Intercollegiate Committee for Basic Surgical Examinations

2021/22 ANNUAL REPORT

MRCS

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

DO-HNS/MRCS (ENT)

The Diploma in Otolaryngology – Head & Neck Surgery

The Membership Examination of the Surgical Royal Colleges of Great Britain and in Ireland (Ear, Nose and Throat)

July 2022

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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 Chair, ICBSE, c/o gayre@icbse.org.uk

1. Introduction

This is the **fifteenth** Annual Report of the Intercollegiate Committee for Basic Surgical Examinations (ICBSE) and covers the period August 2021 to July 2022.

The purpose of this 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 general 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 innovative 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 and commenced in November 2015 for an 18-month period. He published a number of peer-reviewed papers on behalf of ICBSE, gaining a PhD. The second Fellow took up his post during 2020. He has also had a number of peer-reviewed papers published on behalf of ICBSE.

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 perioperative 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 (MCQ) and Part B Objective Structured Clinical Examination (OSCE).

2.1 Part A (written paper)

Part A of the MRCS is an examination using multiple-choice Single Best Answer items. It is a five-hour examination consisting of two parts, taken on the same day. The parts cover generic surgical sciences and applied knowledge, including the core knowledge required in all surgical specialties as follows:

Part 1 - Applied Basic Science (three-hour exam)
Part 2 - Principles of Surgery-in-General (two-hour exam)

The marks for both parts 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 parts 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).

An MRCS Assessment Review took place during 2017/18 and 2018/19, to ensure that MRCS content continues to articulate with changes to ISCP. During 2018, the MRCS assessment blueprint was mapped to the Generic Professional Capabilities (GPCs) framework described in the GMC May 2017 document: *Excellence by Design: Standards for Postgraduate Curricula*. 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 at https://www.intercollegiatemrcsexams.org.uk/mrcs/candidate-guidance/

During 2019/20 ICBSE remained in close contact with JCST, CSTAC and ISCP. A new curriculum has been developed which is due to be introduced in in 2021. A joint working group will ensure that the MRCS syllabus continues to map to the new curriculum.

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 estimate 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 maintain the standard of the examination between full applications of the Angoff procedure.

Following each examination, a 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. In addition, candidates are provided with their score in the main broad content areas (BCAs) along with the average score of all candidates in those BCAs within their cohort. This feedback is provided to both unsuccessful and successful candidates to allow trainees to reflect on their performance in the exam and for their future professional development.

2021/22 Part A (written paper) Review of Activity

As a result of the issues created by the Covid-19 pandemic, the MRCS Part A was moved to remote delivery using the Examplify exam delivery platform, provided by ExamSoft. This delivery approach continued with the September 2021 diet, following delivery in September 2020, January 2021 and April 2021 diets. However, it was identified in autumn 2021 that, on the evidence of four diets' activity, the remote assessment approach offered insufficient security of assessment material. Consequently, a decision was made by ICBSE and the Four Surgical Colleges to move away from remote assessment and to adopt a test-centre

approach. This approach was chosen to retain the benefits of computer-based testing realised with remote assessment, whilst ensuring greater security against dissemination of material achieved through rigorous test-centre invigilation.

The first diet using the test-centre model was successfully delivered May 2022, with all candidates originally registered to sit in January 2022 having their places moved over and the April diet not taking place as originally scheduled. Core Trainees not previously registered for the January 2022 diet were offered the opportunity to apply for the May 2022 diet.

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 2021	3360	45.7 (1536)	54.3 (1824)	73.0	0.97	6.99
January 2022	No Exam					
May 2022	2171	43.4 (942)	56.6 (1229)	69.5	0.96	7.66

* 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. The measurement error here is expressed as a score out of 300.

4.2 Part B (OSCE)

A team of Broad Content Area (BCA) specialists, headed by leads and deputies using detailed templates and following detailed writing guidance, develop scenarios and questions for the OSCE stations. Draft scenarios are scrutinised by a team of reviewers before being approved for piloting. All scenarios are piloted either as an unidentified 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. The GMC have confirmed that, given ICBSE's extensive quality assurance procedures for ensuring new scenarios are appropriate for the exam, ICBSE can put new scenarios straight into the live question bank without the scenario needing to be piloted as a non-contributory station.

