

**Intercollegiate Membership of the  
Royal College of Surgeons  
Examination Part B  
(The Objective Structured Clinical  
Examination)**

A review by Mr Will Hawkins on behalf of



May 2009

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## **I Introduction**

- 1.1 On behalf of the Association of Surgeons in Training (ASiT) I would like to thank Adrian Woodthorpe and the Royal College of Surgeons of England for offering Steve Hornby and myself the opportunity to observe the Intercollegiate Membership of the Royal College of Surgeons Objective Structured Clinical Examination (IMRCS OSCE or part B) recently. It was a very useful exercise and has allowed us to reflect on the changes that have been made.
- 1.2 ASiT welcomes the opportunity to comment on this examination and hopes that our opinions can be used constructively towards a common goal of improving it for the candidates, the public and the surgical community as a whole. This report has also drawn from the opinions of the ASiT executive. It has been written for the OSCE subcommittee but will also be incorporated into a wider report on surgical training that ASiT are currently working towards and intend to publish later this year.

## **2 Overview**

- 2.1 The OSCE has to be viewed as part of the assessment process of the Intercollegiate Surgical Curriculum Programme (ISCP) and not as an entity on its own; however it can be viewed as a direct replacement of the examinations that have preceded it. It is a high stakes examination that now acts as a gate keeper into higher surgical training (ST3). As such the public and the profession need assurances that it is robust and fair. It must also ensure that the successful candidates have reached an acceptable standard and that they have shown the potential for successful progression through a career in a surgical specialty.
- 2.2 There is concern within the profession, at all levels, that changes in medical school curricula have led to medical graduates gaining a less robust grounding in the basic

sciences than has previously been required. Anatomy teaching represents the area of greatest concern but other sciences such as pathology, physiology, embryology and pharmacology also seem to be less well covered. If this imbalance is to be addressed, the Royal Colleges (as leaders of the profession) need to be seen to reinforce the importance of these basic sciences. Medical schools want to see their graduates do well in their professional examinations and by ensuring that there is a high level of basic sciences covered in the IMRCS it should inevitably feed back into undergraduate curricula. This has been an important consideration to us whilst reflecting on our experience.

2.3 The OSCE effectively replaces the old viva voce and clinical parts of the MRCS. The viva voce or oral examination used to include three stations:

- Applied anatomy and operative surgery
- Applied surgical pathology & principles of surgery
- Applied physiology & critical care

The most recent version of the clinical included four stations:

- Head and neck, breast, axilla and skin
- Trunk and groin
- Vascular
- Orthopaedic

A separate section covered communication skills.

2.4 Surgical training has changed since the MRCS was conceived and it is perhaps appropriate for the examination to have been altered to reflect this but we feel that it is important that the majority of the topics covered in the MRCS are also included in the new IMRCS. Enthusiasm from educationists has led to widespread use of OSCEs at undergraduate level, making them a familiar format to today's medical graduates. An OSCE is easy to standardise but identifying content for the examination can be difficult because the time frame for each station can be restrictive. Unfortunately this can sometimes lead to reliability and validity being sacrificed in favour of practicality and feasibility.

2.5 By moving away from a viva voce format, the new OSCE contains more 'experiential' assessment than previously, allowing the examination to be more relevant to clinical practice. However, in many stations this is at the expense of examining knowledge, skills and attitudes at a lower level on Bloom's taxonomy<sup>1</sup>. The use of more actors than previously and taking the examination away from the clinical setting is also a significant loss to the examination and could be considered to represent a deconstructive alignment of the curriculum. The successful candidates will be surgeons in the real world, so it would be nice to see them being examined in a more authentic clinical setting.

2.6 We are glad to see that the format and running of the part B has been improved since the first diet in response to feedback from the candidates and we were impressed by the organisation of the examination. However, it is a shame that this progress is not being relayed back to the profession as a whole. A major problem that this examination currently has is an image problem. The changes from the previous IMRCS are significant and compared to the old-style FRCS even more severe. It is a format unfamiliar to most established consultants and this breeds scepticism. For the examination to work, it needs widespread support from the

profession and the public. This requires openness, communication and training. It also requires evidence that the OSCE is achieving its aims, is as robust as its predecessors and covers the right topics in an appropriate format.

2.7 Part B has been split into five *broad content areas* for the purpose of assessment in the OSCE. These are:

- Anatomy & surgical pathology
- Surgical skills & patient safety
- Communication skills
- Applied science & critical care
- Clinical skills

Each of these *broad content areas* has to be passed for the candidate to pass the examination overall but some stations cover more than one of these domains.

