

Intercollegiate Committee for Basic Surgical
Examinations

2015/16 ANNUAL REPORT

MRCS

**The Membership Examination of the Surgical Royal
Colleges of Great Britain and in Ireland**

DO-HNS

The Diploma in Otolaryngology – Head & Neck Surgery

June 2016

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The Intercollegiate Committee for Basic Surgical Examinations (ICBSE) would welcome comments on this Annual Report and ways in which it can be improved in future years. If you have comments on this Report please send them to: The Chairman, ICBSE, c/o lsmith@icbse.org.uk

1. Introduction

This is the **ninth** Annual Report of the Intercollegiate Committee for Basic Surgical Examinations (ICBSE) and covers the period August 2015 to July 2016.

The purpose of the Annual Report is to provide a definitive source of information about the Membership Examination of the Surgical Royal Colleges of Great Britain (MRCS) and the Diploma in Otolaryngology – Head & Neck Surgery (DO-HNS) for all interested stakeholders including candidates, trainers, Assigned Educational Supervisors and the public.

The structure, standard and quality assurance of the MRCS and DO-HNS examinations are the responsibility of the ICBSE which has a number of specialist subgroups each responsible for a different aspect of the examination.

The purpose of ICBSE is as follows:

- To develop and oversee Intercollegiate Membership examinations for assessing the standards of trainees during and at the end point of Core Surgical Training;
- To develop and oversee the DO-HNS examination.

ICBSE's work may be classified into three activities:

- maintaining the quality and standard of the examinations within its remit;
- delivering incremental improvements in service standards;
- developing the examinations within its remit to meet internal and external requirements.

These three activities have equal priority.

More recently, ICBSE has been heavily involved in research around the MRCS including the effects of human factors on examiner performance, and the predictive validity of MRCS in higher surgical training. The first Intercollegiate Research fellow was appointed in July 2015, commencing in November 2015 for one year in the first instance.

2. The MRCS examination: purpose and structure

The Membership Examination of the Surgical Royal Colleges of Great Britain and in Ireland (MRCS) is designed for candidates in the generality part of their specialty training. It is a crucial milestone that must be achieved if trainees are to progress to specialty surgical training as defined by the surgical Specialty Advisory Committees (SACs). The purpose of the MRCS is to determine that trainees have acquired the knowledge, skills and attributes required for the completion of core training in surgery and, for trainees following the Intercollegiate Surgical Curriculum Programme, to determine their ability to progress to higher specialist training in surgery.

It is anticipated that on achievement of the intended outcomes of the curriculum the surgical trainee will be able to perform as a member of the team caring for surgical patients. He or she will be able to receive patients as emergencies, review patients in clinics and initiate management and diagnostic processes based on a reasonable differential diagnosis. He or she will be able to manage the peri-operative care of patients, recognise common complications and be able to deal with them or know to whom to refer them. The trainee will be a safe and useful assistant in the operating room and be able to perform some simple procedures under minimal supervision and perform more complex procedures under direct supervision.

The MRCS examination has two parts: Part A (written paper) and Part B Objective Structured Clinical Examination (OSCE).

2.1 Part A (written paper)

Part A of the MRCS is a machine-marked, written examination using multiple-choice Single Best Answer and Extended Matching items. It is a four hour examination consisting of two papers, each of two hours' duration, taken on the same day. The papers cover generic surgical sciences and applied knowledge, including the core knowledge required in all surgical specialties as follows:

Paper 1 - Applied Basic Science
Paper 2 - Principles of Surgery-in-General

The marks for both papers are combined to give a total mark for Part A. To achieve a pass the candidate is required to demonstrate a minimum level of knowledge in each of the two papers in addition to achieving or exceeding the pass mark set for the combined total mark for Part A.

2.2 Part B (OSCE)

The Part B (OSCE) integrates basic surgical scientific knowledge and its application to clinical surgery. The purpose of the OSCE is to build on the test of knowledge encompassed in the Part A examination and test how candidates integrate their knowledge and apply it in clinically appropriate contexts using a series of stations reflecting elements of day-to-day clinical practice.

3. The MRCS and the Intercollegiate Surgical Curriculum Programme (ISCP)

The MRCS examination is an integral part of the assessment system of the Intercollegiate Surgical Curriculum Programme (ISCP) <http://www.iscp.ac.uk>. Ten surgical specialties: cardiothoracic surgery; general surgery; neurosurgery; oral & maxillofacial surgery; otolaryngology; paediatric surgery; plastic surgery; urology; vascular; and trauma & orthopaedic surgery collaborate through the ISCP in developing a competence-based curriculum which defines the attributes required of a successful surgeon. The web-based ISCP curriculum and its assessment system, including the MRCS and DO-HNS, have been approved by the General Medical Council (GMC).

The MRCS content has been reviewed to ensure that it continues to articulate with the changes to ISCP. The MRCS content guide continues to set out for candidates a comprehensive description of the breadth and depth of the knowledge, skills and attributes expected of them, and thus provides a framework around which a programme of preparation and revision can be structured. It also sets out the areas in which candidates will be examined. It has been formatted to maximise its accessibility to candidates and examiners and is available on the intercollegiate website http://www.intercollegiatemrcs.org.uk/new/guide_html

4. The MRCS Examination

4.1 Part A (written paper)

Based on the ISCP curriculum, a syllabus blueprint for the Part A examination sets out a broad specification for the numbers of questions on each topic to be included in each paper of the examination. It is not possible to sample the entire syllabus within a single Part A

paper but the blueprint and specification ensures that the common and important content is routinely covered and that the entire syllabus is sampled over time.