Scenarios from the bank are then selected and grouped into examination 'circuits' so as to achieve the appropriate balance of content and difficulty. 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 pass/fail boundaries are agreed at a standard setting meeting attended by the BCAs and representatives from each of the Colleges.

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). The review cycle for the exam continued in 2017/18 when the OSCE Review Panel reconvened to consider advancements and improvements to the exam, which resulted in a GMC submission that was heard in June 2019 and approved in July 2019. The

full GMC submission can be obtained as a separate document from ICBSE. A summary of major changes is included in the bullet points below and in Section 6.4 of this report. The changes to the exam will be implemented from the October 2020 exam diet.

2021/22 Part B (OSCE) Review of Activity

Following a reduction of the number of stations from 17 to 13 to ensure that the examination could continue to be delivered during the pandemic, the examination returned to its planned pre-Covid structure from the October 2021 diet. This was the belated implementation of the GMC-approved change to the MRCS OSCE that reduced the number of stations in the exam from 18 to 17 (by reducing the number of physical examination stations from 4 to 3).

The examination continued to be successfully delivered in the UK and Ireland across the four Surgical Colleges, with larger-than-usual cohorts applying as the backlog created by cancelled diets in May 2020 and February 2021 continued to be worked through. Covid-specific measures such as social distancing, the wearing of masks and the requirement for candidates and examiners to complete pre-examination health questionnaires were applied (and subsequently phased out) in line with prevailing public health advice for healthcare environments.

The return to overseas activity for the Part B has taken longer to implement, largely due to the uncertainty and complexity of requirements for travel in response to the pandemic. The solution identified and agreed between the Colleges was a hybrid one, comprising a circuit of two delivery approaches: procedural and clinical skills delivered face-to-face, assessed by locally based examiners; and viva-based stations (anatomy, pathology and physiology) delivered remotely, and assessed by UK-based examiners. This hybrid approach was first delivered in December 2021, and there are ongoing considerations regarding the degree to which this should constitute the established new pattern of examining overseas.

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.

At its inception, the MRCS Part B OSCE examination used a single pass rule at each examination session, even though the form of the test (circuit) was not identical on every day of that examination session. Parity of standards was maintained through statistical methods and through 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 found to yield a very similar overall pass rate. This current 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. ICBSE delivered the extended Part B (OSCE) feedback from the February 2019 diet.

In addition, the OSCE Sub Group monitor and analyse the performance of the OSCE scenarios during the standard setting process. A chart has been developed that combines the written feedback and the scenario performance data. The resulting document enables the Sub Group to make an informed decision when agreeing the pass mark.

Summary descriptive statistics: MRCS Part B (OSCE)

	Total number sat	Passing % (and number)	Failing % (and number)	Pass mark (range for all circuits) Knowledge & Skills	Measure of reliability* (range for all circuits) Knowledge & Skills	Measurement error** raw (range for all circuits) Knowledge & Skills
October 2021	628	54.1 (340)	45.9 (288)	K: 108 - 111 S: 116 - 120	K: 0.65 - 0.75 S: 0.72 - 0.85	K: 7.9 - 8.4 S: 8.5 - 9.4
February 2022	598	58.5 (350)	41.5 (248)	K: 108 - 114 S: 116 - 121	K: 0.66 - 0.77 S: 0.66 - 0.79	K: 7.4 - 8.7 S: 8.9 – 10.0
May 2022	629	56.4 (355)	43.6 (274)	K: 105 - 109 S: 115 - 118	K: 0.68 - 0.85 S: 0.67 - 0.84	K: 7.0 - 8.9 S: 8.2 – 9.7

* 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. The measurement error here is expressed as a mark out of 260 for the adapted format of the exam.

