

EHA REPORT

European Hematology Exam 2024

European Hematology Association

1. The Exam

Introduction

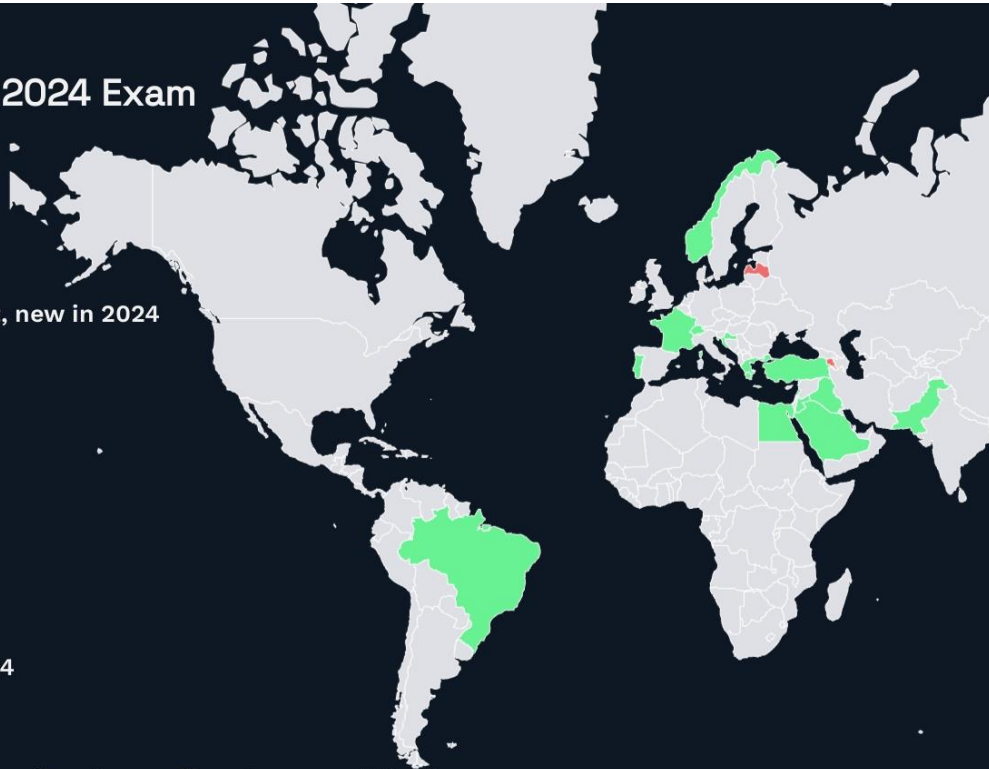
The eighth edition of the European Hematology Exam took place on June 13, 2024. In total, 244 candidates took the exam this year. EHA welcomed 109 of them at the main session at the EHA2024 Congress in Madrid, Spain. In parallel with the main session, national hematology societies from 14 countries organized an exam session for candidates residing in their countries, which resulted in 135 candidates taking the exam at these local sessions. The main exam session and the parallel local sessions took place simultaneously.

Countries that hosted the 2024 Exam

- Brazil - São Paolo, new in 2024
- Croatia - Zagreb
- Egypt - Cairo
- France - Le Chesnay Rocquencourt, new in 2024
- Greece - Athens
- Iraq - Baghdad
- Jordan - Amman
- Lebanon - Beirut, new in 2024
- Norway - Oslo, new in 2024
- Pakistan - Rawalpindi, new in 2024
- Portugal - Lisbon
- Saudi Arabia - Riyadh
- Switzerland - Bern
- Türkiye - Istanbul

Sessions offered - no registrations

- Armenia - Yerevan
- Lithuania - Vilnius



Overview of the parallel sessions that were organized worldwide.

Furthermore, a session was organized in Estonia (Tallinn), but did not take place due to an attendance issue.

Format

The exam consists of 100 multiple choice questions testing the candidates' knowledge in all eight sections of the [European Hematology Curriculum](#). The exam must be completed in 2,5 hours. The strength of this method is that it allows testing of a large sample size of items within a limited time, as well as the assessment of knowledge in several areas with high reproducibility. Moreover, it can be used in a web-based format with automatic objective correcting and scoring.

Candidates

For the parallel sessions, only candidates residing in the countries hosting an exam were eligible to participate. *Table 1* shows the number of candidates at the parallel exam locations. The main exam session took place in Madrid, Spain, at the EHA Hybrid Congress, and accommodated candidates from various countries (*Table 2*).

