

Report on the Constructed Response Question Paper – September 2023

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 September 2023 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 2023 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 2023 CRQ

Monday 19th June 2023 CRQ group meeting

The CRQ group convened at the College on the Monday of the Final FRCA viva week 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 26th September 2023 – Standard Setting Day (SSD)

The Final examiners were divided into twelve groups of 5-7 people, each chaired by a member of the CRQ group. Each group was given one question and its associated model answer template. The groups then marked 4 anonymised answer scripts (without candidate or College reference numbers). The lead coordinator for CRQ chose the 4 sets of scripts 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.

This process means that for each candidate the 12 questions are marked by 12 different examiners, which helps eliminate any risk of bias that could arise when a single examiner marks all 12 questions. Members of the CRQ group also re-mark a sample of each examiner's scripts to further quality assure and check for consistency of marking. 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 – Thursday 19th October 2023

The overall pass rate for this paper was 79.78%

This compares with recent CRQ (SAQ) papers:

- March 2023 73.3%
- September 2022 77.42%
- March 2022 73.35%
- 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, in questions 2 and 8 several candidates mixed up symptoms and signs (and gave signs when asked for symptoms and vice versa) thus losing a small number of marks that they probably should not have.
- 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 some of the sub specialities and sciences.

Although the neuro, ICM and obstetric questions were answered well, the paediatric, thoracics and glucocorticoid (which had some pharmacology/physiology element) questions were not. This may reflect differing attitudes towards the sub specialities as there are no specific cardiac and neuro modules in the new curriculum but trainees must still obtain competencies in these areas (the triple C assessments). Sciences relevant to clinical practice are possibly areas of the curriculum being overlooked.

Results for individual questions

Question 1: Adrenal insufficiency/peri-operative management of patients on glucocorticoids

Pass rate 30.1%

This question had the lowest pass rate although statistically it was a good discriminator between candidates who passed and candidates who failed the CRQ. Adrenal insufficiency has recently been thought to be under recognized and there are recent guidelines on this topic. Most marks were dropped on definition and causes of adrenal insufficiency and peri-operative management of patients on steroids.

Question 2: Paediatrics

Pass rate 39.1%

This question had the second lowest pass rate and again statistically it was a good discriminator. It is a repeat question albeit with slight modification. Most candidates dropped marks on the ECG and CXR.

Question 3: VTE and prophylaxis

Pass rate 48.9%

A clinically relevant topic and part of day to day practice. Contraindications to TEDs and timing of low molecular weight heparin with regards to removal of epidural catheters were answered poorly.

Question 4: Burns/ICM

Pass rate 86.1%

This question in various forms has appeared in the final written exam previously. It was well answered and had the highest pass rate.

Question 5: Parkinson's disease

Pass rate 58.7%

A reasonably well answered question and again a good discriminator. Most marks were dropped on which drugs can be given non - enterally and the effects of sudden withdrawal of Parkinson's medications.

Question 6: Post dural puncture headache

Pass rate 77.3%

A well answered question, again a topic which most candidates will have experience of in their day to day practice. The question about performing a blood patch was not well answered, perhaps because blood patches are probably performed by more senior anaesthetists.

Question 7: Per-operative diabetes

Pass rate 79.8%

A new question that took into account new diabetic medications and guidelines. Well answered on the whole and also a good discriminator. The only stem answered poorly was the choice of fluids to accompany an insulin infusion.

Question 8: Back pain

Pass rate 73.5%

This is a common topic that trainees will encounter during their pain training. Well answered generally and a good discriminator. Knowledge of red flag symptoms was good, marks were lost on definition of radicular pain and NICE guidelines on how long patients have symptoms for before intervention is recommended.

Question 9: Obesity

Pass rate 73.0%

A well answered question and a common condition. Statistically though it did not differentiate between candidates who did well overall and those who did not suggesting that some of the questions were a bit generic. Obesity hyperventilation syndrome and the weight at which TIVA models become inaccurate were not well answered.

Question 10: Thoracics/VATS procedure

Pass rate 42.9%

This was thought to be a difficult question at standard setting. Some general parts to the question were well answered. How to collapse the non-ventilated lung and the practicalities of a robotic VATS procedure were not well answered possibly because not many trainees have seen such procedures.

Question 11: Consent and capacity

Pass rate 62.6%

A new topic which is relevant to day to day practice and thought to be a difficult question at standard setting. The section on capacity was well answered, the section on consent less so perhaps because we don't get written consent ourselves on the whole. However, the final checks before surgery are done just prior to induction of anaesthesia.

Question 12: Neuro/SAH

Pass rate 72.3%

This is a repeat question and was well answered on the whole. Marks were dropped on the causes and investigations of reduced neurological status post-op. The physiology aspects of the question were well answered.

Summary

The overall standard of the written paper was good (according to the rigorous statistical analysis) with a pass rate similar to previous sittings. We congratulate the successful candidates on the standard and breadth of their knowledge.

The lowest pass rates were the glucocorticoid question, paediatrics and thoracics. As with previous exams some of the lowest past rates involve the sub specialist areas but on looking at this paper some of the science stems were not well answered. Prior to sitting the final FRCA it is important that candidates gain exposure to all the relevant specialities and to remember that knowledge of clinically relevant physiology and pharmacology is essential for the safe practice anaesthesia.

Some candidates are still trying to write as many answers as possible per question but in doing so are potentially disadvantaging themselves. As mentioned previously, only the first answer per line will be marked and all other answers on that line will be discounted (correct or not) 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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