

Report on the Constructed Response Question Paper – September 2022

This report has been compiled by the Chairs of the Constructed Response Question Group to provide information for candidates and trainers about how the Constructed Response Questions (CRQs) are written, how the paper is put together, how pass marks are set and how marking is standardised. It is partly generic and partly specific to the March 2022 paper. There is a section at the end with comments about the individual questions which we hope you will find useful.

The CRQ paper examines a candidate's knowledge of stages 1 and 2 of the training curriculum as specified by the Royal College of Anaesthetists. It is partly factual recall but also tests judgment, and the ability to prioritise information within the answer.

Structure of the CRQ paper

The September 2022 CRQ paper consists of 12 questions to be answered in 3 hours. All CRQ questions are mapped to a specific section of the curriculum. Despite the curriculum change in 2021, the CRQ paper retained the same format as previous papers: 6 questions taken from each of the previous mandatory units of training and 6 from the general duties, optional and advanced science modules, as described below. In the immediate future, the CRQ paper will maintain this format, although there may be less emphasis placed on some of the mandatory areas of training.

- Mandatory units: anaesthetic practice relevant to neurosurgery, neuroradiology and neurocritical care, cardiothoracic surgery, intensive care medicine, obstetrics, paediatrics and pain medicine.
- General duties: airway management, day surgery, critical incidents, general/urology/gynaecology surgery, ENT/maxillofacial/dental surgery, management of respiratory and cardiac arrest, non-theatre duties, orthopaedic surgery, regional anaesthesia, sedation practice, transfer medicine, trauma, and stabilisation practice.
- Optional modules: anaesthetic practice relevant to ophthalmic surgery, plastics & burns surgery, vascular surgery
- Advanced sciences: anatomy, applied clinical pharmacology, applied physiology/biochemistry, physics/clinical measurement, and statistical basis of clinical trial management.

The CRQ paper has been designed to comprise questions with varying levels of difficulty, however, there is always an equal balance of questions judged to be difficult, moderately difficult, and easy.

The level of paper difficulty and the pass mark are set using modified Angoff referencing, which takes place during the CRQ Group and Standard Setting meetings of the Final examiners. Angoff referencing uses the experience of the examiners to set a pass mark for each question. All questions must be attempted but candidates do not have to pass all the questions to pass the paper.

To facilitate an objective and reproducible marking process, a model answer template is provided for each question, which shows the number of marks available for each part of a question. All questions are subjected to an exhaustive editing and peer review process before use in an examination and this is explained below in the section on quality control.

Quality Control for the September 2022 CRQ

Monday 20 June 2022 CRQ group meeting

The CRQ group convened online for paper checking. This was a final review of the paper to check for factual accuracy, clarity of language and ease of understanding. The group made any necessary amendments and assigned a provisional pass mark to each question.

Tuesday 27 September 2022 – Standard Setting Day (SSD)

The Final examiners were divided into six groups of 8-10 people, each chaired by a member of the CRQ group. Each group was given two questions and their associated model answer templates. The groups then marked 4 anonymised answer booklets (without candidate or College reference numbers). The lead coordinator for CRQ chose the 4 sets of booklets based on MCQ scores, to represent the spectrum of ability within the candidate cohort. The MCQ results for the anonymous candidates were not given to the examiners. Subsequent discussion within each group ensured that all these scripts were awarded the correct marks as permitted by the answer template, and that each examiner applied a consistent standard across all 4 sets of booklets. At the end of SSD, a finalised Angoff- referenced pass mark was confirmed for each question.

The candidate answer papers for each set of 2 questions were divided amongst the group and marked. This process means that for each candidate the 12 questions are marked by 6 different examiners, which helps eliminate any risk of bias that could arise when a single examiner marks all 12 questions. The Standard Setting and Psychometrics Manager liaised with staff from the examinations department to scrutinise the submitted marks and clarify any ambiguities within the marked scripts before the exam was moderated and individual scores ratified.

Results – Monday 24 October 2022

The overall pass rate for this paper was 73.3%

This compares with recent CRQ (SAQ) papers:

- March 2021 73.2%
- September 2020 69.7%
- March 2020 83%
- September 2019 80%
- March 2019 74.73%

Analysis of results

Despite an encouraging pass rate, candidates continue to disadvantage themselves in several familiar ways:

- Failure to answer the question asked.

It is very important to read the question carefully and answer what is asked. This remains a constant reason why candidates drop marks. For example, question 2(d), candidates were asked for the classes of drugs used in the management of post-amputation pain syndrome. Even though the word 'classes' was underlined, many candidates answered by giving a list of drugs.

- Failure to prioritise answers.

Candidates should remember that CRQs are looking for specific answers and writing as much as possible in the hope of hitting the correct answer will not guarantee marks. When answering the questions, the candidate needs to think about what are the most important points that need to be included in the answer. For example, if asked for 3 differential diagnoses, you need to think what would be the most important 3-4 diagnoses in this case and answer appropriately. Writing the tenth or eleventh most common diagnoses, though correct, will not guarantee marks. The candidate instructions clearly state that only the first distinct answer per line will be awarded marks. If a

candidate writes several answers on one line, the first will be marked and the rest discounted.