2.8 One reason that the changes to the IMRCS have been so extensive is because it is intended to complement other assessments in the ISCP. These assessment processes include:

- Procedure Based Assessments
- Direct Observation of Procedural Skills
- MiniCEX (clinical exercise)
- Case Based Discussions
- MiniPAT (peer assessment tool)
- Annual Review of Competence Progression (ARCP)

These could be considered to assess:

- Surgical skills
- Clinical examination
- Clinical knowledge
- Communication skills/working in teams
- Overall progress

2.9 These tools are somewhat controversial, with concerns regarding their fitness for purpose and whether they have sufficient validity. They were originally designed for formative purposes and the change in their use for summative purposes needs to be seriously addressed. They have recently been criticised in the ErAUT report<sup>2</sup> and ASiT will be making a report on these 'workplace based assessments' (WBAs) separately. If WBAs are to be used as part of the summative process of the ISCP and to feed into the ARCP then they need to be updated, become more robust and have a general buy-in from surgical trainers across the country. Currently they are seen to be more of a 'tick box' exercise with number of assessments performed seemingly more important than the quality. When used correctly, in their current form, they can serve an important purpose, highlighting to the learner deficiencies in their own training and identifying new learning objectives for the trainee and trainer to work towards.

2.10 Due to our concerns regarding the use of WBAs in a summative assessment process, ASiT currently find it impossible to endorse the decision to use them in place of parts of the IMRCS. We do accept that workplace assessments have the potential to be used for summative purposes in the future. A well designed

assessment tool could assess a high level of skill – ‘shows how’ or even ‘does’ on Miller’s pyramid<sup>3</sup> – so we urge the Colleges to revisit this area and work with other interested parties, including grassroots surgeons, towards creating tools that can actually deliver what we need from them. If suitable assessment tools can be developed and validated, it will represent the first time that certain skills, especially operative skills, have been so formally assessed in surgical training and would represent an enormous step forwards.

### 3 Broad content areas

- 3.1 It is a useful exercise to go through the broad content areas and the stations individually.

#### **Surgical skills and patient safety**

- 3.2 *Direct Surgical Skills*

This is a new concept in the MRCS examinations. It is a station which, perhaps more than others, has received criticism since its introduction. The station that I observed involved excising a skin lesion under a local anaesthetic. Other variations on this station include placing a cannula and taking blood cultures. Of these, excising a skin lesion is the most appropriate, but even this is too simple a task to assess whether a trainee is ready to progress to higher surgical training. Cannulation and venepuncture are assessed at medical school and are competencies that foundation year doctors are required to demonstrate to gain their full registration with the General Medical Council. To repeat these assessments at this level is unnecessary, belittling to the candidates as it does not reflect their career progression and has no place in this level of examination. Well designed and validated procedure based assessments performed by fully trained educational supervisors really represents the best option that we have at our disposal to assess surgical skill and it would be more appropriate to concentrate resources in developing these tools.

- 3.3 Another observation regarding the skin lesion station is that there was nowhere to lie the patient down, meaning that the synthetic skin lesion was excised from the patient’s arm with the patient sitting in a chair. This immediately removes the assessment from reality and is an example of where the OSCE is not aligned with the curriculum.

- 3.4 *Patient Safety*

This station is, contrastingly, a very appropriate station for an OSCE. The setting of a pre-operative theatre briefing was stated on the candidate instructions and perhaps could be performed more authentically with nurses/theatre staff included in the station rather than a single consultant surgeon. However this is essentially a viva voce on prioritising patients and pre-operative management. It works well as an OSCE station and reflects the sort of decisions that a higher surgical trainee should be able to make during an on call without having to contact their consultant.