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

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 DO-HNS previously had two parts:

Part 1 – Written Paper comprising Multiple True/False Questions and Extended Matching Questions in one paper to be completed in two hours. During the 2018/19 Review of the DO-HNS examinations the decision was taken to cease delivery of the DO-HNS Part 1 examination due to low candidate numbers, and its existence, in effect, as an anomaly within the examinations system. Candidates will in future sit the MRCS Part A

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

The last diet of the DO-HNS Part 1 was run in September 2021, due to low candidate numbers, and the increased frequency of candidates taking the MRCS Part A followed by the DO-HNS Part 2, to gain the qualification of MRCS (ENT). Following this, it was announced in January 2022 that the DO-HNS Part 2 (OSCE) examination would be renamed the MRCS (ENT) OSCE. This took effect from February 2022. The format and content of the MRCS (ENT) OSCE remained the same as when the examination was called the DO-HNS Part 2 OSCE.

Candidates passing the MRCS Part A and the MRCS (ENT) OSCE remained be eligible for the award of MRCS (ENT) only. Candidates sitting and passing the DO-HNS Part 1 prior to it being discontinued in 2021 remained eligible for the award of the DO-HNS Diploma on completion of the MRCS (ENT) OSCE.

MRCS (ENT)

The MRCS (ENT) qualification remains 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 (ENT) 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 otolaryngology.

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 ENT 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 perioperative 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.

Standard setting the DO-HNS examination

The standard setting procedure for the DO-HNS Part 1 written paper was 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 and 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.

2021/22 DO-HNS and MRCS (ENT) Examination Review of Activity

The delivery of the September 2021 DO-HNS Part 1 examination remained remote, using the Examplify exam delivery platform, provided by ExamSoft. This allowed the exam to be delivered in 2020/21 regardless of the state of public health advice anywhere in the world as candidates did not have to gather in a single location to take the exam.

The DO-HNS Part 2 (OSCE) during 2021/22 retained the format delivery format established during the pandemic, in which:

- The exam split into two parts: the written stations will be delivered remotely as a written exam using the same questions. The clinical stations would be delivered in a shortened six- or seven-station circuit (four examined stations and two or three prep stations). The marks would be combined to a single pass mark, as at present.
- The ear examination station was removed from the temporary circuit
- Exam delivered at three of the four Colleges (England, Ireland and one in Scotland) in order that candidates would not have to travel so far for the exam during the pandemic
- Some Colleges' candidates therefore took the exam at a different College

The DO-HNS sub group continue to monitor and develop the DOHNS OSCE question bank. They have also liaised with the four Surgical Royal Colleges to improve the recruitment and induction processes for new examiners in order to expand the examiner cohort to meet the examining demand.

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)
September 2021	78	78.2 (61)	21.8 (17)	72.3		

* 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.

MRCS (ENT) OSCE

	Total number sat	Passing % (and number)	Failing % (and number)	Pass mark %	Measure of reliability*	Measurement error** % (raw)
October 2021	121	82.6 (100)	17.4 (21)	Day 1: 68.3	Day 1: 0.74	Day 1: 2.50 (12.98)
				Day 2: 68.3	Day 2: 0.91	Day 2: 2.18 (11.33)
February 2022	89	64.0 (57)	36.0 (32)	Day 1: 67.5	Day 1: 0.79	Day 1: 2.83 (14.72)
				Day 2: 67.5	Day 2: 0.78	Day 2: 2.72 (14.12)
May 2022	106	83.0 (88)	17.0 (18)	Day 1: 67.5	Day 1: 0.77	Day 1: 2.50 (13.01)
				Day 2: 67.9	Day 2: 0.83	Day 2: 2.67 (13.89)

* 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;
- a breakdown of the feedback from the candidates and examiners
- quality assurance reports from the Assessor group
- the Chair reports and minutes from the examination sub groups

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, which provides feedback on the utility 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 that it considers to need 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. During 2021/22, IQA has also continued to develop and update a risk register for the MRCS and DO-HNS examinations.

6.2 Assessors

Independent Assessors, established by IQA in 2010/11, attend every diet of the MRCS Part B (OSCE) and DO-HNS Part 2 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 and DO-HNS 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.