Questions are coded according to the area of the syllabus to which they relate and are held in a computerised item bank. Groups of question writers are commissioned to produce new questions according to the agreed specification and, following editing and specialist review, these questions are added to the item bank. For each diet of the examination questions are selected from the bank using the examination blueprint and are compiled into a paper by the MCQ question paper group of the ICBSE.

Questions are carefully planned from the outset to be at an appropriate level of difficulty. The standard for the paper is originally set using a modification of the Angoff procedure where a group of colleagues estimates the performance of a notional 'just good enough to pass' candidate. In order to ensure that standards are set at an appropriate and realistic level the colleagues include practising surgeons, specialist basic scientists, trainers, trainees and a patient representative.

A number of 'marker' questions taken from a previous examination are included in each Part A paper and are used to calibrate the standard and help to ensure that there is continuity of the standard of the examination over time.

Following each examination a standard setting meeting is held at which the performance of candidates on each question is scrutinised together with their performance on the test overall. A range of statistical measures is used to evaluate the reliability and facility of the examination and its individual questions. It is at this stage that candidate feedback on the examination is considered and taken into account when deciding whether or not to exclude a specific question from the overall examination outcome. Using the benchmark of the previously described Angoff exercise, the performance of candidates on the marker questions is reviewed together with other statistical data from the present and previous examinations to set the pass/fail cut-off mark.

Candidates are given their Part A score and the score required to pass the examination, thus giving them an indication of how far short of, or above, the required standard they are.

2015-16 Part A (written paper) Review of Activity

The Principles of Surgery in General paper of the Intercollegiate MRCS Part A exam now includes Single Best Answer (SBA) items as well as Extended Matching (EM) items.

There was a phased introduction of the SBAs within the PoSG paper:

| | |
|----------------|-------------------------|
| April 2013 | up to 30 SBAs |
| September 2013 | up to 30 SBAs |
| January 2014 | up to 30 SBAs |
| April 2014 | up to 60 SBAs |
| September 2014 | up to 60 SBAs (45 used) |
| January 2015 | up to 60 SBAs (45 used) |
| April 2015 | up to 60 SBAs (45 used) |
| September 2015 | up to 60 SBAs (50 used) |
| January 2016 | up to 60 SBAs (45 used) |
| April 2016 | up to 60 SBAs (45 used) |
| September 2016 | up to 60 SBAs (50 used) |

The two types of questions are organised in to separate groups within the paper. The number of questions in the Principles of Surgery in General paper remains the same at 135 and there is no change in the time allowed for candidates to complete the paper.

The change was implemented to further improve the reliability of the MRCS Part A examination.

In addition, the Content Review Sub-Group completed the coding system to the multiple choice question bank. The coding process afforded the Content Review Sub Group the opportunity to review the current Part A test specification. A proposal was agreed by the GMC in August 2015 for changes to the test specification (blueprint) of the Part A examination, so that it adequately tests, and is clearly mapped to, the topics and skills defined within the ISCP core curriculum and MRCS Guide. The changes to the test specification have been widely publicised from the end of 2015 and will come in to force from the January 2017 examination allowing candidates and stakeholders over 12 months to plan for the introduction of the new blueprint. The changes have also been published in a recent BMJ article (27 May 2016), written by the ICBSE Chair and Manager.

A summary of the changes are listed here:

- The total number of questions will increase from 270 to 300
- The total time available to candidates will be increased from 240 minutes to 300 minutes, to allow 1 minute per question (candidates currently have to work at the rate of 1.13 questions per minute)
- The balance of Applied Basic Science (ABS) and Principles of Surgery in General (PoSG), currently equal at 135 questions for each, will change to become 60% ABS (180 questions, an increase of 45) and 40% PoSG (120 questions, a decrease of 15).
- The administrative model will be one three-hour session for ABS and a second two-hour session for PoSG with a break in between. It will be possible to maintain the “staggering” of starting times in centres across the globe. There will be proportionally greater time available for candidates for whom special accommodation is made, as at present.
- The number of questions testing anatomy will increase from 45 to 75 (that is, from 16.7% to 25% of Part A as a whole).
- Candidates will continue to be judged by the aggregate score on Part A as a whole, with no requirement to pass ABS and PoSG as separate examinations.
- The secondary requirement that passing candidates are required to obtain at least half of the available marks in both the ABS and PoSG paper will be retained.

Module deficiency reports have allowed the MCQ Sub Group to identify gaps within the current question bank which has provided focus for the question writing groups. It is envisaged that the new blueprint will test widely across the content, driving learning, and maintaining the standard of the examination.

As part of a wider ICBSE policy to expand the feedback provided to candidates, the MRCS Part A candidates were provide with an indication as to how they performed by quartile range of the candidates within their cohort. This is addition to the previous feedback of providing the candidates score and the pass mark for both ABS and PoSG papers. The ICBSE candidate feedback policy will continue to be implemented throughout the coming year expanding the feedback further by content area.

Throughout 2015-16 MCQ Sub Group has been developing a proposal for the introduction of an Intercollegiate Part A Prize recognising an exceptional candidate performance at each examination and it is hoped that this will be introduced from the September 2016 examination.

Summary descriptive statistics: MRCS Part A (written paper)

| | Total number sat | Passing % (and number) | Failing % (and number) | Pass mark % | Measure of reliability* | Measurement error** |
|----------------|------------------|------------------------|------------------------|-------------|-------------------------|---------------------|
| September 2015 | 2343 | 35.2 (824) | 64.8 (1519) | 69.5 | 0.95 | 7.25 |
| January 2016 | 1638 | 34.0 (557) | 66.0 (1081) | 70.0 | 0.95 | 7.15 |
| April 2016 | 1749 | 40.4 (706) | 59.6 (1043) | 70.9 | 0.95 | 7.05 |

* An expression of the consistency and reproducibility (precision) of the examination. The measure used here is KR-20.

