

Intercollegiate Committee for Basic Surgical
Examinations

2020/21 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

August 2021

CONTENTS	PAGE
1. Introduction	2
2. The MRCS examination: purpose and structure	2
2.1 Part A (written paper)	3
2.2 Part B (OSCE)	3
3. The MRCS and the Intercollegiate Surgical Curriculum Programme (ISCP)	3
4. The MRCS examination	4
4.1 Part A (written paper)	4
2020/21 Part A (written paper) Review of Activity	4
4.2 Part B (OSCE)	5
2020/21 Part B (OSCE) Review of Activity	6
Standard Setting	7
Review of the MRCS Part B (OSCE) Exam	9
5. The Diploma in Otolaryngology – Head & Neck Surgery (DO-HNS)	9
Standard setting the DO-HNS examination	10
2020/21 DO-HNS Examination Review of Activity	10
6. Quality Assurance	12
6.1 The role of the Internal Quality Assurance Committee (IQA)	12
6.2 Assessors	12
2020/21 Review of IQA Activity	13
6.3 Equality & Diversity	13
6.3.1 Equality and Diversity Examiner Training	13
6.3.2 Review and Improve the Collection and Monitoring of Equal Opportunities Data	13
6.4 Research	13
Appendix 1 – Candidate and examiner data	16

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 **fourteenth** Annual Report of the Intercollegiate Committee for Basic Surgical Examinations (ICBSE) and covers the period August 2020 to July 2021.

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 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.

2020/21 Part A (written paper) Review of Activity

During recent years, extensive work was carried out by the Content Review Group to review the question bank and the format of the Part A (MCQ) examination.

As a result of the work carried out ICBSE introduced a revised test specification (blueprint) of the Part A examination in January 2017, which most notably changed balance of the exam by increasing the Applied Basic Science section and extending the assessment time from four hours to five hours.

In addition, the GMC agreed in 2017 to the discontinuation of the extended matching questions (EMQs) within the MCQ paper. The Part A exam is now entirely single best answer, with the format change commencing from the September 2018 examination. More recently, the GMC agreed in January 2020 for medico-legal issues to be removed from the Applied Basic Sciences paper, and for the exam blueprint to be rearranged to make up for the removal of these questions. This change will be implemented from the January 2021 exam diet.

As a result of the issues created by the Covid-19 pandemic, the MRCS Part A was moved to remote delivery using the Exemplify 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 format of the exam remained unchanged. This change of delivery mechanism was in line with the actions of many other membership exams provided by Colleges and faculties in 2020/21 and was approved by the GMC. As a result, the MRCS Part A was able to be delivered to all candidates, both in the United Kingdom and Ireland, and across the rest of the world, at the September 2020, January 2021 and April 2021 diets in spite of public health restrictions in effect due to the various waves of the Covid-19 pandemic.

At the first delivery of the remotely delivered MRCS Part A in September 2020 there was a technical issue that affected a small proportion, but not insignificant number, of candidates. As the issue was not a result of their actions, the candidates were offered a free re-sit at a specially arranged diet of the exam in November 2020

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 2020	3652	42.4 (1547)	57.6 (2105)	76.9	0.96	6.85
November 2020	119	37.8 (45)	62.2 (74)	71.4	0.96	7.28
January 2021	3116	37.6 (1173)	62.4 (1943)	72.8	0.96	7.29
April 2021	2729	43.4 (1185)	56.6 (1544)	72.9	0.96	7.11

* 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.

2020/21 Part B (OSCE) Review of Activity

Activity relating to the MRCS Part B (OSCE) during 2020/21 concentrated on changing the format of the MRCS OSCE to ensure its safe delivery in the United Kingdom and Ireland while public health restrictions were in place due to the Covid-19 pandemic.

