How to succeed at the EEGC
what you should know about the EEGC?

everything you always wanted to know about the EEGC (except the questions)

Chris Plummer
UEMS vice-president for training, EEGC board chair
conflicts of interest

• none
Knowledge Based Assessment. There is a mandatory knowledge based assessment which needs to be successfully completed within the first three years of training. This is being developed in conjunction with the British Cardiovascular Society and has been designed to map onto the clinical syllabus with a broad but representative sampling of core knowledge.
Miller’s prism of clinical competence
UK requirements

1) The GMC requires the content and structure of the exam to mirror the UK curriculum and not to change without corresponding changes in the UK curriculum.
   UK-specific questions are required for UK trainees and this requires a UK-specific question writing and selection process
   UK question writers have written UK guidance/law questions – 6 selected for inclusion in the exam

2) The GMC requires the UK pass mark to be set according to an assessment of just passing UK candidates and the performance of the UK cohort.
   standards setting is required for the UK with a pass-mark selected according to the performance of UK trainees.
   UK standards setting process – pass mark will be determined by the performance of only UK trainees.
EEGC structure

• multiple choice examination
  • 120 questions
  • 3 hours
  • computer terminals in PearsonVUE centres

• current best evidence - mapped to the ESC curriculum
  • ESC guidance, ESC textbook, published clinical studies
  • **UK candidates - 6 UK-specific questions to fulfil GMC regulatory requirements**
    • NICE/SIGN, DVLA, legislation.
EEGC structure

• short clinical scenario:
  A 56-year-old man was admitted to the emergency department with chest pain. His 12-lead ECG is shown.

• images as required:
  • 70% (84) text only
  • 20% (24) still image
  • 10% (12) video

• a short question (no negative questions):
  What is the most appropriate treatment?

• 1 best answer of 5 options:
  • A to E
  • alphabetical

• as short and clear as possible.
EEGC structure

• **Section 1 - Valvular and Myocardial Disease**
  - 2.10 Myocardial Diseases
  - 2.15 Valvular heart disease
  - 2.16 Infective endocarditis
  - 2.17 Heart Failure

• **Section 2 - Ischaemic Heart Disease**
  - 2.4 Invasive cardiac imaging
  - 2.7 Cardiovascular Disease Protection - risk factors and hypertension
  - 2.8 Acute Coronary Syndromes
  - 2.9 Chronic IHD
  - 2.19 Physical activity in sport and primary and secondary prevention

• **Section 3 - Rhythm Disorders**
  - 2.2 The electrocardiogram – standard ECG, ambulatory ECG, exercise ECG, CPX
  - 2.20 Arrhythmias
  - 2.21 Atrial fibrillation and flutter
  - 2.22 Syncope
  - 2.23 Sudden Cardiac Death and Resuscitation

• **Section 4 - Adult Congenital Heart Disease and Non-invasive Investigation**
  - 2.3 Non-invasive imaging (50% echo, 25% CT/nuclear and 25% CMR 25%)
  - 2.13 Adult congenital heart disease
  - 2.14 Heart disease in pregnancy

• **Section 5 – General Cardiology**
  - 2.1 History taking and clinical examination
  - 2.5 Genetics
  - 2.6 Clinical Pharmacology
  - 2.11 Pericardial diseases
  - 2.12 Oncology and the heart
  - 2.18 Pulmonary arterial hypertension
  - 2.24 Diseases of the Aorta and Trauma
  - 2.25 Peripheral Artery Disease
  - 2.26 Venous thrombo-embolism
  - 2.27 Acute Cardiac Care
  - 2.28 The Cardiac Consult (non-cardiac disease and the heart)

Reuse of Questions

• ≈ 50% of questions will be new
• ≈ 50% will have previously performed well previous EEGC.
EEGC structure
EEGC cycle

- board meeting
- question writing meeting (Nice)
- candidate registration
- confirm cities
- country registration
- question writing meeting (ESC) “kick-off” NS/UEMS-cs/ESC
- board meeting: results → NS
- results analysis
- EEGC sitting 18th June 2019

question selection meeting
150/120 – valvular/myocardial, IHD, arrhythmias, ACHD/non-invasive, general
10/6 UK-specific questions

standard setting meeting
final 120qns, pass mark criteria

UK standard setting meeting
final 120qns (inc. 6 UK-specific), pass mark criteria

final review
→ exam sent to PearsonVUE
EEGC construction

- all stages of exam construction supported by computer platform
  - images & video
  - standardisation of question format
  - on-line collaboration
  - real-time editing of questions
  - systematic question selection & standard setting
  - local delivery
  - question performance statistics
  - data integrity
Clinical Context
A 56-year-old man was admitted with chest pain. His ECG is shown.

Question
Enter a new question - It's recommended not to exceed 500 characters, in order to have an optimized display on exam tablets.

Answers
A
Enter a new answer

B
Enter a new answer

C
Enter a new answer

D
Enter a new answer

E
Enter a new answer
Clinical Context
A 56-year-old man was admitted with chest pain. His ECG is shown.

Associated media

Question
Enter a new question - It's recommended not to exceed 500 characters, in order to have an optimized display on exam tablets.

Answers
Reorder answers in alphabetical order

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Enter a new answer</td>
</tr>
<tr>
<td>B</td>
<td>Enter a new answer</td>
</tr>
<tr>
<td>C</td>
<td>Enter a new answer</td>
</tr>
<tr>
<td>D</td>
<td>Enter a new answer</td>
</tr>
<tr>
<td>E</td>
<td>Enter a new answer</td>
</tr>
</tbody>
</table>
Clinical Context
A 56-year-old man was admitted with chest pain. His ECG is shown.

Question
What is the most appropriate treatment?

