

Report on the Short Answer Question Paper

March 2016

This report has been compiled by the Chairs of the Short Answer Question (SAQ) group to provide information about how SAQs 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 2016 paper. There is a section at the end with comments about the individual questions from that paper which we hope you will find useful.

The SAQ paper examines a candidate's knowledge of the basic and intermediate sections of the training curriculum specified by the Royal College of Anaesthetists. Because the time available to answer each question is limited, it also tests judgment, and the ability to prioritise information within the answer, not just factual recall.

The questions for each SAQ paper reflect the breadth of knowledge required for intermediate training and are generally a mix of new and revised questions. Questions currently in the database are updated or modified in light of new knowledge, current national practice or recommendations from relevant governing authorities before inclusion in an SAQ paper.

Structure of the SAQ paper

The SAQ paper consists of 12 questions to be answered in 3 hours, 6 based on topics from each of the 6 mandatory units of training and six from the general duties, optional and advanced science modules. Only one question is based on the optional modules.

- 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 stabilization 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 SAQ paper is written to contain questions with varying levels of difficulty:

- 2 questions adjudged to be difficult (pass mark 10-11/20)
- 8 questions adjudged to be moderately difficult (pass mark 12-13/20)
- 2 questions adjudged to be easy (pass mark 14/20 or more)

The level of difficulty and the pass mark are finalised using a process called Angoff referencing, which takes place during the Paper Checking and Standard Setting meetings of the Final examiners. Angoff referencing uses the experience of the examiners to set a pass mark for each question such that a “typical” trainee, with adequate preparation, knowledge and experience, will perform satisfactorily and achieve a pass for the whole exam.

All SAQ questions are mapped to a specific section of the basic or intermediate curriculum. To facilitate an objective and reproducible marking process, a model answer template is provided for each question. Key facts in this template are bullet pointed and assigned marks. The number of marks available for each section of the answer is shown in the question. All questions are subjected to an exhaustive editing and peer review process before use in an examination. This is explained below.

Quality Control for the March 2016 SAQ paper

Wednesday 9th December 2015 – Paper Checking Day (PCD)

- For PCD the Final examiners convened at the College and were divided into six teams of 8-10 people, each led by a member of the SAQ group. Each team was given two questions and their associated model answer templates to check for factual accuracy, clarity of language and ease of understanding. They made any necessary amendments and assigned a provisional pass mark. The same team subsequently marked the questions they had checked. This helps to ensure that a consistent standard is maintained throughout the SAQ paper process.

Wednesday 16th March 2016 – Standard Setting Day (SSD)

- The examiners again convened in their teams at the College and this time marked 4 anonymised SAQ answer booklets (without candidate or College reference numbers) containing the 2 questions they had looked at on paper checking day. College officials chose the four sets of booklets on the basis of 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 team ensured that all these scripts were awarded every mark allowed by the answer template, and that each examiner applied a consistent standard across all four candidates. At the end of SSD a finalized, Angoff referenced pass mark was confirmed for each question.

The candidate answer booklets for each set of two questions were then divided amongst the team and taken away for marking. This process results in each of a candidate’s 6 answer booklets (2 questions) being marked by a different examiner. This eliminates any risk of bias that could arise with a single examiner marking all twelve questions. The Examination Department staff scrutinise the submitted marks and clarify any ambiguities within the marked scripts before individual scores are ratified.

Results – Wednesday 6th April 2016

The overall pass rate for this paper was 62.65%

This compares with recent SAQ papers

- September 2015 49.50%
- March 2015 45.30%
- September 2014 30.32%

Analysis of Results

The pass rate for this exam was greater than at the last 3 sittings, which is very encouraging.

However, candidates continue to disadvantage themselves in a number of familiar ways:

- *Failure to answer the question asked*
It is very important, even when pressed for time, to read the question carefully and answer what is asked. For example, in question 4 of this exam about carotid endarterectomy, part (c) asked for factors that would reduce the risk of perioperative cerebrovascular accident, and part (d) asked candidates to identify other specific postoperative complications. Unfortunately some candidates mentioned the different forms of cerebrovascular accident that may occur postoperatively in their answer to part (d), so could not be given marks, and wasted valuable time. In question 12, on the subject of accidental awareness under general anaesthesia, a number of candidates discussed the management of awareness in their answer to part (c) despite the fact that this was not asked for.

The examiners will often underline parts of the question so as to draw your attention to them. In this paper this was done in part (a) of question 3 about intrathecal opioids – *What are the site of action and intra and extracellular mechanisms of analgesic effect within the spinal cord following the administration of intrathecal (IT) opioids?* Despite this some candidates wrote about the mechanism of action of local anaesthetics.

- *Poor weighting of answers*
Make sure you note how many marks are allocated to each part of the question. Writing extensively on the low scoring sections of the question, to the detriment of other sections, will reduce your overall score.
- *Illegible handwriting*
Examiners take great care to extract answers from a candidate's script, but only material that can be read will achieve a mark. Candidates are encouraged to set out their answers in a bullet point or table format where possible. This aids both legibility and time management.

Results for Individual Questions

Question 1: Anaesthesia for laparoscopic surgery

Pass rate 54.5%

This question was judged to be of moderate difficulty. It would appear from their answers that many candidates had not seen a Nissen fundoplication and were unable to go back to first principles and talk about the effects of laparoscopy in the head up position. Also candidates failed to read part (a) of the question and so did not give the cardiovascular and respiratory effects and their causes.

