

## Report on the Short Answer Question Paper

March 2017

This report has been compiled by the Chairs of the Short Answer Question (SAQ) group to provide information for candidates and trainers 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 2017 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 as 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 rather than 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. A maximum of 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 2017 SAQ paper**

#### ***Friday 9<sup>th</sup> December 2016 – Paper Checking Day (PCD)***

- For PCD the Final examiners convened at the College and were divided into six teams of 8-10 people, each chaired 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 15<sup>th</sup> March 2017 – 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 – Thursday 6<sup>th</sup> April 2017

The overall pass rate for this paper was 50.66%

This compares with recent SAQ papers -

- September 2016 70.54%
- March 2016 62.65%
- September 2015 49.50%

### Analysis of Results

The pass rate for this exam was lower than in the last 2 sittings, but similar to the September 2015 sitting.

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 1, part b, candidates were asked to include the specifics of emergency antiepileptic drug therapy in the initial management of status epilepticus but some candidates focused on medical management without detailing drug therapy. In Question 10, part d, candidates were asked to give measures used to improve oxygenation in ARDS – many candidates wrote about general ITU care and did not specifically answer the question, hence could not be given marks.
- *Poor knowledge of clinical sciences*  
As previously, candidates showed poor knowledge of clinical sciences applied to anaesthesia. For example in part d of question 9 candidates were asked for the pathophysiological changes occurring at the spinal cord during the transition from acute to chronic pain. Many simply wrote a list of words that might be associated with the process without giving any explanation as to what might be happening.
- *Poor weighting of answers*  
Candidates should make sure they 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. It is also a good idea to practise writing for 3 hours as part of your exam preparation as this is not something most people are used to.

### Results for Individual Questions

#### **Question 1:** Management of status epilepticus

Pass rate 47.1%

This question was judged to be easy and is relevant to everyday practice as anaesthetists may encounter such patients in multiple areas including ITU, neurosurgery and the emergency department. Very few candidates were aware of the up to date definition of

status epilepticus. In part b some candidates failed to give details of drug management despite this being specifically asked for in the question.

**Question 2:** Wrong side block and never events

*Pass rate 39.0%*

This question related to an important safety initiative. Candidates did not have adequate knowledge of the factors contributing to the performance of a wrong side block such as distraction, the patient being lateral or prone or site mark being covered by blankets.

**Question 3:** Consequences and management of preoperative anaemia

*Pass rate 29.5%*

Detailed knowledge of the consequences of anaemia and the physiological adaptations accompanying it were lacking. In particular candidates scored poorly in part d which asked about blood tests used to help classify anaemia.

**Question 4:** Anaesthesia for off-pump cardiac surgery

*Pass rate 60.4%*

It is encouraging that the pass rate for this question was high. Hopefully this reflects the fact that candidates are ensuring they get exposure to the subspecialty of cardiac anaesthesia prior to sitting the exam. Some candidates did not give enough detail in parts b and c, concerning the causes and mitigation of haemodynamic instability during off-pump cardiac surgery, so failed to score well. This question correlated well with overall performance i.e. those candidates who scored well in this question did well in the exam overall.

**Question 5:** Assessment and initial management of burns

*Pass rate 57.9%*

This is an important topic that candidates should be expected to know. Some candidates placed too much emphasis on history when answering part a which actually asked for clinical features, and also tended to repeat their answer to part a when answering part b.

**Question 6:** Knowledge and management of post dural puncture headache (PDPH)

*Pass rate 81.3%*

This question had the highest pass rate in the paper and also had the highest correlation with overall performance. PDPH is a common problem in obstetric anaesthesia so it is reassuring that the question was well answered and that candidates recognised possibly serious differential diagnoses.

**Question 7:** Anaesthesia for cadaveric renal transplant

*Pass rate 42.1%*

Renal transplantation is the most frequently undertaken form of transplant surgery but it seemed that many candidates had not had any practical experience of it. This was particularly noticeable in the answers to part b, improving the function of the transplanted kidney intraoperatively, and part c, management of postoperative pain. However, even candidates who have never seen a renal transplant operation should know the principles of analgesic use in renal failure.

**Question 8:** Postoperative nausea and vomiting (PONV)

*Pass rate 68.3%*

This was one of the 2 easy questions and the pass rate was the second highest overall, as might be expected given the frequency with which PONV occurs. Despite this many candidates had insufficient knowledge of risk factors for PONV and of the non-pharmacological methods that may be used to reduce it. Candidates who scored well had a sensible structured approach to this common problem.

**Question 9:** Persistent postoperative pain

*Pass rate 37.4%*

This was adjudged to be a hard question and did indeed have a relatively low pass rate. In general global knowledge of this syndrome was poor, but specifically the last section on pathophysiology was particularly badly answered.

**Question 10:** ITU management of adult respiratory distress syndrome

*Pass rate 57.3%*

ARDS is a clinical condition which is seen commonly on ITU and of which candidates should have a thorough understanding. Whilst the definition was well known, the majority of candidates did not know the clinical indices used to assess oxygenation. Part d was on the whole well answered but those candidates who lost marks tended to write about general ITU care rather than the specifics of care for patients with ARDS.

**Question 11:** Neonatal inguinal hernia repair

*Pass rate 28.0%*

Knowledge of the anaesthetic issues surrounding prematurity and the very young is important. In part a, candidates who organized their answer by systems tended to score well. Candidates who scored poorly tended to give generic answers about physiological problems in any paediatric patient rather than specific perioperative problems for this particular ex-premature neonate.

**Question 12:** Early management of hip fractures and use of fascia iliaca block

*Pass rate 22.2%*

It is disappointing that this question concerning a very commonly seen clinical scenario and accompanying anaesthetic technique, was answered so poorly. In part a many candidates failed to mention assessment of pain as part of preoperative optimization. There was general lack of knowledge of anatomy in part b. In part c some candidates failed to read the question correctly and described a technique using a nerve stimulator rather than ultrasound, or described a femoral nerve block rather than a fascia iliaca block. Some candidates still wrote about assistance and emergency equipment despite being told in the question that this was unnecessary. Many of the answers were somewhat brief but it is unclear whether this reflects a lack of knowledge or a lack of time.

## **Summary**

Despite the low pass rate of this exam compared to that of the last two sittings, it is encouraging that 3 of the questions on mandatory units of training had amongst the highest pass rates in the paper. However, the neurosurgical/neuro critical care question was not answered well despite being about a core and important topic. Again we would emphasize the importance of gaining some clinical exposure in these specialist areas prior to sitting the Final FRCA exam.

As mentioned in previous reports knowledge of advanced science seemed particularly poor. 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.

It is very important to take the time to read the questions carefully and to attempt to answer the question that is being asked.

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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**Chairs, Short Answer Question Group**  
**April 2017**