2021/22 IQA Review of Activity

In addition to the examination-specific development projects outlined previously in this report the Internal Quality Assurance (IQA) committee has continued its activity in the following areas:

6.3 Equality & Diversity

With the introduction of the Joint Surgical Colleges Meeting (JSCM) Equality and Diversity Policy in July 2013, the ICBSE have undertaken and completed multiple Equality & Diversity work streams since 2013 to ensure all MRCS and DO-HNS processes match best practice wherever possible.

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 mitigate the risk of any unintended bias within the examination. IQA, in conjunction with the Surgical Royal

Colleges, continue to monitor the completion rate and will review and update the training material during the year ahead.

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

In addition to the ongoing analysis by the GMC of trainee examinations outcomes, ICBSE continue to review the processes for collecting and monitoring the Equal Opportunities (EO) data collected from the candidature and examiners. The reporting of the first set of enhanced EO data was included in the 2014-15 ICBSE Annual Report and continues to be monitored and published. A further set of enhanced data for 2021 is included in Appendix 1 below.

6.4 Research

The ICBSE, with the support from the four Surgical Royal Colleges, embarked on a process of improving the surgical research portfolio to match the activity of other postgraduate medical institutions. As such, an Intercollegiate Research Fellow was recruited in 2015 and has embarked on several research projects primarily looking at the predictive validity of the MRCS examination. The Fellow constructed a database of MRCS Part A and B UK candidate activity from 2008 to the present including scores, number of attempts, pass rates, demographics, stage of training, medical school and Deanery. Professor Peter Brennan was appointed to a newly designated post of ICBSE Research Lead in 2017 and the Research Fellow have obtained his PhD in 2019.

In addition to the above, access has been granted by the GMC to UKMED in order to investigate the potential relationship between medical school performance and performance in the MRCS, and the possible predictive validity of medical school entry exams (UCAT, BMAT and GAMSAT and future MRCS performance). Finally, ICBSE has agreement to share the FRCS data to compare the predictive validity against MRCS performance which will provide a complete picture of performance trends throughout the surgical pathway.

A second Intercollegiate Research Fellow was recruited during 2019/20 to expand the ICBSE research activity as outlined above, and his term has been extended for another year. He completed his PhD in 2022. Over the last year, the research team has won several national awards for the research work to date.

Recent ICBSE Research-related publications from the last three years are listed below.

1. Ellis R, Brennan PA, Lee AJ, Scrimgeour DS, Cleland J. Differential attainment at MRCS according to gender, ethnicity, age and socioeconomic factors: a retrospective cohort study. Journal of the Royal Society of Medicine. February 2022. doi:10.1177/01410768221079018

2. Ellis, Ricky & Cleland, Jennifer & Lee, Aj & Scrimgeour, Duncan & Brennan, Peter. (2022). Can MRCS exam performance predict surgical specialty destination?. Bulletin of The Royal College of Surgeons of England. 104. 20-27. 10.1308/rcsbull.2022.9.

3. Ellis R, Brennan PA, Scrimgeour DSG, et al. Does performance at the intercollegiate Membership of the Royal Colleges of Surgeons (MRCS) examination vary according to UK medical school and course type? A retrospective cohort study. BMJ Open 2022;12:e054616. doi:10.1136/ bmjopen-2021-054616

4. Ricky Ellis, Jennifer Cleland, Amanda J. Lee, Duncan S. G. Scrimgeour & Peter A. Brennan (2021): A cross-sectional study examining MRCS performance by core surgical training location, Medical Teacher, DOI: 10.1080/0142159X.2021.1995599

5. Ellis R, Hardie JA, Summerton DJ, Brennan PA. Dual surgeon operating to improve patient safety. Br J Oral Maxillofac Surg. 2021 Feb 24:S0266-4356(21)00080-2. doi: 10.1016/j.bjoms.2021.02.014.

6. Ellis R, Cleland J, Scrimgeour D, Lee AJ, Brennan PA. The impact of disability on performance in a high-stakes postgraduate surgical examination: a retrospective cohort study. J R Soc Med. 2021 Jul 16:1410768211032573. doi: 10.1177/01410768211032573..