#### **Anatomy and Surgical pathology**

- 3.5 This broad content area involves three stations that should be considered as a whole:

- One unmanned on generic anatomy with flags placed on a skeleton and specimens with related questions
  - One manned generic/applied anatomy (the station that I observed used an actor to demonstrate applied functional anatomy)
  - One manned station assessing anatomy in an area chosen by the candidate
- 3.6 As mentioned earlier in this report, anatomy is a contentious area in the IMRCS. It is rightly considered a vital part of the examination and its presence in the examination reflects the importance that the medical community as a whole places upon it. For the sceptics the three stations combined actually represents a longer assessment of anatomy than in previous versions of the examination but, because there is now an element of selectivity, the breadth of knowledge examined has reduced in real terms. We would also note that there was very little pathology included in these stations; instead the focus seemed to be on functional anatomy. This is something that must be addressed.
- 3.7 Despite being nominally unmanned, this station still required the presence of an examiner sitting behind the screen marking the papers as they were completed. Being a written paper, with no time for essay questions, it is limited to very short answer questions. Some of the questions that we saw being marked had some common incorrect answers, in a viva voce situation this could have been addressed and the candidates' knowledge could have been explored which may have been a fairer assessment. An unmanned station provides a little variety to the examination and is easier to standardise than an oral station but ultimately can only assess quite basic knowledge. From this station, the specimens could have been replaced by photographs and included in Part A instead. A better alternative for this station may be to combine it with the generic manned station and have two examiners.
- 3.8 The generic station seemed a good station that explored clinically related anatomy, but was limited to one area and therefore missed the opportunity to explore the breadth of knowledge of the candidate. Both this station and the unmanned station that I witnessed involved anatomy of the arm and to some extent the assessment was being duplicated.
- 3.9 The chosen anatomy station represents a significant change in the IMRCS but mirrors changes in training that encourage trainees to make a career choice early in their career. It continues the debate started with the introduction of the Diploma of Otolaryngology, Head and Neck Surgery (DO-HNS) as to whether the same qualification should be awarded to everyone who passes the examination or whether the IMRCS should a specialty specific award (perhaps with a generic option for those who are undecided or would like to keep their options open). Aside from this issue, the station itself was a well structured, standardised, one to one viva voce that seemed to cover the subject well.

### **Communication Skills**

- 3.10 *Talking with patients, relatives and carers*  
 This station was run in a similar format in the previous versions of the communication skills assessment. There is no escaping the importance of communication skills to the public and in the practice of a doctor, whatever their discipline. This station seemed to represent an improvement on previous incarnations as it was preceded by a preparation station, allowing the candidate to really get to know the case prior to encountering the 'relative'. This was felt to be an appropriate station.

### 3.11 *Talking to colleagues*

This station also had a preparation station, in this case leading into a telephone call to a consultant sitting in a nearby cubicle. The scenario is appropriate to the level of training, but because the examiner and candidate were apart it was a difficult station to observe. We have since discussed this station with candidates who took the examination in this diet. Having seen the marking scheme, marks are awarded for communication skills, organisation and decision making. As we see it, the station should be about relaying information over the telephone and taking advice from the consultant at the other end. This is a well conceived idea, it is relevant to practice and none of the workplace based assessments really cover this skill, which makes it all the more important. However, the candidates who have commented on this station (both in Edinburgh and London) found it was run almost as a critical care viva voce and the consultant became quite argumentative. As there are no marks for clinical knowledge and we should be encouraging team work, this seems an unnecessary expansion of the station.

### 3.12 *Written communication*

In this station candidates are expected to write a letter or fax to send to a GP or other outside party. Even the marker of this section was dubious as to its relevance in modern practice, but more importantly found the phrasing of the scenario misleading. As a result many candidates were leaving out features that were important in the marking scheme (specifically regarding post-operative anticoagulation in the scenario which I saw). Despite this hand writing, the ability to summarise a case and write coherent English are all essential skills for a surgeon working in the UK, so with better written scenarios and candidate instructions we can support the use of this station. However, if a random selection of discharge and clinic letters written by the trainee were assessed summatively at ARCP, this would represent a higher level of assessment on Miller's pyramid<sup>3</sup>.

## **Applied Surgical Science and Critical Care**

### 3.13 *Interpretation of data/clinical visual data*

These two unmanned stations both assess the candidate's ability to interpret data set before them. I did not get the opportunity to look at the information provided in the data station but did go through the scans provided in the second station. The CT provided was a single film. This may be appropriate in an oral presentation but in an examination it is insufficient. CT scans are multi-slice images and to get a more accurate interpretation of the results it is appropriate to offer all the images to the candidate. This would mean that they need some more time to digest the information, but if that is needed then it should be offered. Most candidates in this station seemed to have time to answer all parts and the subject information was appropriate. However, in the data station, no candidate had managed to complete all the questions in the allotted time. This was the other station heavily criticised by candidates that we have spoken to since. The amount of data provided was apparently overwhelming, forcing the candidates to either skim read to try and answer as much as possible or to spend too much time interpreting the results, leaving too little time to answer the questions. One candidate had only got to question three out of ten, which must have left them very worried for the rest of the circuit.