- Poor knowledge of clinical sciences.

Candidates should be reminded that clinical science forms an important part of the intermediate syllabus and it is an area of the exam that is often underestimated. As in previous exams, knowledge of clinical sciences as applied to anaesthesia was poor when compared to clinical knowledge. The physiology components of the ICU and cardiac questions were poorly answered.

Results for individual questions

Question 1: Cardio-pulmonary exercise testing (CPET)

Pass rate 59.7%

Pre-operative assessment and the use of CPET in the stratification of risk is an area of the syllabus that candidates should know. Candidates should be able to interpret the results produced by CPET testing. The sections relating to the CPET variables were the sections where candidates dropped the majority of their marks.

Question 2: Phantom limb pain

Pass rate 46.9%

This is a fairly common topic in the Final FRCA so a pass rate of only 46.9% was disappointing. No sections were answered particularly well, however, question performance correlated well with overall performance. Candidates struggled with the practical aspects of pain management in sections (a) & (b). Weaker candidates were unable to describe the features of phantom limb pain. A number of candidates listed the name of drugs as opposed to classes of drugs in section (d).

Question 3: Blood management

Pass rate 59.7%

This was a well answered question, with candidates giving comprehensive answers. Candidates only struggled to answer the question on the factors that aid clot formation.

Question 4: ICU- Prone ventilation

Pass rate 58.8%

This is a topical question which was generally answered well. Candidates showed familiar failings with the physiology component of the question being answered poorly. The section where candidates particularly struggled was the criteria for ECMO referral.

Question 5: Atrial fibrillation

Pass rate 43.2%

This was the worst performing question on the paper. The latter sections relating to the management of atrial fibrillation were answered poorly. Knowledge of the Resuscitation Council UK guidelines on the management of adult tachycardia would have benefited candidates in answering this question.

Question 6: Cardiac tamponade

Pass rate 76.9%

This was considered to be one of the harder questions in the paper, therefore it was reassuring to see it answered well and it correlated with overall performance in the paper. However, a lack of knowledge of basic sciences hindered the majority of candidates and as a result the last stem was answered poorly.

Question 7: Gastric aspiration

Pass rate 69.4%

This is an area of the syllabus that candidates would be expected to know. The question was deemed

by the examiners to be one of the easier questions on the paper and this was reflected in a high pass rate.

Question 8: Guillan Barre

Pass rate 66.1%

This proved to be a straightforward question for the majority of candidates. Part (g) was generally answered well but some candidates discussed the general principles of the intraoperative management of a critically ill patient as opposed to the measures specific to a patient recovering from Guillan Barre.

Question 9: Hyperoxia

Pass rate 59.9%

This question was deemed by examiners to be one of the harder questions on the paper but reassuringly it was answered well. Overall, candidates were aware of the risks of hyperoxia but less clear as to how that manifest in the clinical setting and its pathophysiology. In section (g), answers were often too vague and needed to be more specific to gain the marks.

Question 10: Paediatrics - Meningitis

Pass rate 82.8%

The pass rate for this question was the highest in the paper. Some candidates dropped marks in section (b) by not answering what was asked. The questions asked for steps to restore the circulation but some candidates offered temporising measures to elevate the blood pressure. The last section asked for 5 further steps in the management of septic shock and some candidates lost marks by repeating answers from previous sections.

Question 11: Asthma

Pass rate 61.9%

This is a common question in all parts of the FRCA exam. It is an area of the curriculum that candidates would be expected to know and the initial scenario is one encountered by many trainees. Preoperative optimization of the patient was the main area where candidates dropped marks but in general, the aetiology and management of acute bronchospasm was well answered

Question 12: Obstetrics - Obesity

Pass rate 43.6%

A theme we have seen in previous exams is that obstetrics seems to be poorly understood. Here candidates demonstrated only a superficial knowledge of the obstetric complications in a patient with a high body mass index. Sections relating to neonatal and delivery complications associated with maternal obesity were particularly poorly answered.

Summary

The overall standard of the written paper was good, with a pass rate similar to previous sittings. We congratulate the successful candidates on the standard and breadth of their knowledge.

Candidates did less well in mandatory units of training. The questions on pain and obstetrics were answered poorly in what are considered to be fairly common topics and this is a trend we have seen previously. We would remind candidates that a certain level of clinical experience is needed to pass the Final FRCA. The exam is aimed at an anaesthetist with roughly 18 months' experience at specialist registrar level. We would encourage candidates to consider this before attempting the exam to maximize their chances of passing at the first attempt.

As mentioned in previous reports, knowledge of advanced sciences underpinning clinical practice was poor when compared to clinical knowledge. This was noticeable throughout the paper. We remind candidates that clinical science is an important part of the syllabus and can feature in

several questions in a single paper. Candidates should not neglect this area of the curriculum in their revision.

Some candidates try to write as much as possible but doing so will continue to disadvantage candidates. As mentioned previously, only the first answer per line will be marked and all other answers on that line will be discounted and writing too much may cause time pressures.

Finally, the conduct of the written paper would be impossible without the hard work of the Final FRCA examiners and of the staff of the Examinations Department and we are extremely grateful for their continued and enduring support.

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May 2022