7. Ellis R, Scrimgeour DSG, Brennan PA. Surgical training during the COVID-19 pandemic: preparing for future uncertainty. Br J Oral Maxillofac Surg. 2020 Dec 2:S0266-4356(20)30949-9. doi: 10.1016/j.bjoms.2020.11.017.

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Current studies include: differential attainment related to socio-economic status, disability including dyslexia and dyspraxia age and gender. The team is also studying the time of arrival at the MRCS exam and whether this influences outcome of the examination. Currently awaiting notification from the four Surgical Colleges about whether funding will continue for this important research and to support a third Fellow leading to a 3rd PhD.

Mr John Hines, ICBSE Chair
Gregory Ayre, ICBSE Manager
1 July 2022

PROTECTED CHARACTERISTICS: EXAMINERS/ASSESSORS AND CANDIDATES AT 7 June 2022

Candidate statistics: candidates in 2021 for each stage or type of exam

Examiners: actual at 7 June 2022 1348 (1339 in 2021)

AGE PROFILE - EXAMINERS/ASSESSORS

	Edin	England	Glasgow	Ireland	TOTAL	%
20-29	0	<5	0	0	<5	0.1%
30-39	<5	<5	<5	9	**13**	1.0%
40-49	57	46	22	39	**164**	12.2%
50-59	224	150	80	90	**544**	40.4%
60-69	167	132	43	47	**389**	28.9%
70+	23	51	11	19	**104**	7.7%
Unspecified	25	46	26	36	**139**	10.3%
Total	**497**	**429**	**182**	**240**	**1348**	

AGE PROFILE - CANDIDATES

	Edinburgh	England	Glasgow	Ireland	TOTAL	%
20-29	1153	2839	116	541	**4649**	42.7%
30-39	1395	3134	190	626	**5345**	49.1%
40-49	211	428	41	80	**760**	7.0%
50-59	23	47	3	6	**79**	0.7%
60-69	<5	6	<5	<5	**6**	0.1%
70+	0	0	0	0	**0**	0.0%
Unspecified	42	<5	5	<5	**48**	0.4%
Total	**2824**	**6455**	**355**	**1253**	**10887**	

GENDER PROFILE - EXAMINERS/ASSESSORS

	Edin	England	Glasgow	Ireland	TOTAL	%
Female	62	84	28	49	**223**	16.5%
Male	432	344	154	190	**1120**	83.1%
Prefer not to say	<5	<5	<5	<5	<5	0.2%
Transgender	<5	<5	<5	<5	<5	0.2%
Total	**497**	**429**	**182**	**240**	**1348**	

GENDER PROFILE - CANDIDATES

	Edinburgh	England	Glasgow	Ireland	TOTAL	%
Female	846	1970	123	417	**3356**	30.8%
Male	1716	4468	227	835	**7246**	66.6%
Prefer not to say	172	11	<5	<5	**186**	1.7%
Transgender	<5	<5	<5	<5	**2**	0.0%
Unspecified	63	<5	<5	<5	**97**	0.9%
Total	**2602**	**4626**	**317**	**1252**	**10887**	

MARITAL STATUS PROFILE - EXAMINERS/ASSESSORS

	Edin	England	Glasgow	Ireland	TOTAL	%
Civil Partnership	0	<5	0	0	<5	0.0%
Cohabiting	<5	<5	<5	<5	**7**	0.5%
Married	235	96	64	92	**487**	36.1%
Prefer not to say	<5	<5	5	<5	**11**	0.8%
Separated/Divorced	10	<5	<5	<5	**22**	1.6%
Single	17	10	<5	14	**42**	3.1%
Unspecified	229	313	107	126	**775**	57.5%
Widowed	0	<5	0	<5	<5	0.2%
Total	**497**	**429**	**182**	**240**	**1348**	