As a result, the following changes were made to the MRCS OSCE. The changes were submitted to, and approved by, the GMC:

- Reduce number of procedural skills stations from 2 to 1
- Reduce number of history taking stations from 2 to 1
- Reduce number of anatomy stations from 3 to 2
- Reduce number of pathology stations from 2 to 1
- Reduce overall number of stations from 17 to 13
- Reframe physical examination stations to allow to be delivered without a patient/actor present by focusing on identification/discussion of signs/symptoms of described patients, followed by discussion of likely diagnoses, further investigations and management plan
- Reframe procedural skills stations to allow to be delivered without an actor present and remotely if necessary
- Introduction of a single pass mark rather than separate pass marks for knowledge and skills

The experience of the first exam using the above format in October 2020 was that the addition of 0.84 SEM to a single pass mark did not maintain the previous standard that was achieved by applying it to two separate pass marks within the same exam. As such, it was agreed that the multiple to be used should be 1.64 SEM for all diets of the MRCS Part B (OSCE) that used the revised Covid-19 format of the exam (*see overleaf for a description of the standard setting process for the MRCS Part B OSCE*).

It was decided that there would be a back-up exam delivered online in November 2020 to counter the possibility that an exam centre could be compromised by increased lockdown restrictions or a potential Covid-19 outbreak. While neither of these eventualities occurred, it was decided to use this agreed back-up exam to test remote delivery of the MRCS OSCE. As such, candidates who were forced to withdraw from the MRCS Part B in October 2020 due to being required to self-isolate were offered the opportunity to sit the exam in late November 2020. The exam was subsequently taken by seven candidates as a live exam.

In spite of the re-designed format for the MRCS OSCE, the magnitude of the second wave of the Covid-19 pandemic in the United Kingdom and Ireland at the start of 2021 meant that the February 2021 diet of the MRCS OSCE was postponed as it was felt it was not appropriate to run the exam given the prevalence of Covid-19 at the time, the lockdown restrictions in place, and the need for candidates and examiners alike to be working at their hospitals to treat victims of the pandemic. As a result, an additional diet of the MRCS Part B was scheduled for July 2021 to address the backlog of candidates this postponement had created.

ICBSE had intended to introduce 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) in October 2020. This was postponed due to the Covid-19 pandemic and will instead be introduced at the October 2021 diet of the exam.

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)	Measure of reliability* (range for all circuits)	Measurement error** raw (range for all circuits)
October 2020	532	75.4 (401)	24.6 (131)	175 - 183	0.62 - 0.82	9.75 - 10.75
November 2020	7	42.9 (3)	57.1 (4)	180	N/A (insufficient data)	N/A (insufficient data)
May 2021	717	70.0 (502)	30.0 (215)	174 - 186	0.68 - 0.82	10.5 - 11.3
July 2021	237	71.3 (169)	28.7 (68)	179 - 181	0.66 - 0.75	10.2 - 12.0

* 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.

Review of the MRCS Part B (OSCE) Exam

As noted above, a review of the MRCS Part A exam took place in 2015 with a change to the examination implemented in 2017. Therefore, the focus for the MRCS Review in 2017/18 was on the OSCE exam. These MRCS Review recommendations were presented to ICBSE for discussion and agreement at the July 2018 committee meeting. The main recommendations the Panel proposed were:

- to reduce the number of physical examination stations from four to three (reducing the number of assessed stations from 18 to 17)
- to incorporate Health Promotion into the ICBSE MRC Syllabus
- to incorporate Patient Safety into both Anatomy and Procedural Skills stations.

The ICBSE committee approved these recommendations, and the MRCS OSCE Review Panel submitted a GMC CAG submission of these proposed changes, with the changes approved and originally due to be implemented in October 2020.

As has been noted elsewhere, the May 2020 diet of the MRCS Part B OSCE, along with most other activities, was postponed due to the COVID-19 outbreak. It was therefore decided that the exam needed to be reviewed to ensure that it could be delivered in October 2020, leading to the changes described above.

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.

MRCS (ENT)

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.

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 (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.

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. 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.

Standard setting the DO-HNS examination

The standard setting procedure for the DO-HNS 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 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.

