Report on the Constructed Response Question Paper – February 2024

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 February 2024 paper. There is a section at the end with comments about the individual questions which we hope you will find useful for your continued development.

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 assesses judgment, and the ability to prioritise information within the answer.

Structure of the CRQ paper

The February 2024 CRQ paper consists of twelve 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: six questions taken from each of the mandatory units of training and six 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 anesthesia, 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 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 in the section on quality control.

Quality Control for the February 2024 CRQ

Monday 4 December 2023 CRQ group meeting

The CRQ group convened at the College on 4 December 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.

Thursday 14 March 2024 – 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 four anonymised candidate scripts. The lead coordinator for CRQ chose the four 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 four scripts. At the end of SSD, a finalised Angoff-referenced pass mark was confirmed for each question.

The process means that for each candidate the twelve questions are marked by twelve different examiners, which helps eliminate any risk of bias that could arise when a single examiner marks all twelve questions. Members of the CRQ group also took a sample of each examiner's scripts to quality assure the accuracy and consistency of the 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 by a panel comprising CRQ leads and relevant College staff.

Results – Thursday 18th April 2024

The overall pass rate for this paper was 55.17% and a comparison to the pass rates of previous exam diets is shown below.

- September 2023 79.78%
- February 2023 71.94%
- September 2022 77.42%
- March 2022 73.35%
- March 2021 73.18%
- September 2020 69.73%

Analysis of results

There were three anchor questions and nine new questions relevant to clinical practice in this paper. The pass rate for this paper was lower than previous exam diets and is derived from poor performance on anatomy in the paediatric question, physiology/hyponatraemia in the ICU question, and opioid equivalence in the pain question.

Some candidates continue to disadvantage themselves in familiar ways.

- Failure to answer the question asked or interpret the stem correctly.

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, where candidates were asked for the causes of pseudohyponatraemia, they listed more causes of true hyponatraemia, and when asked for factors related to POCD in question 8, candidates gave answers related to delirium.

- 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 three differential diagnoses, candidates need to consider what would be the most important three 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. Generally, though, this was less of an issue than in previous papers.

- Poor knowledge of some of the clinical sciences.

Compared to the September 2023 exam paper, the sub-specialty questions were answered better. However, the science components of the paediatric, ICU, and pain questions were not well answered.

Results for individual questions

Question 1: Neuro/management of head injury

A repeat question and a common clinical situation encountered by trainees. Candidates performed well on this question, particularly on goals for ICP in the management of head injury. Indications for a CT head scan and causes of a high JvO_2 were not well answered.

Question 2: Paediatrics

A new question on a commonly asked topic in the Final FRCA. It was generally well answered, especially indications and contraindications for caudal anaesthesia. The anatomy component of this question (caudal anatomy) was not well answered.

Question 3: Cardiac - CPB and heparin

This was a repeat question on a core cardiac topic and was well answered in general. The dose of heparin and coagulation tests was well answered, but what to do in the event of not being anticoagulated prior to CPB was not well answered.

Question 4: ICM – epilepsy/hyponatraemia

This question was a new one. Classification of hyponatraemia, causes of pseudohyponatraemia, how quickly you can correct hyponatraemia, and the difference between cerebral salt wasting syndrome and SIADH was not well answered.

Question 5: Pain/opioid stewardship

A new question with some recent review articles/consensus statements on this topic. The risk factors for prolonged postoperative opioid use were well answered. How to manage a fentanyl patch per-operatively and opioid equivalence were not well answered.

Question 6: ECT/suxamethonium apnoea

Candidates found this question on the administration of anaesthesia for ECT and use of suxamethonium in their clinical practice difficult. The physiological/autonomic changes during ECT were well answered but the goals of anaesthesia were not well answered.

Question 7: Obs – post natal sepsis

A new question on a commonly encountered topic. This question was generally answered well. It had a high pass mark and was a good discriminator.

Question 8: Delirium and post-op cognitive dysfunction (POCD)

Candidates performed poorly on this question, which was based on a peer-reviewed BJA Education article and checked for accuracy. The definition of delirium was well answered but the risk factors, treatment, screening tools, and anaesthetic strategies to avoid POCD were not well answered. When asked for factors related to POCD, candidates gave answers related to delirium, which reflects the previous point about answering what is being asked. Delirium and postoperative cognitive dysfunction (POCD) is a common topic that candidates are expected to know.

Question 9: TIVA/middle ear surgery

A new question covering some common topics that have been asked previously. It was generally answered well apart from why you should use effect site concentration with the Schneider TCI model.

Question 10: PONV

A core topic that was answered well apart from the side effects of ondansetron.

Question 11: Sustainability

A new topic that is relevant to day-to-day practice. Broad strategies on how to make theatres more sustainable were well answered. The temperature and mechanisms of degradation of Propofol were not well answered.

Question 12: Ankylosing spondylitis

This is a repeat question and was well answered on the whole. Marks were dropped on how to protect the neck if the patient was having a CT scan.

Summary

The rigorous statistical analysis of this paper showed that the overall standard of the exam was good despite the lower pass rate than previous sittings. We congratulate the successful candidates on the standard and breadth of their knowledge.

Questions on which candidates performed poorly were ECT, post-op cognitive dysfunction, and sustainability. Compared to the September 2023 exam, the sub-specialist questions were well answered but candidates dropped marks on the clinical science stems in the questions. Prior to sitting the Final FRCA, it is important that candidates gain exposure to all the relevant specialties and to remember that knowledge of clinically relevant physiology and pharmacology is essential for the safe practice of 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, 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 the staff of the Examinations Department and we are extremely grateful for their continued and enduring support.

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