3.14 A solution for these stations may be to combine them into two 14 minute stations running in the time allotted to three stations. In the visual data station this would allow time for an entire CT scan to be used and questions could refer to

abnormalities seen on particular image numbers. Alternatively the scenarios need to be redesigned to realistically run to time.

3.15 *Critical Care Management*

This is the only manned station in this section, with the candidate being given a clinical scenario at the beginning of the 9 minute station. The scenario was appropriate and there were (unusually for this examination) two examiners present. However, we do not consider the time allocated sufficient to assess the depth of knowledge in this subject. Even acknowledging that the unmanned data interpretation station does assess some physiology/critical care knowledge there should probably be an extra station to assess this in an oral station. A suggestion could be to make one station specifically cardio-respiratory physiology/critical care and another general physiology to include subjects like renal, digestive and neurophysiology.

### **Clinical Skills**

3.16 *History taking in general surgery/in chosen discipline*

These stations seemed to be appropriate to the level of training and for an OSCE station. The time frame reflects an outpatient setting and the time restraints during a busy on call. These skills were less well covered in the previous formats of the examination and are a welcome addition to the IMRCS. History taking is also assessed in WBAs, but as discussed earlier this in itself is insufficient for a high stakes, summative assessment.

3.17 *Physical examination in general surgery/in 2 chosen disciplines*

In the generic station the candidate is asked to examine either the respiratory or cardiovascular system in the setting of assessing pre-operative risk. This idea behind this station is certainly appropriate but it runs very like a final year medical student examination which is not appropriate for a post-graduate examination. To make it more appropriate to this level of assessment the station could be used to further explore the candidate's knowledge of peri-operative physiology.

3.18 The two chosen stations represent a significant reduction in the amount of relevant and specific physical examination assessed during the IMRCS. The justification for this appears to be because these skills are assessed in the workplace. As explained earlier, ASiT does not support this decision. Even if WBAs did represent a suitably robust assessment this decision reveals an inconsistency in logic because other new elements in the IMRCS replicate skills that are also covered in WBAs.

3.19 We have grave concerns that a surgical trainee could get through the IMRCS without examining, for example, an abdomen or a limb. A key phrase in postgraduate training recently is being 'emergency safe'. A surgeon in any discipline could be expected to be part of a trauma team, so it is important that they understand the possibility of concurrent injuries and be able to at least appreciate that there may be an injury to another system. Even if they subsequently lose the skills to assess that system fully, if we ensure that all candidates progressing through the IMRCS have the basic skills at that level to examine all the major systems, it should help protect the public and should make the surgeons of the future closer to being emergency safe.

3.20 These two stations were difficult to observe without being intrusive because they were behind tight screens to preserve patient modesty, so it is not possible to fully

assess the quality of these stations. We hope that we can assume that they are equivalent to those run in previous versions of the examination.

## 4 Conclusion

- 4.1 The IMRCS part B OSCE works as an efficient examination that has been improved since the first diet in response to feedback. On this the organising committee should be congratulated. Overall the atmosphere in the examination rooms seemed relaxed and the candidates actually seemed to enjoy the experience far more than in previous years and this has to be considered a positive thing. However, we did sense that enthusiasm amongst the examiners was lower than we would have expected, which is worrying. Perhaps the committee need to hear more feedback from this group to make the OSCE a long term success?
- 4.2 Currently the examination does not have a good image amongst the profession as a whole. The OSCE format itself is controversial as it does not allow assessment at the higher levels of Bloom's taxonomy<sup>1</sup>, although it does potentially allow assessment of a wider range of skills. The higher pass rate has helped fuel rumours that it is easier than ever before, but the key issue is the content of the examination, especially the loss of two clinical examination stations. The Intercollegiate Committee for the Basic Surgical Examination must address this issue by continuing to improve the OSCE and communicate these changes to the surgical community to gain support and improve its reputation.
- 4.3 The OSCE format does allow for more areas of knowledge and skill to be assessed in one sitting than other types of examination. The stations which have been added that have not previously been seen in the MRCS are generally positive additions. The primary exception to this is the *direct surgical skills* station which is too simplistic and out of context for it to be justifiably included. We accept that surgical skills must be assessed more vigorously than has previously been the case; however this is best done in the workplace. If it is considered a required element by outside assessors, such as PMETB, then more suitable models/scenarios and a longer time frame to complete the task is required. Models do exist and are used in other countries at this level, but they come at considerable expense and we would not endorse passing this expense on to the candidates.
- 4.4 An area of even greater concern is the assessment of the basic sciences and other core aspects of the curriculum. Anatomy, physiology, critical care and pathology all seem to be assessed at a less intense level than previously. These are basic fundamentals that trainees need to have as a base to build their future knowledge and career as a surgeon, so must not be ignored. Some suggestions have been made above on how this may be addressed, but these need much more thought on how to develop new stations. A major draw back with the OSCE format is the limiting timeframe of each station. We would recommend being flexible and inventive with time slots, rather than forcing topics into stations that are too restrictive to accurately assess the candidate's performance.
- 4.5 The introduction of candidate choice into the examination does not seem to represent a move in the right direction. It would be useful to know if the different choices available have a similar distribution of marks, but there is a risk that candidates will make their choice based on which stations they consider easier to pass rather than because of their career choice. We believe that all candidates