Question 2: Massive blood transfusion

Pass rate 85.3%

This is an important topic and was generally well answered. It is reassuring that candidates have sound knowledge of the management of major haemorrhage, and of the complications of massive transfusion.

Question 3: Intrathecal opioids

Pass rate 31.7%

It was anticipated that candidates would find this question difficult, and this proved to be the case. Intrathecal opioids are used widely in anaesthetic practice but candidates' knowledge of their use was poor. Advanced sciences are part of the intermediate curriculum so knowledge of applied pharmacology is expected. Some candidates failed to read part (b) of the question and gave the side effects of intravenous opioids or intrathecal local anaesthetic in their answer.

Question 4: Anaesthesia for carotid endarterectomy

Pass rate 53.9%

This question had one of the highest correlations with overall performance i.e. candidates who did well in this question performed well in the SAQ overall. As mentioned above some candidates did not read the question properly but fortunately did not lose too many marks as a result.

Question 5: Intensive care management of acute pancreatitis

Pass rate 53.6%

This is a condition seen commonly in intensive care. Many candidates did not mention alcohol as a cause in part (a). Few candidates could describe the classification of severity of acute pancreatitis as asked for in part (b). Also some candidates tended to give a generic answer to part (d) describing the management of sepsis, rather than the specific management of acute pancreatitis as asked. This resulted in them losing marks in this section.

Question 6: Transphenoidal hypophysectomy

Pass rate 58.8%

The examiners felt that this question was answered well despite it having been adjudged to be hard. However, few candidates either knew that acromegaly was a multisystem disease or could list the other possible clinical presentations of a pituitary adenoma e.g. mass effects. Candidates who performed poorly in part (d) failed to describe the specific issues when anaesthetising a patient for this procedure and focused more on general neuroanaesthetic principles. This is a common mistake that has occurred in many questions across many exams. This question also correlated well with overall performance.

Question 7: Airway management in the pregnant patient

Pass rate 57.6%

It is encouraging that the pass rate for the mandatory obstetric question was higher in this sitting of the SAQ than in the last several sittings. Knowledge of difficult airway management in the obstetric patient is fundamental to anaesthetic practice. It is disappointing however that the recommendations from NAP4 regarding the pregnant patient (part c), seemed very poorly known.

Question 8: Aortic stenosis

Pass rate 41.8%

The pass rate for this question was the second lowest overall. Aortic stenosis is a common condition and its pathophysiology and management should be known to candidates sitting this exam. In part (a) many candidates simply gave the symptoms of aortic stenosis rather than describing the pathophysiology. This could have been due to not reading the question carefully enough but may also reflect lack of knowledge. As mentioned in previous reports, candidates should endeavour to arrange taster sessions in modules such as cardiac anaesthesia if they have not done them prior to sitting the SAQ paper.

Question 9: Child protection issues of relevance to the anaesthetist

Pass rate 44.7%

This is an important topic which is relevant to the practice of paediatric anaesthesia and forms part of mandatory training for all doctors. The question was not particularly well answered with many candidates appearing not to have knowledge of the presenting signs and symptoms of child abuse. Candidates assumed that the parents were harming their child so missed important steps such as informing the senior paediatrician before contacting social services. The general lack of knowledge on this subject was reflected in the poor pass rate.

Question 10: Preoxygenation

Pass rate 44.4%

Again the pass rate for this question was low. The physiology surrounding oxygenation and the practice of preoxygenation should be well understood by candidates as this subject is very relevant to every day clinical practice. As mentioned above applied physiology is part of the syllabus, yet many candidates had no knowledge of the physiology in part (a). Part (b) was also poorly answered, with candidates failing to give sufficient detail about how to effectively preoxygenate a patient.

Question 11: Assessment and management of a victim of drowning

Pass rate 57.9%

Candidates who scored well in part (a) of this question presented well organized answers. Examiners marking this question felt that candidates who scored poorly in part (b) did so because they tended to focus solely on airway management and did not mention other important measures in the resuscitation such as rewarming and fluid management. This part of the question asked for initial management, not just airway management.

Question 12: Accidental awareness under general anaesthesia

Pass rate 57.1%

This question had the highest correlation with overall performance. Most candidates obviously had good knowledge of the recent NAP5 publication and this resulted in a relatively high pass rate.

Candidates who presented their answers in an organized way tended to score more highly than those who did not, probably reflecting their greater knowledge. Again, some candidates disadvantaged themselves by not reading the question carefully.

Summary

Candidates, trainers and examiners will be pleased to see that the pass rate for this sitting of the SAQ paper has increased when compared to the last three.

It is encouraging that of the questions on mandatory units of training, 3 had amongst the highest pass rates in the paper, but it is disappointing that the questions on pain, paediatric anaesthesia and cardiothoracic anaesthesia were not answered well. Again we would emphasize the importance of gaining some clinical exposure in these specialist areas prior to sitting the Final FRCA exam.

Knowledge of advanced science seemed particularly poor in this exam. We remind candidates that this is an important part of the intermediate syllabus which can come into several questions in a single paper, reflecting the way in which applied science forms part of our daily clinical practice.

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

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