2020/21 DO-HNS Examination Review of Activity

As a result of the issues created by the Covid-19 pandemic, the DO-HNS Part 1 was moved to remote delivery using the Exemplify 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 format of the exam remained unchanged. This change of delivery mechanism was in line with the actions of many other membership exams provided by Colleges and faculties in 2020/21. As a result, the DO-HNS Part 1 was able to be delivered to all candidates, both in the United Kingdom and Ireland, and across the rest of the world, at the September 2020, January 2021 and April 2021 diets in spite of public health restrictions in effect due to the various waves of the Covid-19 pandemic.

Activity relating to the DO-HNS Part 2 (OSCE) during 2020/21 concentrated on changing the format of the DO-HNS OSCE to ensure its safe delivery in the United Kingdom and Ireland while public health restrictions were in place due to the Covid-19 pandemic.

As a result, the following changes were made to the DO-HNS OSCE. The changes were submitted to, and approved by, the GMC:

- The written stations delivered online
- Ear examination station removed from the temporary circuit
- 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.

- 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 take the exam at a different College

The DO-HNS sub group continue to monitor and develop the Part 1 and Part 2 question banks. 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.

It was decided and announced to candidates that the DO-HNS Part 1 exam will be discontinued after the three exam diets in 2021. It is therefore planned that the last diet of the DO-HNS Part 1 will be in September 2021.

As a result of the decision above, the DO-HNS Part 2 OSCE will be renamed as there is no longer a DO-HNS Part 1. As such, the exam will be known as the MRCS (ENT) OSCE from 2022.

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 2020	24	79.2 (19)	20.8 (5)	67.2		
January 2021	4	100 (4)	0 (0)	74.3		
April 2021	37	75.7 (28)	24.3 (9)	72.6		

* 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)
October 2020	76	82.9 (63)	17.1 (13)	Day 1: 70.6	Day 1: 0.82	Day 1: 2.53 (13.89)
				Day 2: 71.3	Day 2: 0.75	Day 2: 2.57 (14.14)
February 2021	0	N/A	N/A	Day 1: N/A	Day 1: N/A	Day 1: N/A
				Day 2: N/A	Day 2: N/A	Day 2: N/A
May 2021	126	82.5 (104)	17.5 (22)	Day 1: 69.0	Day 1: 0.79	Day 1: 2.63 (13.70)
				Day 2: 69.0	Day 2: 0.80	Day 2: 2.21 (11.48)

* 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 2020, 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.

Considerable activity has gone into investigating the potential for remote monitoring of the MRCS Part B (OSCE) that would allow Assessors to monitor the examiners from a separate room. It is hoped that the system will be less intimidating to the examiners and less obtrusive to the candidates but further research into the utility and deliverability is required and ongoing.

2020/21 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 has 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 has recently successfully obtained his PhD on the MRCS work published and listed below.

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 will complete a 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. Another three publications are currently in press and awaiting publication on MRCS performance and medical school exams.

1. 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.
2. 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..
3. 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.
4. Ellis R, Cleland J, Scrimgeour DSG, Lee AJ, Brennan PA. A cross-sectional study examining the association between MRCS performance and surgeons receiving sanctions against their medical registration. *Surgeon*. 2021 May 21:S1479-666X(21)00076-7. doi: 10.1016/j.surge.2021.04.003.
5. Ellis R, Oeppen RS, Brennan PA. Virtual postgraduate exams and assessments: the challenges of online delivery and optimising performance. *Br J Oral Maxillofac Surg*. 2021 Feb;59(2):233-237. doi: 10.1016/j.bjoms.2020.12.011
6. Ellis R, Hay-David AGC, Brennan PA. Operating during the COVID-19 pandemic: How to reduce medical error. *Br J Oral Maxillofac Surg*. 2020 Jun;58(5):577-580.
7. Scrimgeour D, Patel R, Patel N, Cleland J, Lee AJ, McKinley AJ, Smith F, Griffiths G, Brennan PA. The effects of human factor related issues on assessors during the recruitment process for general and vascular surgery in the UK. *Ann R Coll Surg Engl*. 2019 Apr; 101(4):231-234
8. Scrimgeour D, Brennan PA, Griffiths G, Lee AJ, Smith F, Cleland J. Does the Intercollegiate Membership of the Royal College of Surgeons (MRCS) examination predict 'on-the-job' performance during UK higher specialty surgical training? *Ann R Coll Surg Engl*. 2018 Oct 5:1-7.
9. Scrimgeour DSG, Cleland J, Lee AJ, Brennan PA. Factors predicting success in the Intercollegiate Membership of the Royal College of Surgeons (MRCS) examination: a summary for OMFS. *Br J Oral Maxillofac Surg*. 2018 Sep;56(7):567-570.
10. Scrimgeour D, Cleland J, Lee AJ, Brennan PA. Predictors of success in the Intercollegiate Membership of the Royal College of Surgeons (MRCS) examination. *Ann R Coll Surg Engl*. 2018 Jul;100 (6): 424-427.

