

→ CORPORATE MEMBERS

- BD UK Limited
- Beckman Coulter Eurocenter S.A.
- Greiner Bio-One GmbH
- Shenzhen Mindray Bio-Medical Electronics Co.
- Qualab Biotech Co.
- Radiometer Medical ApS
- Roche Diagnostics
- Shenzhen New Industries Biomedical Engineering Co.

EFLM connects National Societies of Clinical Chemistry and Laboratory Medicine and creates a platform for all European "Specialists in Laboratory Medicine". EFLM provides European leadership in Clinical Chemistry and Laboratory Medicine to national professional societies, the diagnostic industry and to governmental and non-governmental organizations in order to serve the public interest in health care. Recently, A new EFLM leaflet has been produced to promote the benefits to be member of EFLM.

[Download the leaflet](#)



Available from: January 2022
Free course for EFLM Academy members

A top quality Revision Course designed by EFLM to increase the knowledge and exam confidence for postgraduate students.

The access to the course is an exclusive free opportunity for EFLM Academy Members. [Click here to know more about the EFLM Academy Membership.](#)

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NEWS FROM EFLM FUNCTIONAL UNITS

Take advantage of the EFLM Syllabus Course!

Reported by Evgenija Homšak,
Chair EFLM Profession Committee

The [EFLM Syllabus Course](#) is designed and produced by the members of the EFLM Task group for Syllabus course (TG-ESC), to support the harmonization of postgraduate education of specialists in laboratory medicine in Europe.

The course provides a series of highly educational lectures covering practical advice and useful tools for how to master a certain skill. Scope of the course corresponds to the European Syllabus (1), the key document for EFLM which represents the basis for the Common Training Framework for non-medical Specialists in Laboratory Medicine under EU Directive 2013/55/EU (The recognition of Professional Qualifications).

EFLM Syllabus course consists of more than 40 modules and over 300 lectures which cover all four main sections of the EFLM Syllabus:

- ✔ **Section A:** the generic knowledge, skills and competencies that need to be acquired during training.
- ✔ **Section B:** the specialist knowledge within each discipline.
- ✔ **Section C:** the skills and competencies required to carry out research, development and audit.
- ✔ **Section D:** leadership skills and competencies

Target Audience

This course is designed for postgraduate students, residents, young trainees and PhD students, and everyone else interested in laboratory medicine.

The aim of the Course

The aim of this top-quality revision course is to increase the knowledge and exam confidence for postgraduate students. It provides a comprehensive source of generic and specialist knowledge in laboratory medicine, to enable mastering necessary skills and competencies needed for the practice of laboratory medicine, as well as adopting leadership and management skills, which will empower the future specialists of laboratory medicine to work autonomously in complex environment of a clinical laboratory.

(1) Jassam N, Lake J, Dabrowska M, Queraltó J, Rizos D, Lichtinghagen R, Baum H, Ceriotti F, O'Mullane J, Homšak E, Charilaou C, Ohlson M, Rako I, Vitkus D, Kovac G, Verschuure P, Racek J, Chifriuc MC, Wieringa G. The European Federation of Clinical Chemistry and Laboratory Medicine syllabus for postgraduate education and training for Specialists in Laboratory Medicine: version 5 - 2018. *Clin Chem Lab Med* 2018;56(11):1846-63. doi: 10.1515/cclm-2018-0344. PMID: 29870392.

FOUR SIMPLE ACTIONS TO BE MORE SUSTAINABLE AND GREEN IN YOUR LABORATORY!

Section "Chemicals Management"

Does the laboratory purchase only the necessary amounts of chemicals instead of large amounts?

Do you use task lighting and modular lighting that follows modular laboratory furniture?

Section "Energy Management"

Section "Waste Management"

Do you negotiate with current suppliers to take back packaging?

Is reverse osmosis water used to feed the deionizing system when possible?

Section "Water Management"

NEWS FROM EFLM FUNCTIONAL UNITS

Four simple actions to be more sustainable and green in your laboratory!

Reported by Tomris Ozben, Chair of the EFLM Task Force "Green & Sustainable Laboratories"

In line with the goal of the [EFLM Task Force "Green & Sustainable Laboratories"](#), I have the pleasure to continue the column started in the previous issues of our newsletter: Four simple actions to be more sustainable and green in your laboratory!

In each issue of the newsletter, we will select 4 actions from each section of the checklist prepared by the EFLM TF-GSL members (Chemicals, Energy, Waste and Water) to start implementing the daily routine in your laboratories and getting familiar with the checklist.

The below actions are accompanied by a graphical leaflet that you can download and post in the notice board of your laboratory to be shared with your colleagues (in this case, please remember to use recycled paper).