** Measurement error refers to the difference between the 'true' score and the score obtained in an assessment. Measurement error is present in all assessments but is minimised by good item design and test construction.

4.2 Part B (OSCE)

Scenarios and questions for the OSCE stations are written by a team of Broad Content Area (BCA) specialists, headed by leads and deputies using detailed templates and following detailed writing guidance. Draft scenarios are scrutinised by a team of reviewers before being edited and approved for piloting. All scenarios are piloted either as an unmarked extra station in a 'live' examination or as part of a specially arranged event. Following further revision as necessary, these new scenarios are then added to the question bank.

Scenarios from the bank are then selected and grouped into examination 'circuits' so as to achieve the appropriate balance of content and challenge. A number of different circuits are selected for use throughout the examination period, with the same circuit used in each of the Colleges on any given day. Each 'circuit' is taken by a statistically significant number of candidates for quality assurance purposes.

At the end of each examination diet, the results of all candidates in each 'circuit' are combined and the pass/fail boundaries are agreed at a single standard setting meeting attended by representatives of each of the Colleges.

The MRCS Part B (OSCE) was introduced in October 2008 and has been revised over time, with the next major revision due in 2017. .

ICBSE continues to review and further develop the MRCS examination based on the evidence available. In December 2010 it established a working party to undertake a review of the examination programme to commence after three diets of the May 2010 revision; evidence for the proposed changes was based on six diets of the examination (May 2010 to February 2012).

This evidence indicated that the OSCE had an appropriate number of active stations (18) along with two preparation stations, and that this provides an adequate opportunity to sample a candidate's performance. The working party proposed a number of smaller changes which, together, represented a major change to the MRCS Part B (OSCE) in 2013. ICBSE are proposing a future review of the MRCS Part B (OSCE) leading up to the fifth anniversary of the last major change.

2015-16 Part B (OSCE) Review of Activity

The ICBSE MRCS Part B (OSCE) activity during 2015-16 concentrated on the review of procedures and quality assurance of the exam, most notably in the areas below:

- Increase the piloting opportunities for the OSCE scenarios to provide greater opportunity to review, refine and pilot new scenarios with the long-term goal of bolstering the Part B question bank.
- Review of the quality assurance (QA) procedures for the examination material to ensure the exam is of the highest quality. This includes the continued analysis of OSCE scenarios metrics alongside qualitative feedback from candidates, examiner and assessors. This will facilitate the development of historical performance data for each question to better inform the question composition of future Part B OSCE circuits.
- ICBSE Content Review Group completed the coding of the current OSCE question bank in September 2015. The scenarios were then mapped against the curriculum in order to identify areas of question deficiency. OSCE Sub Group has led on OSCE scenario development throughout the past year. In addition the Colleges have formed supervised writing groups to work on question development by utilising spare examiners at the Part B (OSCE) exams.

Standard Setting

Each standard setting meeting continues to begin with an analysis of the level of discrimination and facility of each of the OSCE circuits and their constituent stations, including a review of candidate, examiner and assessor feedback, to ensure consistency and comparability of demand.

Each candidate's performance on each of the examined stations continues to be assessed in two ways:

- a mark is awarded using a structured mark sheet containing assessment criteria for each content area and for each assessed domain;
- an overall judgement is given using one of the categories: pass, borderline or fail.

The following information is therefore available for each candidate:

- a total mark for each station;
- a category result for each station i.e. pass, borderline, fail;
- a total mark for the OSCE;
- a total mark for each of the two combined BCAs, described by the shorthand, 'Knowledge' and 'Skills'.

The borderline regression method of standard setting is used to determine the contribution of each station to the pass mark. These contributions are summed to give a notional pass mark for each of Knowledge and Skills for each 'circuit'.

The review of the OSCE carried out in 2012 had concluded that using the borderline regression method and adding 0.5 Standard Error of Measurement (SEM) to each broad content area pass mark retained the previous rigour. This position had been accepted by

the GMC, as was the recognition that the ICBSE would retain some flexibility in the multiple of the SEM to be used based on an evaluation of all of the available evidence.

The experience of the first examination conducted under the revised rules (that of February 2013) was that the addition of 0.5 SEM to each of Knowledge and Skills did not maintain the previous standard and it was agreed that the multiple to be used should be 0.84 SEM. It was further agreed that the addition of 0.84 SEM should remain the default position until evidence suggested that it should be changed, and this figure has been used in all subsequent examinations. It may be noted that, because both Knowledge and Skills have to be passed at the same sitting, the SEM for the OSCE as a whole may be considered to be in excess of the 1.0 value widely accepted as the desirable minimum.

To safeguard the interests of patients, and as a driver to learning, it is a GMC requirement for passing the OSCE that candidates must achieve a minimum level of competence in each broad content area at the same examination.

Since its inception, the MRCS Part B OSCE examination has used a single pass rule at each examination session, even though the form of the test (circuit) has not been identical on every day of that examination session. Parity of standards has been maintained through statistical methods and through the scrutiny by assessors.

To further enhance the standard setting process ICBSE, with GMC approval, agreed that a different pass mark should be generated (using the current borderline regression methodology) by circuit, rather than for the examination as a whole. This means that, though the pass mark will be similar for different circuits, it is unlikely to be identical. This will reflect the variation in the relative difficulties of the scenarios that make up any given circuit. The consequences of doing so have been modelled and found to yield a very similar overall pass rate.

This standard setting process for the MRCS Part B came in to effect as of October 2014 examination.