Table 1: Number of candidates per location (exam location = country of residence)

Country	Nr
Brazil	7
Croatia	1
Egypt	12
France	9
Greece	10
Iraq	15
Jordan	6
Lebanon	8
Norway	2
Pakistan	14
Portugal	7
Saudi Arabia	13
Switzerland	15
Türkiye	16
Grand Total	135

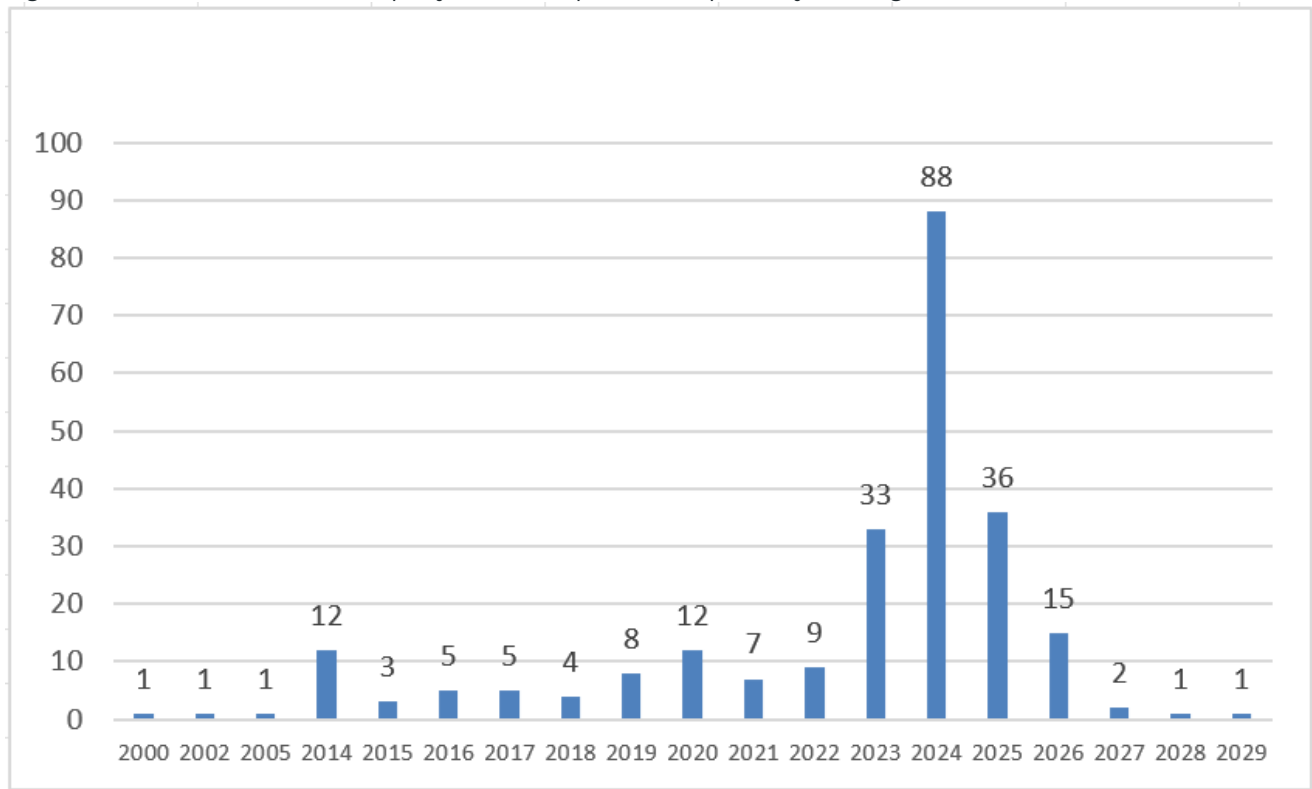
Table 2: Country of residence of the candidates, who took the exam at the main session (EHA2024 Congress in Madrid)

Country	Nr
Australia	2
Bahrain	1
Belgium	3
Brazil	1
Bulgaria	5
Croatia	1
Egypt	1
Estonia	1
France	3
Germany	3
Greece	7
Hungary	1
India	1
Iran	1
Ireland	1
Italy	1
Kazakhstan	1

Lithuania	1
Nigeria	1
Norway	1
Pakistan	1
Portugal	12
Qatar	1
Romania	6
Saudi Arabia	3
Slovenia	3
Spain	19
Sweden	3
Switzerland	9
Türkiye	7
Ukraine	1
United Kingdom	7
Total	109