The selected actions of this issue are:

Section "Hazardous Chemicals Management"

ACTION: Does the laboratory purchase only the necessary amounts of chemicals instead of large amounts?

Section "Energy Management"

ACTION: Do you use task lighting and modular lighting that follows modular laboratory furniture?

Section "Waste Management"

ACTION: Do you negotiate with current suppliers to take back packaging?

Section "Water Management"

ACTION: Is reverse osmosis water used to feed the deionizing system when possible?

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THE EFLM LABORATORY
EXCHANGE PROGRAMME

EFLMLABX CORNER

EFLM LabX Training Experience

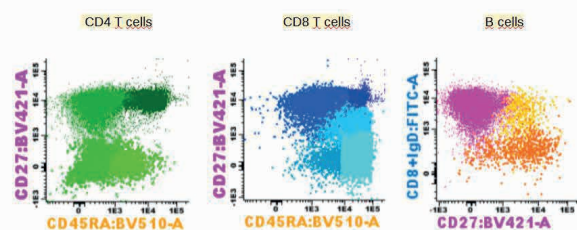
Reported by **Nancy LaroCCA**, Spain, EFLM bursary recipient



My name is Nancy, I'm a Clinical Analysis resident at Hospital Universitario A Coruña, Galicia, Spain. My training period at Laboratory of Immunology and Primary Immunodeficiencies at NOVA Medical School (Lisbon, Portugal) ended two weeks ago. This center has been involved since last years in the implementation of assays for the diagnosis and follow-up of patients with immune disorders, also establishing research projects that allow to increase our knowledge in the area of immunodeficiencies. From april to end june, I have learned the basis of flow cytometry and application of this technique in diagnosis of Primary Immunodeficiencies (PID), also called inborn errors of immunity that affect phenotype and/or function of one or more components of the immune system. Under the supervision of Professor Catarina Gregório Martins and her team of laboratory technicians (Maria Teresa Lopes and Miguel Dias), I acquired several skills in the execution and analysis of different protocols for the study of lymphocyte subpopulations, included quantitative and functional assays. Day after day, I was gaining knowledge in basic principles of flow cytometry, technology based in laser light to measure physical and chemical properties of single particles in suspension and then analyzed one by one by electronic system and gating strategy. Surface, intracellular, and intranuclear proteins can easily be evaluated, using monoclonal antibodies conjugated with fluorochromes, enabling both phenotypic and functional identification of specific cell populations and therefore facilitating the identification of a variety of Primary Immunodeficiencies. One of the most frequent methods used at lab is a PID Orientation tube (PIDOT), developed by EuroFlow consortium that facilitates fast, standardized, and validated immunophenotypic diagnosis of lymphoid PID, and allows full exchange of data between centers. The EuroFlow™ group has designed a set of 8-color antibody panels for the diagnosis, classification and follow-up of PID, using standardized

protocols for each panel to assure full technical standardization in 3-laser based cytometer (e.g. BD FACS Canto II™) which can be used in combination with novel Infinicyt™ analysis software in order to optimize immunophenotypic evaluation of immune cells. The use of a normal reference database helps to detect the involved cellular compartments and to orientate to further flow cytometry characterization panels or possible genetic defects. Using anticoagulated peripheral blood samples from patients with suspect of immunodeficiency, I learned how cytometer work and the importance of this tool in the field of immunology and study of cellular or humoral deficiencies. While genetic analysis provides a definitive diagnosis for PID, flow cytometry is necessary to confirm or establish the immune phenotype of a gene mutation. Furthermore, flow cytometry provides a rapid means to identify an immunological defect at a relatively low cost and represents a fast, robust, and sensitive approach that efficiently uncovers new immunopathological mechanisms underlying monogenic PIDs. Financial support from EFLM was very important for made this trainee experience. I feel deep gratitude for each word, for each resource available to me and for the professionally and personally assistance. I hope that in the near future, I can apply everything I have learned and contribute to the implementation of these techniques in the hospital where I have completed my training.

IMMUNOPHENOTYPIC EVALUATION WITH INFINICYT ANALYSIS SOFTWARE



EFLM YOUNG SCIENTISTS' CORNER

Experiences of EFLM Young Scientists at the 26th IFCC-WorldLab International Congress

Reported by **Emeline Gernez**,
EFLM Young Scientist Member



Overview of the Congress

The congress, organized under the auspices of the IFCC and in collaboration with the Arab Federation of Clinical Biology, attracted thousands of participants from diverse professional and geographical backgrounds.

The Young Scientists Forum, held on Sunday, was a highlight for us. The forum featured a series of engaging and informative presentations that addressed current challenges and innovations in our field. The opportunity to engage with young speakers and fellow attendees in an interactive setting was invaluable.