Each candidate is given detailed feedback showing their mark on each broad content area (Knowledge and Skills) and for the OSCE overall. However, as part of a wider ICBSE policy to expand the feedback provided to candidates, a phased approach to provide the MRCS Part B candidates with feedback by broad content area was developed during 2015-16 for future delivery.

Summary descriptive statistics: MRCS Part B (OSCE)

| | Total number sat | Passing % (and number) | Failing % (and number) | Pass mark % (range for all circuits) | Measure of reliability* (range for all circuits) | Measurement error** raw (range for all circuits) |
|---------------|------------------|------------------------|------------------------|---|--|--|
| October 2015 | 455 | 61.8 (281) | 38.2 (174) | Knowledge: 66.88 - 68.75% Skills: 64.5 - 66% | Knowledge: 0.69 - 0.77 Skills: 0.65 - 0.80 | Knowledge: 7.2 - 8.1 Skills: 9.2 - 10.5 |
| February 2016 | 369 | 58.3 (215) | 41.7 (154) | Knowledge: 67.5 - 68.13% Skills: 63.5 - 66% | Knowledge: 0.67 - 0.77 Skills: 0.73 - 0.79 | Knowledge: 7.8 - 8.3 Skills: 9.5 - 10.2 |

| | | | | | | |
|----------|-----|---------------|---------------|--|---|---|
| May 2016 | 465 | 59.4 (276) | 40.6 (189) | Knowledge: 67.5 – 69.38% Skills: 64 – 66% | Knowledge: 0.67 - 0.75 Skills: 0.68 - 0.82 | Knowledge: 7.7 - 8.3 Skills: 9.1 - 9.9 |
|----------|-----|---------------|---------------|--|---|---|

* An expression of the consistency and reproducibility (precision) of the examination. The measure used here is Cronbach's alpha.

** Measurement error refers to the difference between the 'true' score and the score obtained in an assessment. Measurement error is present in all assessments but is minimised by good item design and test construction.

5. The Diploma in Otolaryngology – Head & Neck Surgery (DO-HNS)

The Diploma in Otolaryngology – Head and Neck Surgery (DO-HNS) was established as an intercollegiate examination in April 2008. Its purpose is to test the breadth of knowledge, the clinical and communication skills and the professional attributes considered appropriate by the Colleges for a doctor intending to undertake practice within an otolaryngology department in a trainee position. It is also intended to provide a test for those who wish to practise within another medical specialty, but have an interest in the areas where that specialty interacts with the field of otolaryngology. It is also relevant for General Practitioners wishing to offer a service in minor ENT surgery.

The Intercollegiate DO-HNS examination has two parts:

Part 1 – Written Paper comprising Multiple True/False Questions and Extended Matching Questions in one paper to be completed in two hours.

Part 2 – Objective Structured Clinical Examination (OSCE) normally comprising approximately 25 bays normally of seven minutes' duration each.

With effect from August 2011, trainees who have achieved a pass in Part A of the Intercollegiate MRCS examination *and* a pass in Part 2 of the Intercollegiate DO-HNS examination have been eligible to apply for MRCS (ENT) membership of one of the Royal Surgical Colleges.

Standard setting the DO-HNS examination

The DO-HNS standard setting procedure for the Part 1 written paper is very similar to that described above for the MRCS (see 4.1 above) and is based on an initial Angoff process, the use of marker questions and the scrutiny of individual items and statistics at a standard setting meeting.

The standard setting technique used in the OSCE to determine the pass mark is an Angoff process: all examiners determine a pass mark for each station based upon the minimum level of competence expected of an ENT trainee at the end of his/her CT2/ST2 post before entry to higher surgical training or just at the start of higher surgical training. Using this method, at least 12–15 examiners will ascribe a pass mark to each station. The marks are totalled and averaged and this then determines the region of the pass mark. The final pass mark is determined by inspection of the mark distribution around the Angoff pass mark.

2015-16 DO-HNS Examination Review of Activity

During 2014-15 the Part 2 OSCE was held in Edinburgh in October 2015, Dublin in February 2016 and Glasgow in May 2016.

A full review of the DO-HNS examination processes has been ongoing through the year. Areas of development have included the inclusion of the DO-HNS examination in to the ICBSE Assessor system with at least one Assessor attending the DO-HNS Part 2 exam in the previous year.

In addition the DO-HNS Sub Group reviewed the OSCE Question bank and standardised the marking to eradicate the weighting of questions. In addition, the group have been developed and piloted a scenario that will include Lay Examiner input and this development will continue during the forthcoming year.

Discussions surrounding item performance data for the DO-HNS OSCE scenarios have taken place during 2015-16. A process for recording and monitoring the OSCE scenarios performance, similar to that being used for MRCS Part B, has been agreed and will be rolled out in the near future. This will allow the Sub group to monitor, review and improve the scenarios over time.

Summary descriptive statistics

DO-HNS Part 1 (written)

| | Total number sat | Passing % (and number) | Failing % (and number) | Pass mark % | Measure of reliability* | Measurement error** % (raw) |
|--------|------------------|------------------------|------------------------|-------------|-------------------------|-----------------------------|
| Sep-15 | 30 | 70.0 (21) | 30.0 (9) | 72.00 | 0.93 | 2.22 (6.74) |
| Jan-16 | 23 | 69.6 (16) | 30.4 (7) | 74.80 | 0.92 | 2.16 (6.53) |
| Apr-16 | 32 | 75.0 (24) | 25.0 (8) | 73.10 | 0.90 | 2.25 (6.94) |

* An expression of the consistency and reproducibility (precision) of the examination. The measure used here is KR-20.