Answers
A
Enter a new answer
B
Enter a new answer
C
Enter a new answer
D
Enter a new answer
E
Enter a new answer
Clinical Context
A 56-year-old man was admitted with chest pain. His ECG is shown.

Associated media

Question
What is the most appropriate treatment?

Answers
- primary PCI
- thrombolysis
- aspirin
- clopidogrel
- intravenous heparin
A 56-year-old man was admitted with chest pain. His ECG is shown.

**Clinical Context**

Associated media

**Question**

What is the most appropriate treatment?

**Answers**

- A primary PCI
- B thrombolysis
- C aspirin
- D clopidogrel
- E intravenous heparin
Clinical Context
A 56-year-old man was admitted with chest pain. His ECG is shown.

Question
What is the most appropriate treatment?

Answers
A. aspirin
B. clopidogrel
C. intravenous heparin
D. primary PCI
E. thrombolysis
A 56-year-old man was admitted with chest pain. His ECG is shown.

What is the most appropriate treatment?

A. aspirin
B. clopidogrel
C. intravenous heparin
D. primary PCI
E. thrombolysis
A 56-year-old man was admitted with chest pain. His ECG is shown.

What is the most appropriate treatment?

A. aspirin
B. clopidogrel
C. intravenous heparin
D. primary PCI
E. thrombolysis
question review meeting

• question writers from all participating countries meet in Heart House in Nice or at ESC

• all new questions reviewed
  • presented by author
  • discussed by a group of ≈6 cardiologists
  • evidence reviewed
  • edited
  • accepted, rejected or sent back for re-writing

• previously used questions reviewed
  • evidence reviewed
  • edited
  • accepted, rejected or sent back for re-writing
question selection meeting

• 5 experienced question writers each select 24 questions + 10 reserves
• question selection meeting Schiphol airport + chair + observers + ESC team
• each question reviewed and discussed
• answers and evidence checked
• final selection of 120 questions + 30 reserves
• 2 experienced UK question writers select 6 UK-specific questions + 4 reserves.
standard setting meeting

• group of cardiologists and trainees review all questions
• estimate the proportion of just-passing candidates that will get the question right
• extremes excluded
• discussion
• answer and evidence checked
• exclusion of ambiguity
• final selection of 120 questions
• number of correct answers for just-passing candidates ± 2 SD
• repeated for UK selection including 6 UK-specific questions.
final review

• 2 experienced question writers review of the whole paper using the PearsonVUE software
  • check answer key
  • check images
  • check for any unclear questions
question performance review

- EEGC board meeting
- review all questions with <30% correct (8 questions in 2018)
- review all questions with negative correlation (2 questions in 2018)

→ no questions excluded in 2018.
EEGC pass mark

pass mark = 68 correct answers (56.7%)

95%
75%
EEGC governance

- Australia *pilot*
- Austria *enrolled*
- Cyprus *enrolled*
- Finland *enrolled*
- Germany *enrolled*
- Greece *enrolled*
- Ireland *enrolled*
- Latvia *enrolled*

- Malta *enrolled*
- Netherlands *enrolled*
- New Zealand *pilot*
- Portugal *enrolled*
- Spain *enrolled*
- Sweden *enrolled*
- Switzerland *enrolled*
- UK *enrolled*
EEGC registrations

2012: 80
2013: 182
2014: 271
2015: 304
2016: 314
2017: 384
2018: 483
2019: 654
EEGC registrations
EEGC preparation

• support from trainers
• start revision early
• revise guidelines and other evidence
• read widely
• talk to colleagues who have passed the exam
• notes
• study leave
• BJCA meetings
• book a holiday!
Heart Feb 2019, heartjnl-2018-314495; DOI: 10.1136/heartjnl-2018-314495

Heart Feb 2019, heartjnl-2018-314496; DOI: 10.1136/heartjnl-2018-314496
more information

[Image of the webpage]


<table>
<thead>
<tr>
<th>Auditorium Webcasts</th>
<th>Talk Title</th>
<th>View</th>
</tr>
</thead>
<tbody>
<tr>
<td>The European Examination in General Cardiology (EEGC) - What trainees and trainers need to know</td>
<td>EEGC-UK - how the exam is organised Dr Chris Plummer</td>
<td></td>
</tr>
<tr>
<td>How to write exam questions Dr Clive Levison</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example questions with interactive voting and feedback - 6 questions Dr Jim Hall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How results are determined Dr Susanna Price</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to prepare - Trainee and trainer perspectives Dr Georgia Oates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr Sarah Bowalter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cleared for takeoff! Speaker Mandy Hickson</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECG interpretation Presenters Dr Simon Flynn Dr Edward Rowland Dr Ian @atkins</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
There are presentations and further examples on the ESC website (esc365.escardio.org)


Preparation for the EEGC

The EEGC is designed to test a wide range of general cardiology knowledge aligned with the ESC core curriculum. There is no single source from which all questions are developed and candidates are encouraged to read widely, including ESC guidelines, the ESC textbook and practice-changing clinical trials.

Information about the construction of the EEGC is published in Behind the Scenes of the European Exam in General Cardiology, Heart 2019.

Example questions are available in presentations made at the ESC congress available through ESC365:

Test your clinical knowledge with the EEGC - ESC 2017:

Take the challenge - ESC 2018:

more information

http://www.uems-cardio.eu/index.php/initiatives/eegc
conclusions

• high-quality general cardiology exam
• strong structure and governance
  • supported by UEMS, ESC, national societies, independent University
• tests knowledge and encourages learning
• delivered on computer in secure centres near to candidates
• growing – Europe and wider
• expensive to set – time and money
• question bank has taken 10 years – and is “a work in progress”
• excellent CPD!