The opening ceremony featured a lecture by Professor Dennis Lo, a pioneer in molecular medicine, who spoke about circulating DNA and its applications. Professor Lo is acclaimed for his groundbreaking research on fetal DNA in maternal blood, which paved the way for non-invasive prenatal testing for chromosomal abnormalities. His revolutionary discoveries underscore the significance of circulating DNA not only in genetic disease screening but also in emerging fields like oncology.

Throughout the congress, a wide array of scientific sessions, symposia, and workshops covered topics across the spectrum of medical biology. The collaboration between IFCC and the UAE Genetic Diseases Association facilitated deep discussions on genetics and genetic diseases, a central theme of the congress. The abstract of Emeline about metabolomic approach in nitrous oxide intoxication was selected for an oral presentation within an "omics" session, moderated by Professors Sergio Bernardini and Hans Jacob.



It was with great honour that three members of the EFLM-YS were selected as recipients of IFCC scholarships to attend the 26th IFCC-WorldLab International Congress of Clinical Chemistry and Laboratory Medicine, alongside the Third Edition of the IFCC FORUM for Young Scientists. Taking place from May 26 to 30, 2024, in Dubai, this congress emerged as a pivotal platform for fostering scientific exchange, collaboration, and professional advancement.

Networking and Personal Connections

One of the most rewarding aspects of attending the congress was the opportunity to meet fellow Young Scientists and other professionals in person. Reconnecting with familiar faces and meeting new colleagues provided a different dimension to our professional relationships, one that virtual meetings cannot fully replicate. These face-to-face interactions fostered a sense of camaraderie and collaborative spirit that is vital for our professional and personal development.

Reflections and Future Aspirations

Attending the 26th IFCC-WorldLab International Congress was a transformative experience for us. It broadened our scientific horizons, enhanced our professional knowledge, and strengthened our connections within the global scientific community. The financial support from the IFCC made it possible for us to participate in this exceptional event, for which we are profoundly grateful.

The congress underscored the importance of in-person scientific meetings for fostering collaboration, innovation, and professional growth. We look forward to applying the knowledge and insights gained from this congress to our work and continuing to contribute to the field of clinical chemistry and laboratory medicine.



EFLM ACADEMY

EUROPEAN FEDERATION OF CLINICAL CHEMISTRY AND LABORATORY MEDICINE

HOW TO GET THE BEST FROM YOUR EFLM ACADEMY MEMBERSHIP

5 Easy Tips

Enjoy the video

Announcing EuLabDay 2024!

Reported by **Tara Rolić**, EFLM Task Group EuLabDay chair



Mark your calendars for November 5th, 2024, as we celebrate EuLabDay, a special event dedicated to promoting the vital role of the laboratory profession in healthcare. This day offers a unique opportunity to showcase the essential work of laboratory medicine professionals and engage with the community. We encourage you to plan and organize various activities within your laboratory to invite people of all ages to visit your laboratory. Show them who we are and what we do. It's a chance to spread awareness about our crucial contributions to healthcare and inspire the next generation of laboratory professionals. Start planning your activities this summer to make EuLabDay an unforgettable experience. Let's come together to highlight the significance of laboratory medicine and share our passion for this important field. [Stay tuned for more details and ideas on how to make EuLabDay a success!](#)

EUROMEDLAB BRUSSELS 2025
May 18-22, 2025

Ifcc International Federation of Clinical Chemistry and Laboratory Medicine
EFLM EUROPEAN FEDERATION OF CLINICAL CHEMISTRY AND LABORATORY MEDICINE
RBSLM

Save the date: 18-22 May 2025



New EFLM publications have been produced by EFLM functional units!

UPDATES ON EFLM PUBLICATIONS

New EFLM scientific papers have been published!

Reported by **Silvia Terragni**, EFLM Office

The EFLM Office is happy to announce the most recent published EFLM papers:

The biological variation of insulin resistance markers: data from the European Biological Variation Study (EuBIVAS)

Carobene A, Kilpatrick E, Bartlett A. W, Fernandez Calle P, Coskun A, Diaz-Garzon J, Jonker N, Locatelli M, Sandberg S, Aarsand K. A, on behalf of the European Federation of Clinical Chemistry and Laboratory Medicine Working Group on Biological Variation
[Clin Chem Lab Med 2024](#)

A standard to report biological variation data studies – based on an expert opinion