11. Scrimgeour DSG, Higgins J, Bucknall V, Arnett R, Featherstone CR, Cleland J, Lee AJ, Brennan PA. Do surgeon interviewers have human factor-related issues during the long day UK National Trauma and Orthopaedic specialty recruitment process? *Surgeon*. 2018 Oct;16 (5): 292-296.
12. Scrimgeour DSG, Cleland J, Lee AJ, Brennan PA. Which factors predict success in the mandatory UK postgraduate surgical exam: The Intercollegiate Membership of the Royal College of Surgeons (MRCS)? *Surgeon*. 2018 Aug;16(4):220-226.

Current studies include:

- 1) Choice of medical school and MRCS performance
- 2) Socio-economic status and MRCS outcomes.
- 3) MRCS performance and competitiveness at specialty selection
- 4) Core surgical training location (Deanery) and MRCS outcomes
- 5) MRCS as a gatekeeper for surgical career (vs non surgical)

Mr John Hines, ICBSE Chair
Gregory Ayre, ICBSE Manager
5 August 2021

PROTECTED CHARACTERISTICS: EXAMINERS/ASSESSORS AND CANDIDATES AT 6 July 2021

Candidate statistics: candidates in 2020 for each stage or type of exam

*Examiners: actual at 6 July
2021*

AGE PROFILE - EXAMINERS/ASSESSORS

	Edin	England	Glasgow	Ireland	TOTAL	%
20-29	0	<5	0	0	<5	0.1%
30-39	0	<5	<5	6	11	0.8%
40-49	65	53	25	46	189	14.1%
50-59	228	157	85	82	552	41.2%
60-69	151	124	42	44	361	27.0%
70+	20	40	11	15	86	6.4%
Unspecified	27	46	30	36	139	10.4%
Total	491	425	194	229	1339	

AGE PROFILE - CANDIDATES

	Edinburgh	England	Glasgow	Ireland	TOTAL	%
20-29	1128	1861	139	452	3580	41.2%
30-39	1312	2422	158	610	4502	51.9%
40-49	142	305	15	63	525	6.0%
50-59	15	34	<5	11	64	0.7%
60-69	<5	<5	<5	<5	9	0.1%
70+	<5	<5	<5	<5	<5	0.0%
Unspecified	<5	<5	<5	<5	<5	0.0%
Total	2602	4626	317	1137	8682	

GENDER PROFILE - EXAMINERS/ASSESSORS

	Edin	England	Glasgow	Ireland	TOTAL	%
Female	62	79	29	44	214	16.0%
Male	426	345	165	185	1121	83.7%
Prefer not to say	<5	<5	<5	<5	<5	0.2%
Transgender	<5	<5	<5	<5	<5	0.2%
Total	491	425	194	229	1339	

GENDER PROFILE - CANDIDATES

	Edinburgh	England	Glasgow	Ireland	TOTAL	%
Female	763	1271	113	321	2468	28.4%
Male	1662	3339	200	816	6017	69.3%
Prefer not to say	112	10	<5	<5	123	1.4%
Transgender	<5	<5	<5	<5	5	0.1%
Unspecified	63	<5	<5	<5	69	0.8%
Total	2602	4626	317	1137	8682	