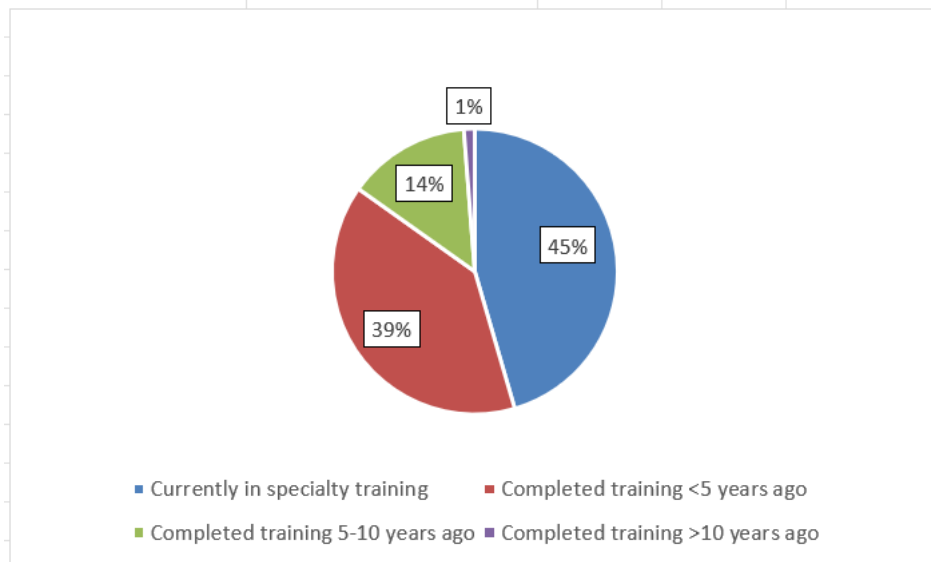
The exam targets hematologists who have recently completed their specialty training. Figures 1a and 1b illustrate that this group constitutes the majority of the participants. Nonetheless, hematologists in the midst of their careers, as well as those at a senior level, along with junior hematology residents, also show interest in evaluating their knowledge.

Figure 1a: Number of candidates per year of completion of speciality training



“Very relevant. I highly recommend it to all my hematology colleagues” - Exam candidate.

Figure 1b: Career phase of 2024 Exam candidates



Parallel sessions

In 2018, the first parallel session of the exam was organized by the Swiss Society of Hematology. Since then, the European Hematology Exam is implemented as part of the official Swiss end-of-training exam.

This year our collaborations with our partners, the national hematological societies, increased. Out of all 14 national societies, which organised a local exam session in their countries, 5 national societies partnered with us for the first time in organising a local exam session: Brazil, France, Lebanon, Norway and Pakistan. The total exam participation at these 5 local sessions was 40 exam candidates, which represents 30% of the total exam participation at the local exam sessions worldwide.

National hematology societies are welcome to [contact EHA](#) to discuss the possibilities for organizing a local parallel session.



The examination room in Rawalpindi, Pakistan, where the Exam was held for the first time.

“The organization was great and I had the sense that if I needed help it was available immediately” – National Society partner.

2. Quality assurance

Question writing and review process

To ensure that the items (questions, answer options, and keys) are of high scientific and educational quality, adhere to the European recommended level, and cover the Curriculum's full spectrum, a Question Writers Group has been established. For this group, 20 experienced hematologists were selected and trained by educationalists to write exam items. The writers worked in pairs on questions and reviewed each other's questions. All questions were added to a database. The Curriculum-Exam Committee selected the final 100 questions (which represented all Curriculum sections) and performed a second and third review. Ultimately, a final check was done by the Chair and Vice-Chair of the EHA Curriculum-Exam Committee and the Chair of the Question Writers Group.



Psychometric analysis

To guarantee independent assessment of the quality of the exam and passing score definition, EHA collaborates with Cito¹, an internationally recognized professional research and knowledge institute in the field of educational measurement and testing. CitoLab, Cito's research department, performed the psychometric analysis of the exam. This analysis always takes place after the exam, as it is based on the answers given by the candidates.

Item (question) analysis

To evaluate each item's quality, the correlation between each item score and the exam score has been calculated (Rit and Rir values²). The higher this correlation, the better the item discriminates candidates on the ability that is being measured. In addition, the P-value (the popularity³ of the alternative that is being considered correct) of each item was calculated. Usually, the correct response is the most popular one, so an item is remarkable if an alternative that is considered incorrect, is more popular. Based on this psychometric analysis, eleven questions showed a slightly remarkable pattern. This does not necessarily mean that those questions are incorrect; it is just a signal to investigate the content of these items further. After a thorough scientific review, the Chair and Vice-Chair of the EHA Curriculum-Exam Committee and the Chair of the Question Writers Group concluded that no change was required in these questions. However, it was decided that one of them should be omitted as the content experts found that the item could be misread and misinterpreted, and if so, multiple answer options might be right. Consequently, 99 questions were included in the analysis.