Bartlett WA, Sandberg S, Carobene A, Fernandez-Calle P, Diaz-Garzon J, Coskun A, Jonker N, Galior K, Gonzales-Lao E, Moreno-Parro I, Sufrate-Vergara B, Webster C, Itkonen O, Marques-Garcia F, Aarsand AK, on behalf of the European Federation of Clinical Chemistry and Laboratory Medicine Task Group for the Biological Variation Database, and Biological Variation Working Group
[Clin Chem Lab Med 2024](#)

Outcome-based analytical performance specifications: current status and future challenges

Horvath A. R, Bell J.L. K, Ceriotti F, Jones R.D. G, Loh Tze P, Lord S, Sandberg S, on behalf of the European Federation of Clinical Chemistry and Laboratory Medicine Task Group Analytical Performance Specifications based on Outcomes
[Clin Chem Lab Med 2024](#)

Applying the Milan models to setting analytical performance specifications – considering all the information

Jones R.D. G, Bell J.L. K, Ceriotti F, Loh T. P, Lord S, Sandberg S, Smith F. A, Horvath A. R, on behalf of the European Federation of Clinical Chemistry and Laboratory Medicine Task Group Analytical Performance Specifications based on Outcomes
[Clin Chem Lab Med 2024](#)

The EFLM European Urinalysis Guideline 2023

Kouri T, Hofmann W, Falbo R, Oyaert M, Schubert S, Gertsen J, Merens A, Pestel-Caron M, on behalf of the Task and Finish Group for Urinalysis (TFG-U), European Federation of Clinical Chemistry and Laboratory Medicine (EFLM)
[Clin Chem Lab Med 2024](#)

UPDATES ON EFLM PUBLICATIONS

Infographics: APS calculator: a data-driven tool for setting outcome-based analytical performance specifications for measurement uncertainty using specific clinical requirements and population data

Prepared by **Guillermo Velasco de Cos**,
EFLM Task Group Young Scientist member

ISO 15189 in its 2022 version established that the quality specifications that laboratories adopt for analytical techniques must be related to the use that these techniques will have and the impact they will have on patient care.

At present, it is difficult for a laboratory to adapt its specifications to its way of working, which makes it necessary to develop new models to overcome this limitation. The calculator presented in this infographic allows us to adapt the quality specifications to the measurement uncertainty of the technique according to the clinical decision limits adopted by each laboratory.

This new tool will help us to adapt the selected quality specifications for triglycerides, glucose, hemoglobin, folate, HDL and total cholesterol. Only the analytical data of the population on which the method will be used and the clinical decision limits used in our laboratory are required to use it.

The new approach overcomes some of the limitations of the models adopted in the Milan consensus, such as the heterogeneity of the laboratories and populations on which the quality specifications are applied.

Using the tool for the parameters for which it is available allows the laboratory to use a quality specification tailored to its reference population, overcoming some of the limitations associated with the Milan consensus models.

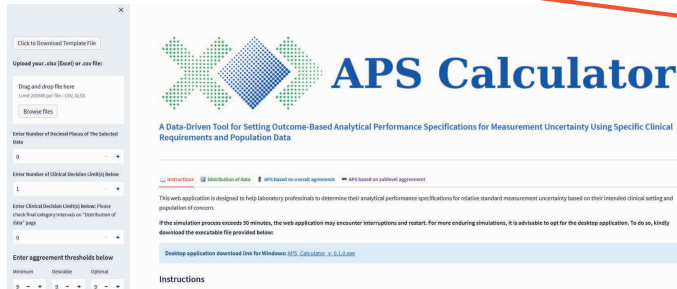
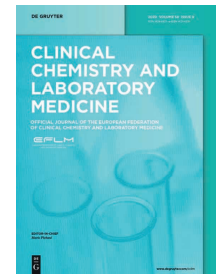
See infographics in the next page

APS calculator: a data-driven tool for setting outcome-based analytical performance specifications for measurement uncertainty using specific clinical requirements and population data

Hikmet Can Çubukçu, Florent Vanstapel, Marc Thelen, Marith van Schroyen Lantman, Francisco A. Bernabeu-Andreu, Pika Meško Brguljan, Neda Milinkovic, Solveig Linko, Mauro Panteghini and Guilaine Boursier

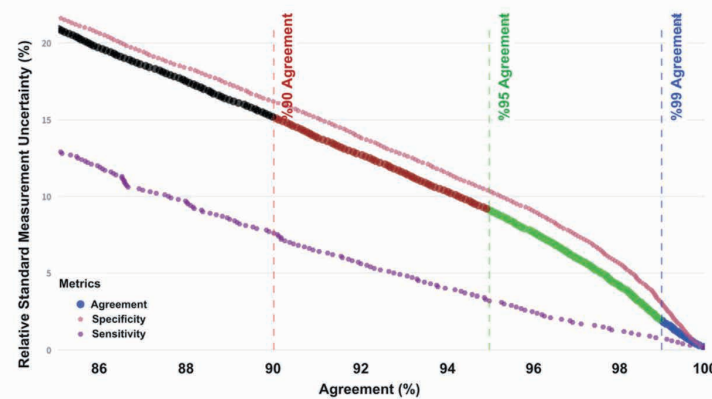
on behalf of the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM) Working Group Accreditation, ISO/CEN Standards (WG-A/ISO)