MARITAL STATUS PROFILE - EXAMINERS/ASSESSORS

	Edin	England	Glasgow	Ireland	TOTAL	%
Civil Partnership	0	<5	0	0	0	0.0%
Cohabiting	<5	<5	<5	<5	7	0.5%
Married	227	93	64	85	469	35.0%
Prefer not to say	<5	<5	5	<5	12	0.9%

MARITAL STATUS PROFILE - CANDIDATES

	Edinburgh	England	Glasgow	Ireland	TOTAL	%
Civil Partnership	8	7	<5	0	16	0.2%
Cohabiting	50	182	14	0	246	2.8%
Married	361	1448	67	27	1903	21.9%
Prefer not to say	206	155	19	6	386	4.4%

Separated/Divorced	10	<5	<5	<5	21	1.6%
Single	16	9	<5	10	33	2.5%
Unspecified	232	313	117	127	789	58.9%
Widowed	0	<5	0	<5	<5	0.2%
Total	491	425	194	229	1339	

Separated/Divorced	12	34	0	0	54	0.6%
Single	832	2336	134	57	3359	38.7%
Unspecified	1132	463	82	1047	2724	31.4%
Widowed	<5	<5	0	0	<5	0.0%
Total	2602	4626	317	1137	8682	

SEXUAL ORIENTATION PROFILE - EXAMINERS/ASSESSORS

	Edin	England	Glasgow	Ireland	TOTAL	%
Bisexual	<5	<5	<5	<5	9	0.7%
Heterosexual	336	184	106	152	774	57.8%
Homosexual	<5	<5	<5	<5	<5	0.2%
Prefer not to say	8	7	5	6	26	1.9%
Unspecified	145	230	81	66	522	39.0%
Total	491	425	194	229	1339	

SEXUAL ORIENTATION PROFILE - CANDIDATES

	Edinburgh	England	Glasgow	Ireland	TOTAL	%
Bisexual	27	56	<5	<5	85	1.0%
Heterosexual	1686	3601	191	140	5542	63.8%
Homosexual	<5	60	<5	<5	63	0.7%
Prefer not to say	655	374	37	36	1093	12.6%
Unspecified	232	535	87	1045	1899	21.9%
Total	2602	4626	317	1137	8682	

RELIGIOUS PROFILE - EXAMINERS/ASSESSORS

	Edin	England	Glasgow	Ireland	TOTAL	%
Buddhist	17	<5	<5	8	28	2.1%
Christian	127	61	33	61	282	21.1%
Hindu	86	28	32	24	170	12.7%
Jewish	<5	<5	<5	<5	<5	0.2%
Muslim	51	56	22	51	180	13.4%
No religion	34	13	7	10	64	4.8%
Other	5	<5	7	<5	19	1.4%
Prefer not to say	5	<5	5	5	19	1.4%
Sikh	<5	5	<5	<5	15	1.1%
Unspecified	158	251	84	63	556	41.5%
Total	491	425	194	229	1339	

RELIGIOUS PROFILE - CANDIDATES

	Edinburgh	England	Glasgow	Ireland	TOTAL	%
Buddhist	214	74	<5	9	300	3.5%
Christian	360	856	44	7	1267	14.6%
Hindu	374	597	42	5	1018	11.7%
Jewish	5	17	0	0	22	0.3%
Muslim	730	1639	78	59	2506	28.9%
No religion	113	549	39	3	704	8.1%
Other	130	70	8	<5	209	2.4%
Prefer not to say	446	275	19	15	755	8.7%
Sikh	13	34	<5	0	50	0.6%
Unspecified	217	515	81	1038	1851	21.3%
Total	2602	4626	317	1137	8682	

DISABILITY PROFILE - EXAMINERS/ASSESSORS

	Edin	England	Glasgow	Ireland	TOTAL	%
No	429	209	112	167	917	68.5%
Partial	<5	<5	<5	<5	<5	0.3%
Unspecified	58	212	80	60	410	30.6%
Yes	<5	<5	<5	<5	9	0.7%
Total	491	425	194	229	1339	

