



EHA European Hematology Exam 2018- Report

1. Method

a. Format

The second European Hematology Exam took place on Wednesday, June 13 in Stockholm, Sweden, and Bern, Switzerland. The Exam consisted of 100 multiple choice questions, covering all eight sections of the [European Hematology Curriculum](#). The participants had 2,5 hours to complete the exam.

b. Candidates

73 candidates took part in the main session in Stockholm, Sweden, and 7 candidates attended the parallel session in Bern, Switzerland. Candidates originated from 26 countries and 6 regions/continents:

Region	Nr	%
Europe	58	73%
Middle East	10	13%
North America	2	3%
South America	1	1%
Africa	1	1%
Asia	8	10%
Total	80	100%

c. Pilot Switzerland

The Swiss Society of Hematology (SSH) took the initiative to organize a parallel session in Bern, Switzerland. This session was open to all Swiss candidates and served as a successful pilot for the implementation of the European Hematology Exam in the official Swiss end-of-training exam. National Hematology Societies or authorities of other countries are also welcome to contact EHA to discuss implementation of the European Hematology Exam as part of their national exams and/or organize local parallel sessions.

2. Quality assurance

a. 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 full spectrum of the Curriculum, a Question Writers Group has been established. For this group, 20 experienced hematologists have been selected and trained by educationalists on how to write good exam items. In pairs, these writers worked on their questions and reviewed each other's questions. A second review round was performed by the Review Group, who also selected the final 100 questions, representing all Curriculum sections.



b. Psychometric analysis

To guarantee independent judgment of the quality of the exam and the passing score definition, EHA collaborates with CITO¹, an internationally recognized professional research and knowledge institute in the field of testing and educational measurement. CITO's Psychometric Research- and Knowledge Center performed the psychometric analysis of the results.



Reliability

In classical test theory, two well-known measures for reliability are Cronbach's alpha and Guttman's lambda-2. For this exam Cronbach's alpha is 0.85 and Guttman's lambda-2 is 0.86. These values are considered as good for a low stakes exam, and sufficient for high stakes exams by the European Federation of Psychologists' Association (EFPA) Review Model² and the standards of the Dutch Committee of Test Matters³ (COTAN).

Item analysis

To evaluate the quality of each item the correlation between the item score and the exam score has been calculated (Rit and Rir values⁴). The Rit-values were positive for 97 of the 100 items, with none of them significantly⁵ lower than 0. Items with negative Rit or Rir-values were checked, and no keying or other errors were found. The average Rit-value was .26. For general tests this is deemed sufficient, but it can be considered as good for an exam with such a broad scope.

Standard setting

To define the cut-off score, two standard setting methods were combined. Firstly, the Angoff method, in which 5 judges evaluated the difficulty of each question. And secondly, an equating procedure using item response theory, where the results of the 2018 exam could be placed on the same ability scale as the 2017 exam. This resulted into a cut-off score of 58 (or more) items correct to pass the exam. This means that 64 candidates (80,0%) passed.

Communication of the results

Within 4-6 weeks after the exam, the candidates have received an email with the pass-fail decision.

The candidates who passed, received a certificate. In addition, all candidates have received information on their score per 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 cut-off score.

Passing the exam is regarded an extra quality stamp for hematologists, the right to practice will still be granted by the national authorities.

¹ <https://www.cito.com/>

² See <http://www.efpa.eu/professional-development/assessment>

³ See <https://www.cotandocumentatie.nl/cotan/beoordelingssysteem> (in Dutch)

⁴ Rit: uses exam score with the evaluated item score, Rir: without the evaluated item score

⁵ At an alpha of 0.05



3. Candidate experience

At the end of the exam, the candidates were asked to complete a short evaluation survey. The results of this survey showed that:

- 97% of the candidates found the exam relevant (78%) or partly relevant (19%) to their hematology training
- 87% of the candidates experienced the exam setup as good or very good.
- 95% of the candidates was able to finish the exam within the 2,5 hours.
- Of the non-native English speakers, for 82% the English language did not pose a problem at all, while for the other 18% it was only a problem for some questions.

4. Acknowledgement

EHA would like to thank the following experts for their time and effort towards making the 2018 European Hematology Exam a success.

Exam Working Group

José Tomás Navarro, Spain (Chair Working Group)
Antonio Almeida, Portugal (Chair Curriculum Committee)
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5. EHA European Hematology Exam 2019

The 2019 EHA Hematology Exam takes place in Amsterdam, during the EHA Congress. More information will be available soon on the [EHA website](#).