Available at: <https://doi.org/10.1515/cclm-2023-0740>



ISO 15189:2022 standard section 7.3.1 sub-section (b) states that: **“The performance specifications for each examination method shall relate to the intended use of that examination and its impact on patient care.”**

The APS calculator helps to: **determine analytical performance specifications for relative standard measurement uncertainty based on their intended clinical setting and population of concern**



A new tool has been developed that can facilitate the choice of analytical performance specifications (APS).

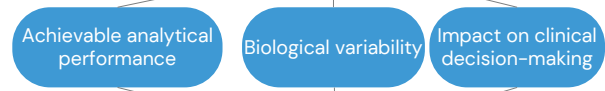
Scan this QR code



<https://hikmetc-apscalculator.streamlit.app/>

You can access the tool free of charge through the following link and QR code.

According to the Milan consensus, analytical quality specifications are based on three models



The web application enables to calculate APS using

- Available for
- Fasting glucose
 - Hemoglobin
 - Total cholesterol
 - HDL cholesterol
 - Triglycerides
 - Total folate
- Selected agreement thresholds
- Data of a population of concern

Clinical decision limits

The model has certain limitations

Measurand	APS using previously published studies		APS using this tool	
	Desirable	Minimum	Desirable	Minimum
Fasting glucose	2.0	3.0	1.4	3.0
Hemoglobin	2.8	4.2	5.6	8.5
Total cholesterol	3.0	7.0	2.3	4.8
HDL Cholesterol	2.8	4.3	2.9	5.6
Total folate	8.0	12.0	7.6	14.8

The application allows for the establishment of APS when no direct or indirect outcome studies are available to establish APS.

Limitations

- Different laboratories work with different populations and different clinical decision limits.
- The utility of large amount of real-life laboratory data can help to establish more generalizable APS.

Conclusion

- APS calculator offers a flexible tool for laboratory professionals to calculate APS for MU.
- It uses chosen decision limits and agreement thresholds, and the data of the population of interest.

NEWS FROM EVENTS UNDER EFLM AUSPICES

42nd Vicenza Course AKI – CRRT – ECOS and Critical Care Nephrology Vicenza (Italy), June 11-13, 2024

Reported by the **Organizing
Secretariat**, NPS Events

In the 2024 edition of the course, special attention was placed on the new developments in the areas of technology, pharmacology, clinical trials and consensus definitions in critical care nephrology and related therapies. The scope of the course was to offer the most updated information on scientific advances and breakthrough technologies, together with basic concepts and practical hands-on instructions for beginners and advanced users. The final intent was to improve knowledge and skills in the area of Acute Kidney Injury and related diagnostic procedures and therapeutic strategies including new pharmacological options and new extracorporeal therapies. The program was structured as a series of sessions designed to enable the attendees to explore in depth the topics where new evidence exists. The scientific program was integrated by industry sponsored symposia and meet the expert

sessions. The course took place at the Vicenza Convention Center (VICC). Topics related to the multidisciplinary field of critical care nephrology represented the main content of the course; among them: AKI in different pathological conditions, diagnosis, pathophysiology, prevention and therapeutic strategies; biomarkers and other diagnostic techniques; Sepsis and related mechanisms including viral, bacterial and other infections; indications and timing for RRT, modalities of RRT, dose and prescription, membranes and sorbents, outcome measures, information communication technology related to healthcare and critical care nephrology, results of the nomenclature and other consensus conferences proposed by ADQI. In particular, we focused on end points for new clinical trials and on healthcare disparities, gender-related issues and green medicine with special attention to sustainable and environment-friendly therapies

*421 delegates from
44 countries*

Delegates' specialties: Intensive Care Medicine, Anesthesiology, Cardiac Surgery, Cardiology, Internal Medicine, Nephrology, Paediatrics, Biology, Nurse

Website: www.irriv.com



Changing of the guard in EFLM National Societies

Reported by **Silvia Terragni**, EFLM Office

A warm welcome to the new incoming National Society officers and a great thank you to the outgoing EFLM National Representatives and National Society Presidents for the support to EFLM activities during their terms of office.