** Measurement error refers to the difference between the 'true' score and the score obtained in an assessment. Measurement error is present in all assessments but is minimised by good item design and test construction.

DO-HNS Part 2 (OSCE)

| | Total number sat | Passing % (and number) | Failing % (and number) | Pass mark % | Measure of reliability* | Measurement error** % (raw) |
|--------|------------------|------------------------|------------------------|----------------------------|----------------------------|--|
| Oct-15 | 77 | 64.9 (50) | 35.1 (27) | Day 1: 68.5 Day 2: 69.5 | Day 1: 0.75 Day 2: 0.85 | Day 1: 2.4 (13.00) Day 2: 2.3 (12.71) |
| Feb-16 | 45 | 60 (27) | 40 (18) | Day 1: 71.5 | Day 1: 0.86 | Day 1: 2.5 (15.59) |
| May-16 | 64 | 67.2 (43) | 32.8 (22) | Day 1: 70.0 Day 2: 70.0 | Day 1: 0.81 Day 2: 0.67 | Day 1: 2.4 (13.08) Day 2: 2.5 (13.93) |

* An expression of the consistency and reproducibility (precision) of the examination. The measure used here is Cronbach's alpha.

** Measurement error refers to the difference between the 'true' score and the score obtained in an assessment. Measurement error is present in all assessments but is minimised by good item design and test construction.

6. Quality Assurance

6.1 The role of the Internal Quality Assurance Committee (IQA)

The quality of the MRCS and DO-HNS examinations is monitored by the ICBSE's intercollegiate Internal Quality Assurance Committee (IQA). The IQA meets three times each year and receives, for each part of the examinations, the following information:

- overall pass rates and descriptive statistics for the latest diet and previous diets;
- pass/fail breakdown by candidates'
 - first language for the latest diet and previous diets;
 - gender for the latest diet and previous diets;
 - primary medical qualification for the latest diet and previous diets;

After each examination, every candidate is invited to complete an anonymous feedback questionnaire. Examiners are invited to complete similar questionnaires. The IQA receives and reviews the feedback from examiners and candidates and correlates them with the statistical information on the examination. IQA also receives a feedback report from the Assessors for each diet of examinations with provides feedback on the utilities along with the performance of the scenarios and examiners.

In its interpretation of the data on the examination, the IQA is advised and assisted by an independent Educational Consultant who analyses the information and writes a brief report on each part of the examination, drawing any potential anomalies to the attention of the Committee for consideration and action.

The IQA Committee will refer matters which it considers to be in need of attention or further scrutiny to the appropriate subgroups of ICBSE. It also makes regular reports and recommendations to the ICBSE, which has overall responsibility for the MRCS and DO-HNS examinations.

It is also the remit of the IQA Committee to review and implement the JSCM Equality and Diversity policy

6.2 Assessors

Independent Assessors, established by IQA in 2010/11, attend every diet of the MRCS Part B (OSCE) at each College. Their role is to:

- monitor, evaluate and provide feedback on the conduct and performance of examiners in all components of the MRCS to ensure that the highest possible standards of examining are achieved and maintained;
- act as guardians of standards for the intercollegiate examinations over time and across examination venues;
- enhance the professional experience of examiners by encouraging reflective practice;
- act as mentors for new examiners to help them build confidence and develop into the role;
- provide feedback to examiners via the examiner's feedback reports issued after each diet

- assist in the review of the assessments used to enhance the comparability, validity and reliability of the examinations.

It has been recognised that greater pressures have been placed on the pool of Assessors with the phasing out of the OCC in January 2016 and increase in overseas OSCE venues. A recruitment and training process for 10 new Assessors took place during 2015.

2015-16 IQA Review of Activity

6.3 Equality & Diversity

As a consequence of the introduction of the Joint Surgical Colleges Meeting (JSCM) Equality and Diversity policy in July 2013, the ICBSE undertook the following activities:

6.3.1 Equality & Diversity examiner training

ICBSE commissioned the development of an examination-specific training programme to enhance awareness of Equality and Diversity issues while examining. This will help to ensure that all candidates experience a fair examination and to mitigate the risk of any unintended bias within the examination. The two module programme was launched in May 2016 and all examiners, assessors, committee members and examinations staff are required to complete the training.

6.3.2 Review and improve the collection and monitoring of equal opportunities data.

In recognising the importance of collecting equal opportunities data for candidates and examiners in ongoing monitoring of exam outcomes, ICBSE have amended the Equal Opportunities (EO) form to ensure that Colleges are collecting as much EO data as possible for monitoring purposes. Whilst acknowledging that stakeholders are not legally required to provide the information it is hoped the provisions implemented will help ICBSE in the monitoring of the protected characteristics for candidates and examiners. The reporting of the first set of enhanced EO data was included in the 2014-15 ICBSE Annual Report. A further set of enhanced data for 2015-16 is included in Appendix 1 below.

6.3.3 Review of procedures

A review of the appeals, reasonable adjustment, malpractice and examiner recruitment and appointment procedures was carried during 2015 and update procedural documentation was agreed and rolled out during the last year.

6.4 Research

6.4.1 Intercollegiate Research Fellow

ICBSE recruited and appointed an Intercollegiate Research Fellow in July 2015. Twenty-nine applicants applied with six being shortlisted for interview. The successful applicant took up post in November 2015. The research Fellow is liaising with important stakeholders to analyse the MRCS and FRCS examinations data to study predictive validity. It is anticipated that the study will be expanded to include the PLAB data for a similar study during 2016 and also whether MRCS predicts ARCP outcomes in training, and if MRCS could be used in national selection. Additionally, the Fellow is investigating whether DOPS at core trainee level (pre-MRCS) predict success in the two technical stations of the MRCS- this could influence any future changes to the MRCS OSCE in the 2017 review.