MARITAL STATUS PROFILE - CANDIDATES

	Edinburgh	England	Glasgow	Ireland	TOTAL	%
Civil Partnership	9	9	<5	<5	**20**	0.2%
Cohabiting	56	283	19	<5	**359**	3.3%
Married	517	1873	117	21	**2528**	23.2%
Prefer not to say	265	229	21	11	**526**	4.8%
Separated/Divorced	15	39	<5	<5	**56**	0.5%
Single	936	3433	166	46	**4581**	42.1%
Unspecified	1024	588	29	1173	**2814**	25.8%
Widowed	<5	<5	<5	<5	**3**	0.0%
Total	**2602**	**4626**	**317**	**1252**	**10887**	

SEXUAL ORIENTATION PROFILE - EXAMINERS/ASSESSORS

	Edin	England	Glasgow	Ireland	TOTAL	%
Bisexual	<5	<5	<5	<5	**11**	0.8%
Heterosexual	344	186	102	161	**793**	58.8%
Homosexual	<5	<5	<5	<5	<5	0.2%
Prefer not to say	8	7	5	7	**27**	2.0%
Unspecified	142	231	73	67	**513**	38.1%
Total	**497**	**429**	**182**	**240**	**1348**	99.9%

SEXUAL ORIENTATION PROFILE - CANDIDATES

	Edinburgh	England	Glasgow	Ireland	TOTAL	%
Bisexual	25	72	<5	<5	**102**	0.9%
Heterosexual	1864	5017	267	66	**7214**	66.3%
Homosexual	<5	101	<5	<5	**109**	1.0%
Prefer not to say	732	565	53	25	**1375**	12.6%
Unspecified	197	700	28	1162	**2087**	19.2%
Total	**2602**	**6455**	**317**	**1137**	**10887**	

RELIGIOUS PROFILE - EXAMINERS/ASSESSORS

	Edin	England	Glasgow	Ireland	TOTAL	%
Buddhist	17	<5	<5	8	**29**	2.2%
Christian	128	61	28	69	**286**	21.2%
Hindu	86	29	31	24	**170**	12.6%
Jewish	<5	<5	<5	<5	**5**	0.2%
Muslim	58	56	23	52	**189**	14.0%
No religion	34	14	7	11	**66**	4.9%
Other	5	<5	7	<5	**18**	1.3%
Prefer not to say	7	<5	5	6	**22**	1.6%
Sikh	<5	5	<5	<5	**15**	1.1%
Unspecified	156	252	76	64	**548**	40.7%
Total	**497**	**429**	**182**	**240**	**1348**	99.8%

RELIGIOUS PROFILE - CANDIDATES

	Edinburgh	England	Glasgow	Ireland	TOTAL	%
Buddhist	109	89	6	6	**210**	1.9%
Christian	437	1147	62	10	**1656**	15.2%
Hindu	474	838	62	8	**1382**	12.7%
Jewish	5	25	0	0	**30**	0.3%
Muslim	835	2332	122	53	**3342**	30.7%
No religion	125	781	53	<5	**961**	8.8%
Other	98	106	9	<5	**216**	2.0%
Prefer not to say	543	434	17	12	**1006**	9.2%
Sikh	13	54	<5	<5	**70**	0.6%
Unspecified	185	649	21	1159	**2014**	18.5%
Total	**2824**	**6455**	**317**	**1137**	**10887**	

DISABILITY PROFILE - EXAMINERS/ASSESSORS

	Edin	England	Glasgow	Ireland	TOTAL	%
No	435	212	109	176	**932**	69.1%
Partial	<5	<5	<5	<5	<5	0.3%
Unspecified	58	213	71	61	**403**	29.9%
Yes	<5	<5	<5	<5	**9**	0.7%
Total	**497**	**429**	**182**	**240**	**1348**	

DISABILITY PROFILE - CANDIDATES

	Edinburgh	England	Glasgow	Ireland	TOTAL	%
No	2509	5983	314	121	**8927**	82.0%
Partial	159	82	15	<5	**258**	2.4%
Unspecified	107	334	23	1130	**1594**	14.6%
Yes	49	56	<5	<5	**108**	1.0%
Total	**2824**	**6455**	**317**	**1137**	**10887**	