should expect to be examined on all aspects of surgery and offering a choice detracts from the quality of the examination. Introducing a specialty specific qualification is an alternative, but much less appealing resolution to this issue.

- 4.6 The committee should also consider how much the IMRCS wishes to assess the 'complete' surgeon and to help assess the intended outcomes of the ISCP. The 'CanMEDS'<sup>4</sup> principle of a doctor as a communicator, collaborator, manager, health advocate, scholar and professional has become the template for a consultant surgeon. These are the traits that we should be looking for at interview but perhaps they should also be included in examinations too. Many of these are already assessed in the OSCE, but scope for new stations could include knowledge of research methods, managerial skills and team working. These skills may be outside the remit of the IMRCS, but are options to consider.

## 5 Summary of findings and recommendations

- 5.1 Current versions of WBAs are not designed for summative purposes and ASiT cannot support the use of the current tools in this way. We do accept the need for summative assessment in the workplace and believe more work needs to be done to achieve this goal.
- 5.2 Overall the examination seems to be well organised and the candidates seem to be generally relaxed.
- 5.3 The IMRCS part B has a problem with its image amongst the surgical community which needs to be addressed.
- 5.4 The *Direct Surgical Skills* station repeats the assessment of competencies that are performed at medical school and foundation years level. These skills should have no place in the IMRCS.
- 5.5 The *Patient Safety* station concentrates on pre-operative management of patients and is a welcome addition to the IMRCS.
- 5.6 Although the length of assessment in anatomy is longer than the previous MRCS examinations, the current format fails to cover the same breadth of knowledge.
- 5.7 The unmanned anatomy station is only able to assess very basic knowledge and should be combined with one of the manned stations.
- 5.8 The chosen anatomy station worked well but ASiT would encourage a rethink on the introduction of choice into the examination.
- 5.9 The Anatomy and Surgical Pathology broad content area assesses very little pathology and this balance needs to be addressed.
- 5.10 Changes to the Communications Skills assessment are broadly supported, although better guidance for the candidates and examiners are needed for the *Talking to Colleagues* and *Written Communication* stations.

- 5.11 The two *Interpretation of Data* stations need review as they do not offer enough time for the candidates to interpret the results. For the visual data, if CT scans are to be included these should be entire scans rather than individual frames.
- 5.12 The *Critical Care Management* station is well designed and we welcome the use of two examiners. However, a second station examining on physiology should also be introduced.
- 5.13 The *History Taking* stations work well and reflect the time restraints encountered in clinic and whilst on call.
- 5.14 The generic *Physical Examination* station repeats assessments performed in the final year of medical school and could be improved by further assessing the candidates knowledge of peri-operative physiology.
- 5.15 The two chosen *Physical Examination* stations are insufficient for a high stakes examination, candidates should expect to be examined on any system to help ensure that surgeons of the future are indeed 'emergency safe'. Again, we would like to see a review of the element of choice in the IMRCS and a move back to at least four physical examination stations.
- 5.16 Overall, there is insufficient assessment of anatomy, physiology and pathology in the OSCE.
- 5.17 Keeping rigidly to the 9 minute station is too restrictive for some elements of the OSCE, we recommend being innovative with the use of the time.
- 5.18 Suggestions for broadening the scope of the examination could include looking at the CanMEDS principles<sup>4</sup>

## 6 References

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