6.4.2 Examiner marking variance

An ICBSE study investigating the human factors effect that switching stations at lunchtime can have on examiners and their marking was published in the Journal of Surgical Education in July 2016 using over 18,000 candidate/examiner interactions. In addition, ICBSE has surveyed examiners across all four Surgical Colleges following the switching station work to see if examiner morale has improved since the original work identified an issue with human factors. The attitudes and morale of overseas based examiners is also being investigated in a separate study and detailed statistics are awaited.

6.4.3 Effectiveness of MRCS Assessor System

Analysis was carried in early 2016 on the candidate feedback for the Part B (OSCE) exam to look at the effect Intercollegiate Assessors may have had on the examination by comparing feedback before and after the ICBSE assessors were introduced. Further analysis will take place in the forthcoming year.

6.4.4 Overseas examiner human factors.

Following on from the ICBSE work on the effect of human factors in examiner performance this project has been extended to include overseas based examiners.

Peter Brennan, ICBSE Chair
Lee Smith, ICBSE Manager
27 June 2016

PROTECTED CHARACTERISTICS: EXAMINERS/ASSESSORS AND CANDIDATES AT 8 DECEMBER 2016*Candidate statistics: candidates in 2016 for each stage or type of exam***AGE PROFILE - EXAMINERS/ASSESSORS**

| | Edin | England | Glasgow | Ireland | TOTAL | % |
|--------------|------------|------------|------------|------------|-------------|-------|
| 30-39 | <5 | 9 | <5 | 11 | 26 | 1.8% |
| 40-49 | 137 | 86 | 56 | 68 | 347 | 23.8% |
| 50-59 | 274 | 177 | 71 | 57 | 579 | 39.7% |
| 60-69 | 126 | 93 | 33 | 31 | 283 | 19.4% |
| 70+ | 12 | 20 | <5 | 6 | 41 | 2.8% |
| Unspecified | 35 | 61 | 36 | 52 | 183 | 12.5% |
| Total | 588 | 446 | 201 | 225 | 1460 | |

AGE PROFILE - CANDIDATES

| | Edinburgh | England | Glasgow | Ireland | TOTAL | % |
|--------------|-------------|-------------|------------|------------|-------------|-------|
| 20-29 | 1632 | 2204 | 72 | 437 | 4345 | 53.7% |
| 30-39 | 1319 | 1379 | 93 | 452 | 3243 | 40.0% |
| 40-49 | 170 | 219 | 10 | 50 | 449 | 5.5% |
| 50-59 | 16 | 24 | <5 | 12 | 55 | 0.7% |
| 60-69 | <5 | <5 | <5 | <5 | <5 | 0.0% |
| 70+ | <5 | <5 | <5 | <5 | <5 | 0.0% |
| Unspecified | <5 | <5 | <5 | <5 | <5 | 0.0% |
| Total | 3139 | 3830 | 178 | 951 | 8098 | |

GENDER PROFILE - EXAMINERS/ASSESSORS

| | Edin | England | Glasgow | Ireland | TOTAL | % |
|-------------------|------------|------------|------------|------------|-------------|-------|
| Female | 61 | 74 | 25 | 44 | 204 | 14.0% |
| Male | 526 | 371 | 176 | 181 | 1254 | 85.9% |
| Prefer not to say | <5 | <5 | <5 | <5 | <5 | 0.1% |
| Total | 588 | 446 | 201 | 225 | 1460 | |

GENDER PROFILE - CANDIDATES

| | Edinburgh | England | Glasgow | Ireland | TOTAL | % |
|-------------------|-------------|-------------|------------|------------|-------------|-------|
| Female | 806 | 1084 | 53 | 224 | 2167 | 26.8% |
| Male | 2323 | 2730 | 123 | 727 | 5903 | 72.9% |
| Prefer not to say | 5 | <5 | <5 | <5 | 5 | 0.1% |
| Transgender | <5 | 16 | <5 | <5 | 16 | 0.2% |
| Unspecified | 5 | <5 | <5 | <5 | 7 | 0.1% |
| Total | 3139 | 3830 | 178 | 951 | 8098 | |

MARITAL STATUS PROFILE - EXAMINERS/ASSESSORS

| | Edin. | England | Glasgow | Ireland | TOTAL | % |
|-------------------|-------|---------|---------|---------|------------|-------|
| Civil Partnership | <5 | <5 | <5 | <5 | 0 | 0.0% |
| Cohabiting | <5 | <5 | <5 | <5 | 6 | 0.4% |
| Married | 201 | 50 | 51 | 36 | 338 | 23.2% |
| Prefer not to say | <5 | <5 | 5 | <5 | 9 | 0.6% |

MARITAL STATUS PROFILE - CANDIDATES

| | Edinburgh | England | Glasgow | Ireland | TOTAL | % |
|-------------------|-----------|---------|---------|---------|-------------|-------|
| Civil Partnership | 6 | 8 | <5 | <5 | 14 | 0.2% |
| Cohabiting | 46 | 68 | 6 | <5 | 120 | 1.5% |
| Married | 579 | 682 | 54 | 10 | 1325 | 16.4% |
| Prefer not to say | 76 | 132 | <5 | <5 | 211 | 2.6% |

| | | | | | | |
|--------------------|------------|------------|------------|------------|-------------|-------|
| Separated/Divorced | 8 | <5 | <5 | <5 | 16 | 1.1% |
| Single | 12 | 7 | <5 | 9 | 29 | 2.0% |
| Unspecified | 363 | 384 | 138 | 175 | 1060 | 72.6% |
| Widowed | <5 | <5 | <5 | <5 | 2 | 0.1% |
| Total | 588 | 446 | 201 | 225 | 1460 | |

| | | | | | | |
|--------------------|-------------|-------------|------------|------------|-------------|-------|
| Separated/Divorced | 6 | 8 | <5 | <5 | 14 | 0.2% |
| Single | 1021 | 1337 | 102 | 25 | 2485 | 30.7% |
| Unspecified | 1405 | 1595 | 14 | 915 | 3929 | 48.5% |
| Widowed | <5 | <5 | <5 | <5 | 0 | 0.0% |
| Total | 3139 | 3830 | 178 | 951 | 8098 | |