ETHNICITY - EXAMINERS AND ASSESSORS

With GMC/IMC Number	Edin	England	Glasgow	Ireland	TOTAL	%
Asian or Asian British	131	54	62	28	**275**	31.3%
Black / African / Caribbean / Black British	9	<5	<5	<5	**17**	1.9%
Mixed / Multiple Ethnic Groups	27	11	<5	6	**48**	5.5%
Other Ethnic Group	20	17	<5	11	**51**	5.8%
Prefer not to say	<5	<5	<5	<5	**5**	0.6%
Unspecified	50	113	40	30	**233**	26.5%
White	113	53	42	41	**249**	28.4%
Total	**352**	**251**	**153**	**122**	**878**	100.0%

ETHNICITY - CANDIDATES (calendar year 2021)

With GMC/IMC No.	Edinburgh	England	Glasgow	Ireland	TOTAL	%
Asian or Asian British	340	1149	62	11	**1562**	30.2%
Black / African / Caribbean / Black British	61	347	13	2	**423**	8.2%
Mixed / Multiple Ethnic Groups	62	254	27	1	**344**	6.7%
Other Ethnic Group	106	483	25	5	**619**	12.0%
Prefer not to say	220	149	12	10	**391**	7.6%
Unspecified	44	273	12	45	**374**	7.2%
White	260	1099	88	11	**1458**	28.2%
Total	**1093**	**3754**	**239**	**27**	**5171**	100.0%

No GMC/IMC Number	Edin	England	Glasgow	Ireland	TOTAL	%
Asian or Asian British	52	25	6	26	**109**	23.2%
Black / African / Caribbean / Black Br.	6	<5	0	<5	**11**	2.3%
Mixed / Multiple Ethnic Groups	20	<5	0	15	**39**	8.3%
Other Ethnic Group	9	33	<5	17	**62**	13.2%
Prefer not to say	0	<5	0	0	<5	0.1%
Unspecified	32	77	9	29	**147**	31.3%
White	26	36	11	28	**101**	21.5%
Total	**145**	**173**	**32**	**109**	**470**	99.9%

No GMC/IMC No.	Edinburgh	England	Glasgow	Ireland	TOTAL	%
Asian or Asian British	753	1059	54	26	**1892**	33.1%
Black / African / Caribbean / Black Br.	51	128	6	2	**187**	3.3%
Mixed / Multiple Ethnic Groups	78	134	3	9	**224**	3.9%
Other Ethnic Group	155	951	40	12	**1158**	20.3%
Prefer not to say	427	57	0	8	**492**	8.6%
Unspecified	234	349	10	1109	**1702**	29.8%
White	33	23	3	2	**61**	1.1%
Total	**1731**	**2701**	**116**	**1168**	**5716**	100.0%

All Examiners/assessors	Edin	England	Glasgow	Ireland	TOTAL	%
Asian or Asian British	183	79	68	54	**384**	28.5%
Black / African / Caribbean / Black Br.	15	<5	<5	7	**28**	2.1%
Mixed / Multiple Ethnic Groups	47	15	<5	21	**87**	6.5%
Other Ethnic Group	29	50	6	28	**113**	8.4%
Prefer not to say	<5	<5	<5	<5	**6**	0.4%
Unspecified	82	190	49	59	**380**	28.2%
White	139	89	53	69	**350**	26.0%
Total	**491**	**425**	**194**	**279**	**1348**	100.0%

All Candidates	Edinburgh	England	Glasgow	Ireland	TOTAL	%
Asian or Asian British	1095	2208	116	36	**3455**	31.7%
Black / African / Caribbean / Black Br.	112	474	19	3	**608**	5.6%
Mixed / Multiple Ethnic Groups	140	388	30	10	**568**	5.2%
Other Ethnic Group	260	1429	65	14	**1768**	16.2%
Prefer not to say	646	206	12	18	**882**	8.1%
Unspecified	278	629	22	1159	**2088**	19.2%
White	293	1121	91	13	**1518**	13.9%
Total	**2824**	**6455**	**355**	**1253**	**10887**	100.0%