Reliability

In classical test theory, two well-known measures for reliability are Cronbach's alpha and Guttman's lambda-2. Cronbach's alpha is 0.87 and Guttman's lambda-2 is 0.88. These values are considered good for a low-stakes exam, and sufficient for high stakes exams by the European Federation of Psychologists' Association (EFPA) Review Model⁴ and the standards of the Dutch Committee of Test Matters⁵ (COTAN).

Footnotes:

1: <https://www.cito.com/>

2: Rit: uses exam score including the evaluated item score, Rir: exam score excluding the evaluated item score

3: Defined as the percentage of candidates who chose the correct alternative

4: See <https://www.efpa.eu/ongoing-revision-european-test-review-model> to download the official English language version EFPA 2013 Test Review Model Version 4.2.6.

5: See <https://psynip.nl/wp-content/uploads/2021/11/COTAN-Beoordelingssysteem-2010.pdf> (available in Dutch only)

Standard setting

Usually, an equating procedure is applied to define the cut-off score for a new EHA exam, using item response theory (IRT), where the results of a new exam can be placed on the same ability scale as the previous exams. This means that candidates with the same ability have an equal chance of passing the exam, independently of the year they participated, taking into account the difficulty of the exam. However, because the EHA exam gained importance, the ability necessary to pass the exam was reevaluated this year. A new standard setting procedure has been performed in order to obtain a new standard, which is considerably higher than the old standard. This reflects the current higher status of the EHA exam.

For the 2024 exam, the cut-off score was set at 61. This means that candidates had to answer at least 61 items correct to pass the exam, which was achieved by 73% of the candidates.

In the previous seven years of the EHA exam, the passing rates were as follows: 81% in 2017, 80% in 2018, 78% in 2019, 78% in 2020, 76% in 2021, 83% in 2022, and 92% in 2023.

Communication of the results

Within six weeks of the exam, the candidates received an email with the pass-fail decision. The candidates who passed, received a certificate. All candidates have received information on their scores broken down by section of the European Hematology Curriculum. For this, Cito translated the overall cut-off score into a cut-off score per section, and the candidates received information on whether they scored above or below this value. These scores can only be considered an indication of performance and cannot be considered separate parts of the exam. Passing the exam is regarded as an extra quality stamp for hematologists; national authorities still grant the right to practice.



The Exam location in Bern, Switzerland.

3. Candidate experience

At the end of the exam, candidates were asked to complete a short evaluation survey. The results of this survey showed that, from all candidates that replied (n=235):

- 99% of the candidates found the exam either relevant (69%) or partly relevant (30%)
- 88% of the candidates experienced the exam setup as good or very good.
- 98% of the candidates were able to finish the exam within 2,5 hours.

“Well conducted exam, thank you for the opportunity.” – Exam candidate.

4. Acknowledgement

EHA wishes to thank the following experts for their time and effort towards making the 2024 European Hematology Exam a success:

Curriculum-Exam Committee
José Tomás Navarro, Spain (Chair)
Mariëlle Wondergem, The Netherlands
(Vice-chair)
Gunnar Birgegård, Sweden
Janaki Brolin, Sweden
Carlos Fernández de Larrea, Spain
Mahesh Prahladan, United Kingdom
Alicia Rovó, Switzerland

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Esperanza Lavilla Rubira, Spain
Estella Matutes, Spain
Aleksandar Mijovic, United Kingdom
Gemma Moreno Jiménez, Spain
José Tomás Navarro, Spain
Esther Oliva, Italy
Mahesh Prahladan, United Kingdom
Alicia Rovó, Switzerland
Mandy Lauw, The Netherlands
Augusto B. Federici, Italy
Mariëlle Wondergem, The Netherlands

5. EHA European Hematology Exams 2025

The 9th European Hematology Exam will take place on June 12, 2025 at 13:30-16:00 CEST. The main session will be organized during the EHA2025 Hybrid Congress in Milan, Italy. This session is accessible for participants from any country.

EHA is considering various options to enable as many candidates as possible to participate in the European Hematology Exam in 2025.

EHA will be partnering again with a number of national hematology societies to organize local parallel sessions. More information will be available as soon as possible on the [EHA website](#).



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www.ehaweb.org