Academy of Clinical Science and Laboratory Medicine (ACSLM)

Dr. Sinead Creagh (Laboratory Manager in Cork University Hospital) is the new National Society President of the Academy of Clinical Science and Laboratory Medicine (ACSLM) in Ireland, replacing Dr. Bernadette Jackson.

Kosova Association of Clinical Chemistry (KACC)

Dr. Gramos Begolli (University Clinical Centre of Kosovo, Prishtina) is the new National Society President of the Kosova Association of Clinical Chemistry, replacing Dr. Shemsi Veseli. While, Prof. Valdete Haxhibeqiri (Clinic of Medical Biochemistry, University Clinical Centre of Kosovo, Prishtina) will cover the role as new EFLM National Representative replacing Dr. Begolli.

Portuguese Society of Clinical Chemistry, Genetics and Laboratory Medicine (SPML)

Professor Cristina Marques (Faculty of Pharmacy of the University of Lisbon) is the new National Society President of the Portuguese Society of Clinical Chemistry, Genetics and Laboratory Medicine, replacing Dr. João Faro Viana.

Order of Biochemists, Biologists and Chemists in the Romanian Health System (OBBCRS)

Dr. Cristina Ivan is the new EFLM National Representative of the Order of Biochemists, Biologists and Chemists in the Romanian Health System (OBBCRS), replacing Ms. Dorina Popa.

EFLM

EUROPEAN FEDERATION OF CLINICAL CHEMISTRY
AND LABORATORY MEDICINE

EFLM Strategic Conference 2024

A Vision to the future: value-based laboratory medicine



A maximum of 13 CPECS® credits can be awarded

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Each delegate interested in getting the CPECS® credits must sign in and out on an appropriate register available at the Registration Desk on site for each attended session. To get CPECS® credits, it is mandatory that participants attend at least the 75% of each session.



Forthcoming EFLM webinars

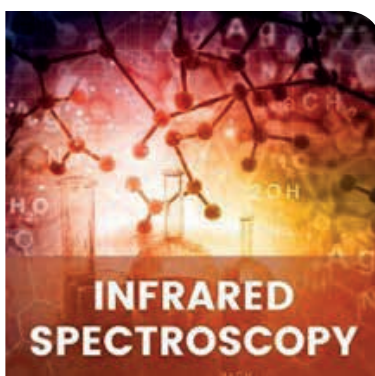
Reported by **Tara Rolić**, EFLM WG-Promotion & Publications Member

Looking ahead, the EFLM is set to continue its webinar series with topics that promise to enrich the knowledge of professionals in the field.



Third EFLM Meet the Expert Webinar (5 September 2024)

with Etienne Cavalier from Belgium on the topic " Interpretation of laboratory results on kidney function"



Infrared Spectroscopy in the Modern Clinical Laboratory: A spectrum of opportunities (17 September 2024):

Sander De Bruyne will cover the applications of infrared spectroscopy in clinical laboratories, providing a spectrum of opportunities for innovation.



Post analytical procedures

(3 October 2024):

Jasna Leniček Krleža and Vladimira Rimac from Croatia will describe and explain the quality requirements for the post-analytical procedures according to ISO 15189:2022.

These webinars are designed to provide attendees with the latest knowledge and practical skills to apply in their professional practice. Stay tuned for these enriching educational experiences. Webinars are free for the EFLM Academy members!



PAST EFLM EVENTS

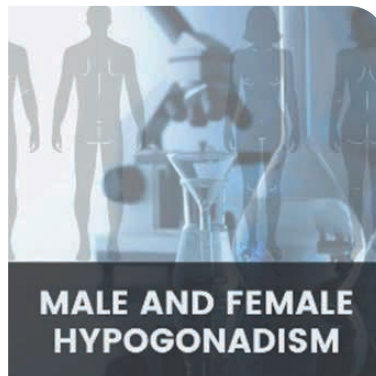
Past EFLM webinars

Reported by **Tara Rolić**,
EFLM WG-Promotion &
Publications Member

This June and July, the EFLM e-learning platform offered EFLM Academy members the chance to attend live webinars and participate in interactive Q&A sessions on the following topics:



Pharmacogenomics and Therapeutic Drugs (4 June 2024): Fernando Marqués-García delved into the basics of pharmacogenomics and its significance in individual responses to therapeutic drugs.



Laboratory Workup of Hypogonadism (18 June 2024): Per Medbøe Thorsby outlined hypogonadism in both males and females, emphasizing the laboratory's crucial role in diagnosis.



Middleware in Laboratory Medicine (23 July 2024): Sanja Mandić explored the potential of middleware in analyzing thyroid hormones and its impact on laboratory reporting.

These webinars are crafted to equip attendees with the latest knowledge and practical skills for their professional practice. Don't miss out on these enriching educational opportunities – listen on demand exclusively on the EFLM e-learning platform.