SEXUAL ORIENTATION PROFILE - EXAMINERS/ASSESSORS

| | Edin. | England | Glasgow | Ireland | TOTAL | % |
|-------------------|------------|------------|------------|------------|-------------|-------|
| Bisexual | <5 | <5 | <5 | <5 | 8 | 0.5% |
| Heterosexual | 332 | 172 | 95 | 123 | 722 | 49.5% |
| Homosexual | <5 | <5 | <5 | <5 | <5 | 0.1% |
| Prefer not to say | 13 | <5 | 6 | <5 | 27 | 1.8% |
| Unspecified | 240 | 267 | 98 | 95 | 700 | 47.9% |
| Total | 588 | 446 | 201 | 225 | 1460 | |

SEXUAL ORIENTATION PROFILE - CANDIDATES

| | Edinburgh | England | Glasgow | Ireland | TOTAL | % |
|-------------------|-------------|-------------|------------|------------|-------------|-------|
| Bisexual | 26 | 37 | 5 | <5 | 69 | 0.9% |
| Heterosexual | 2306 | 2860 | 143 | 46 | 5355 | 66.1% |
| Homosexual | <5 | 35 | <5 | <5 | 39 | 0.5% |
| Prefer not to say | 401 | 283 | 18 | 6 | 708 | 8.7% |
| Unspecified | 402 | 615 | 12 | 898 | 1927 | 23.8% |
| Total | 3139 | 3830 | 178 | 951 | 8098 | |

RELIGIOUS PROFILE - EXAMINERS/ASSESSORS

| | Edin. | England | Glasgow | Ireland | TOTAL | % |
|-------------------|------------|------------|------------|------------|-------------|-------|
| Buddhist | 22 | <5 | <5 | 7 | 32 | 2.2% |
| Christian | 119 | 51 | 26 | 51 | 247 | 16.9% |
| Hindu | 87 | 23 | 32 | 19 | 161 | 11.0% |
| Jewish | <5 | <5 | <5 | <5 | <5 | 0.2% |
| Muslim | 59 | 47 | 22 | 37 | 165 | 11.3% |
| No religion | 31 | 9 | <5 | 8 | 52 | 3.6% |
| Other | 5 | <5 | 8 | <5 | 20 | 1.4% |
| Prefer not to say | 6 | <5 | 5 | <5 | 16 | 1.1% |
| Sikh | <5 | <5 | <5 | <5 | 13 | 0.9% |
| Unspecified | 254 | 304 | 101 | 92 | 751 | 51.4% |
| Total | 588 | 446 | 201 | 225 | 1460 | |

RELIGIOUS PROFILE - CANDIDATES

| | Edinburgh | England | Glasgow | Ireland | TOTAL | % |
|-------------------|-------------|-------------|------------|------------|-------------|-------|
| Buddhist | 246 | 91 | 5 | <5 | 346 | 4.3% |
| Christian | 483 | 738 | 44 | 8 | 1273 | 15.7% |
| Hindu | 440 | 463 | 25 | <5 | 930 | 11.5% |
| Jewish | 6 | 7 | <5 | <5 | 13 | 0.2% |
| Muslim | 1119 | 1126 | 52 | 38 | 2335 | 28.8% |
| No religion | 147 | 324 | 25 | <5 | 496 | 6.1% |
| Other | 120 | 105 | 9 | 5 | 239 | 3.0% |
| Prefer not to say | 185 | 197 | 8 | <5 | 394 | 4.9% |
| Sikh | 22 | 33 | 0 | <5 | 56 | 0.7% |
| Unspecified | 371 | 746 | 10 | 889 | 2016 | 24.9% |
| Total | 3139 | 3830 | 178 | 951 | 8098 | |

DISABILITY PROFILE - EXAMINERS/ASSESSORS

| | Edin. | England | Glasgow | Ireland | TOTAL | % |
|--------------|------------|------------|------------|------------|-------------|-------|
| No | 513 | 191 | 102 | 136 | 942 | 64.5% |
| Partial | <5 | <5 | <5 | <5 | <5 | 0.1% |
| Unspecified | 69 | 252 | 97 | 87 | 505 | 34.6% |
| Yes | 5 | <5 | <5 | <5 | 11 | 0.8% |
| Total | 588 | 446 | 201 | 225 | 1460 | |

DISABILITY PROFILE - CANDIDATES

| | Edinburgh | England | Glasgow | Ireland | TOTAL | % |
|--------------|-------------|-------------|------------|------------|-------------|-------|
| No | 2921 | 3131 | 168 | 429 | 6649 | 82.1% |
| Partial | 67 | 74 | <5 | <5 | 145 | 1.8% |
| Unspecified | 112 | 583 | 7 | 519 | 1221 | 15.1% |
| Yes | 39 | 42 | <5 | <5 | 83 | 1.0% |
| Total | 3139 | 3830 | 178 | 951 | 8098 | |