DISABILITY PROFILE - CANDIDATES

	Edinburgh	England	Glasgow	Ireland	TOTAL	%
No	2254	4238	222	133	6847	78.9%
Partial	126	57	9	<5	193	2.2%
Unspecified	193	280	82	1003	1558	17.9%
Yes	29	51	<5	0	84	1.0%
Total	2602	4626	317	1137	8682	

ETHNICITY - EXAMINERS AND ASSESSORS

<u>With GMC/IMC Number</u>	Edin	England	Glasgow	Ireland	TOTAL	%
Asian or Asian British	125	54	63	28	270	30.6%
Black / African / Caribbean / Black British	9	<5	<5	<5	17	1.9%
Mixed / Multiple Ethnic Groups	27	11	<5	6	48	5.4%
Other Ethnic Group	19	17	<5	9	47	5.3%
Prefer not to say	<5	<5	<5	<5	5	0.6%
Unspecified	53	112	45	30	240	27.2%
White	114	55	46	41	256	29.0%
Total	349	252	162	120	883	100.0%

ETHNICITY - CANDIDATES (calendar year 2020)

<u>With GMC/IMC Number</u>	Edinburgh	England	Glasgow	Ireland	TOTAL	%
Asian or Asian British	212	618	19	<5	853	27.2%
Black / African / Caribbean / Black British	28	149	5	0	182	5.8%
Mixed / Multiple Ethnic Groups	33	180	9	0	222	7.1%
Other Ethnic Group	56	218	4	<5	279	8.9%
Prefer not to say	138	90	11	<5	241	7.7%
Unspecified	27	142	16	17	202	6.4%
White	280	796	70	<5	1159	36.9%
Total	774	2193	134	27	3138	100.0%

<u>No GMC/IMC Number</u>	Edin	England	Glasgow	Ireland	TOTAL	%
Asian or Asian British	49	25	6	26	106	23.2%
Black / African / Caribbean / Black Br.	6	<5	0	<5	11	2.4%
Mixed / Multiple Ethnic Groups	20	<5	0	15	39	8.6%
Other Ethnic Group	9	32	<5	17	61	13.4%

<u>No GMC/IMC Number</u>	Edinburgh	England	Glasgow	Ireland	TOTAL	%
Asian or Asian British	789	843	61	34	1727	31.1%
Black / African / Caribbean / Black Br.	48	115	5	<5	170	3.1%
Mixed / Multiple Ethnic Groups	79	141	<5	9	232	4.2%
Other Ethnic Group	140	906	40	23	1109	20.0%

Prefer not to say	0	<5	0	0	<5	0.2%
Unspecified	32	77	10	29	148	32.5%
White	26	32	13	19	90	19.7%
Total	142	173	32	109	456	100.0%

Prefer not to say	381	37	<5	21	443	8.0%
Unspecified	348	365	65	1021	1799	32.4%
White	43	26	5	0	74	1.3%
Total	1828	2433	183	1110	5554	100.0%

All Examiners/Assessors	Edin	England	Glasgow	Ireland	TOTAL	%
Asian or Asian British	174	79	69	54	376	28.1%
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	28	49	<5	26	108	8.1%
Prefer not to say	<5	<5	<5	<5	6	0.4%
Unspecified	85	189	55	59	388	29.0%
White	140	87	59	60	346	25.8%
Total	491	425	194	279	1339	100.0%

All Candidates	Edinburgh	England	Glasgow	Ireland	TOTAL	%
Asian or Asian British	1001	1461	80	38	2580	29.7%
Black / African / Caribbean / Black Br.	76	264	10	<5	352	4.1%
Mixed / Multiple Ethnic Groups	112	321	12	9	454	5.2%
Other Ethnic Group	196	1124	44	24	1388	16.0%
Prefer not to say	519	127	15	23	684	7.9%
Unspecified	375	507	81	1038	2001	23.0%
White	323	822	75	<5	1223	14.1%
Total	2602	4626	317	1132	8682	100.0%