NEWS FROM EFLM NATIONAL SOCIETIES

SEQCML reinforces communication and clinical management skills of future Laboratory Medicine specialists

SEQCML
Sociedad Española de Medicina de Laboratorio

The Spanish Society of Laboratory Medicine (SEQCML) organized the first R4 Residents Conference: Management and Leadership in Laboratory Medicine, which was held on June 6 and 7 in Toledo (Spain). The purpose of the conference was for future generations of Laboratory Medicine specialists to acquire advanced knowledge of management, quality, and leadership of multidisciplinary teams, skills as important as mastering the most technical subjects of the specialty.

According to the course coordinator and member of the SEQCML Board of Directors, Dr. Josep Miquel Bauçà, one of the objectives of the conference was to organize a wide-ranging course that would focus on those topics relevant to future specialists, but which are insufficiently addressed during the residency period. Thus, the more than 80 attendees were able to learn practical knowledge about public procurement, communication and negotiation skills, and even how to do a job interview. "They were also able to learn the point of view of in vitro diagnostic companies on their role in the future of the Clinical Laboratory."

As pointed out by the member of the SEQCML Board of Directors, the aim was for the conferences to have a double focus as a shared training experience, "in order to promote a climate in which final year residents could share their concerns, debate among themselves and, ultimately, have closer contact during their last months of training."

Generational turnover

The importance of training and guiding new generations of Laboratory Medicine specialists was another of the key points of the day. In the words of Dr. Bauçà, day-to-day life in the Clinical Laboratory requires more than mastery of the most scientific subjects: "Advanced knowledge of management, quality, and the leadership of multidisciplinary teams is necessary. The session's practical approach toward these subjects will allow the students to apply the knowledge acquired throughout their career as specialists."

Given the success of the conference, the SEQCML believes that it would be desirable to hold new editions in the coming years for residents who are about to finish their residency, so that they are valued as training gatherings or a meeting place between professionals with the same concerns. In the opinion of Dr. Bauçà, "this first edition has allowed us to see the need for training residents in soft skills and clinical management. Future conferences should focus on the highest rated elements of the current edition."

NEWS FROM EFLM NATIONAL SOCIETIES

Postgraduate Course "Biostatistics" Helsinki, Finland

Reported by Finnish Society of Clinical Chemistry



Finnish Society of Clinical Chemistry had the honor to host EFLM Postgraduate course on Biostatistics in Helsinki, Finland on 16-17 May 2024. Course was organized at Helsinki Makasiini Event venue in Clarion Hotel Helsinki situated along the waterfront. The location allowed us to enjoy the sun and beautiful maritime scenery during the breaks.

Excellent lecturer MD, PhD Matteo Vidali from Milan, Italy shared his broad expertise in biostatistics and guided course participants from the basics to more advanced topics. Mastering essential statistics is an important skill in laboratory medicine. Dr. Vidali's numerous examples were related to practical cases, thus, making it easy to utilize education later on.

This event was already the second time when the Finnish Society of Clinical Chemistry is hosting a biostatistics course. Due to the great popularity of the first course held in 2019, society has been interested in to reorganize the event. Once again course participants were very pleased to the contents of the lectures. On behalf of the society, we would like to thank both EFLM and Dr. Vidali of this great possibility and professional education. We warmly recommend the course for other societies and EFLM members.

IFCC NEWS



Dear Colleagues, Dear Friends,
On behalf of the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC), and as the Congress President, I would like to express my heartfelt gratitude to all those who contributed to the 26th International Congress of Clinical Chemistry and Laboratory Medicine (ICCCLM) - IFCC WorldLab Congress, which was successfully held at the Dubai World Trade Centre (DWTC) from May 26 to May 30, 2024. The WorldLab Congress Dubai was organized jointly with the 17th Congress of the Arab Federation of Clinical Biology (AFCB), the 10th Annual Meeting of the Saudi Society for Clinical Chemistry (SSCC), and the 8th International and United Arab Emirates (UAE) Genetic Disorders Conference in partnership with MZ Events.

The WorldLab Congress brought together scientists, researchers, clinicians, and experts from the in vitro diagnostics industry for a rewarding five-day experience of scientific exploration and education.

I would like to share some brief statistical data about the Congress: 2,045 delegates from 107 nations, 1,700 visitors, 255 faculty members, 600 exhibitors' staff, and 39 companies, occupying 1,100 sqm of exhibition area, attended the Congress.

Preceding the main Congress, the 3rd IFCC FORUM for Young Scientists was organized. The Forum was a resounding success, featuring many young scientists (YS) as speakers and moderators.