ETHNICITY - EXAMINERS AND ASSESSORS

| <u>With GMC/IMC Number</u> | Edin. | England | Glasgow | Ireland | TOTAL | % |
|---|------------|------------|------------|------------|------------|--------|
| Asian or Asian British | 149 | 51 | 65 | 21 | 286 | 29.5% |
| Black / African / Caribbean / Black British | 10 | <5 | <5 | <5 | 16 | 1.7% |
| Mixed / Multiple Ethnic Groups | 21 | 7 | <5 | 5 | 36 | 3.7% |
| Other Ethnic Group | 25 | 16 | <5 | <5 | 47 | 4.9% |
| Prefer not to say | <5 | <5 | <5 | <5 | <5 | 0.2% |
| Unspecified | 73 | 141 | 51 | 34 | 299 | 30.9% |
| White | 156 | 49 | 42 | 36 | 283 | 29.2% |
| Total | 435 | 266 | 165 | 103 | 969 | 100.0% |

ETHNICITY - CANDIDATES (calendar year 2016)

| <u>With GMC/IMC Number</u> | Edinburgh | England | Glasgow | Ireland | TOTAL | % |
|---|------------|-------------|-----------|-----------|-------------|--------|
| Asian or Asian British | 252 | 542 | 19 | 9 | 822 | 24.6% |
| Black / African / Caribbean / Black British | 38 | 125 | <5 | <5 | 167 | 5.0% |
| Mixed / Multiple Ethnic Groups | 57 | 214 | 14 | <5 | 287 | 8.6% |
| Other Ethnic Group | 69 | 115 | <5 | 5 | 192 | 5.7% |
| Prefer not to say | 61 | 76 | <5 | <5 | 140 | 4.2% |
| Unspecified | 27 | 374 | <5 | 58 | 459 | 13.7% |
| White | 342 | 874 | 58 | <5 | 1277 | 38.2% |
| Total | 846 | 2320 | 98 | 80 | 3344 | 100.0% |

Appendix 1

| No GMC/IMC Number | Edin. | England | Glasgow | Ireland | TOTAL | % |
|---|--------------|----------------|----------------|----------------|--------------|----------|
| Asian or Asian British | 55 | 23 | 8 | 26 | 112 | 22.8% |
| Black / African / Caribbean / Black Br. | 7 | <5 | <5 | <5 | 10 | 2.0% |
| Mixed / Multiple Ethnic Groups | 19 | <5 | <5 | 12 | 35 | 7.1% |
| Other Ethnic Group | 6 | 29 | 3 | 12 | 50 | 10.2% |
| Prefer not to say | <5 | <5 | <5 | <5 | <5 | 0.2% |
| Unspecified | 44 | 88 | 11 | 51 | 194 | 39.5% |
| White | 22 | 34 | 13 | 20 | 89 | 18.1% |
| Total | 153 | 180 | 36 | 122 | 491 | 100.0% |

| No GMC/IMC Number | Edinburgh | England | Glasgow | Ireland | TOTAL | % |
|---|------------------|----------------|----------------|----------------|--------------|----------|
| Asian or Asian British | 964 | 575 | 39 | 50 | 1628 | 34.2% |
| Black / African / Caribbean / Black Br. | 89 | 33 | <5 | 10 | 133 | 2.8% |
| Mixed / Multiple Ethnic Groups | 168 | 83 | 9 | 22 | 282 | 5.9% |
| Other Ethnic Group | 394 | 526 | 19 | 32 | 971 | 20.4% |
| Prefer not to say | 150 | 49 | <5 | 5 | 205 | 4.3% |
| Unspecified | 466 | 207 | 7 | 749 | 1429 | 30.1% |
| White | 62 | 37 | <5 | <5 | 106 | 2.2% |
| Total | 2293 | 1510 | 80 | 871 | 4754 | 100.0% |

| All Examiners/Assessors | Edin. | England | Glasgow | Ireland | TOTAL | % |
|---|--------------|----------------|----------------|----------------|--------------|----------|
| Asian or Asian British | 204 | 74 | 73 | 47 | 398 | 27.3% |
| Black / African / Caribbean / Black Br. | 17 | <5 | <5 | <5 | 26 | 1.8% |
| Mixed / Multiple Ethnic Groups | 40 | 10 | <5 | 17 | 71 | 4.9% |
| Other Ethnic Group | 31 | 45 | 5 | 16 | 97 | 6.6% |
| Prefer not to say | <5 | <5 | <5 | <5 | <5 | 0.2% |
| Unspecified | 117 | 229 | 62 | 85 | 493 | 33.8% |
| White | 178 | 83 | 55 | 56 | 372 | 25.5% |
| Total | 588 | 446 | 201 | 225 | 1460 | 100.0% |

| All Candidates | Edinburgh | England | Glasgow | Ireland | TOTAL | % |
|---|------------------|----------------|----------------|----------------|--------------|----------|
| Asian or Asian British | 1216 | 1117 | 58 | 59 | 2450 | 30.3% |
| Black / African / Caribbean / Black Br. | 127 | 158 | <5 | 13 | 300 | 3.7% |
| Mixed / Multiple Ethnic Groups | 225 | 297 | 23 | 24 | 569 | 7.0% |
| Other Ethnic Group | 463 | 641 | 22 | 37 | 1163 | 14.4% |
| Prefer not to say | 211 | 125 | <5 | 5 | 345 | 4.3% |
| Unspecified | 493 | 581 | 7 | 807 | 1888 | 23.3% |
| White | 404 | 911 | 62 | 6 | 1383 | 17.1% |
| Total | 3139 | 3830 | 178 | 951 | 8098 | 100.0% |