Prof. Dr Tomris Ozben

EuSpLM, Ph.D., Full Professor of Clinical Biochemistry
IFCC, President
WorldLab Dubai 2024, Congress President

[Click here to read the full article](#)

Are You the Next Winner?

The recently announced 2024 UNIVANTS of Healthcare Excellence award winners highlight what can be achieved when laboratory medicine collaborates with cross-disciplinary teams. To learn about these best practices, visit the UNIVANTS webpage. If you and/or your integrated team are achieving measurable better healthcare outcomes, now is the time to apply. Applications for the 2025 UNIVANTS of Healthcare Excellence award program open today (Aug 1st). To submit your free application and/or learn more about the award program, please visit www.UnivantsHCE.com.



RESEARCH FUNDING AVAILABLE

CALL FOR OUTCOME STUDY PROPOSALS

IFCC's Task Force on Outcome Studies in Laboratory Medicine (TF-OSLM) is seeking research proposals for studies evaluating the impact of laboratory testing on healthcare outcomes.

Study proposals should seek to evaluate the clinical effectiveness and impact of new and/or commonly available medical laboratory tests and/or laboratory information on patient care outcomes in clinical practice. It is crucial for the proposed study to link the laboratory testing insights to patient management, and improvements/changes in clinical outcomes (see below for details).

If you, in collaboration with your clinical colleagues are interested in applying please click [here](#) for full eligibility criteria and details on how to apply.

Applications are due by October 1, 2024

**DON'T MISS YOUR CHANCE TO DEMONSTRATE
THE VALUE OF LABORATORY MEDICINE!!**

Calendar of EFLM events and events under EFLM auspices

Do not miss the opportunity to have your event listed here.

Apply for EFLM auspices!

For more information visit here or email eflm@eflm.eu



EFLM Meet the Expert - Interpretation of Laboratory results
Interpretation of Laboratory results on kidney function
on-line, 5 September 2024



Modern Times in Laboratory Medicine
SSCC/SGKC Annual Assembly 2024
Zurich (CH), 4-6 September 2024



XVII Baltic Congress of Laboratory Medicine
Vilnius (LT), 5-7 September 2024



XXIII Serbian Congress of Medical Biochemistry and Laboratory Medicine with international participation
Belgrade (RS), 16-18 September 2024



EFLM Webinar
Infrared Spectroscopy in the Modern Clinical Laboratory: A spectrum of opportunities
on-line, 17 September 2024



39th Nordic Congress in Clinical Chemistry
Stockholm (SE), 17-20 September 2024



4th EFLM Strategic Conference
A Vision to the future: value-based laboratory medicine
Padua (IT), 23-24 September 2024



Cardiac Marker Dialogues: Cardiac Biomarkers in Real Time - experiences and opportunities
Glasgow (UK), 26-27 September 2024



XVI Bulgarian National Conference of Clinical Laboratory
Varna (BG), 27-29 September 2024



EFLM Webinar
Post analytical procedures
on-line, 3 October 2024



XV Congress of Slovak Society of Clinical Biochemistry
Demänovská Dolina, Low Tatras (SK), 6-8 October 2024



EFLM Webinar

Global coagulation testing - Global fibrinolysis testing

on-line, 8 October 2024



7èmes JFBM - Journées Francophones de Biologie Médicale

Troyes (FR), 9-11 October 2024



11th Congress of the Croatian Society of Medical Biochemistry and Laboratory Medicine with International Participation

Vodice (HR), 9-12 October 2024



EFLM Webinar

Web based Clinical Decision support tools

on-line, 17 October 2024



EFLM Webinar

Hydrogen and methane breath tests in the service of the Gastroenterology

on-line, 29 October 2024



Joint Congress of XXXI Meeting of the Balkan Clinical Laboratory Federation (BCLF 2024) and 35th National Biochemistry Congress of TBS

Antalya (TR), 27-30 October 2024



IV Meeting on External Quality Assurance Programs

Barcelona (ES), 6 November 2024



EFLM Meet the Expert - Interpretation of Laboratory results

M-protein diagnostics: analysis and interpretation of protein electrophoresis of serum, urine and cerebrospinal fluid

on-line, 7 November 2024



ACBI Annual Conference

Athlone (IE), 8-9 November 2024



IFCC Scientific Division Satellite Meeting and 22nd National Congress of the Greek Society of Clinical Chemistry Joint Meeting on Mass Spectrometry in the Clinical Laboratory

Athens (GR), 8-10 November 2024



Annual Meeting of the RBSLM 2024

Brussels (BE), 14-15 November 2024



Evaluating and monitoring analytical quality in the traceability era

Bydgoszcz (PL), 29 November 2024

