The Royal Surgical Colleges' ingenious adaptation during the COVID-19 pandemic kept surgeons training and progressing

The COVID-19 pandemic has caused significant disruption across the globe. That it has had a profound impact on the traditional structure of undergraduate and postgraduate medical education in the UK is of particular concern. While final year medical students were propelled to graduate early in 2020 to assist in hospitals, doctors were redeployed to different specialties and wards to aid their colleagues. Many accepted duties that exceeded their normal day-to-day roles, relinquishing their own training and learning to, rightly, support the National Health Service (NHS).

Despite the pandemic, junior doctors (ranging from newly qualified Foundation Year Doctors to Senior Registrars with around 10 years of experience) must continue to be trained. They need to sit mandatory examinations to progress to the next stage of their career. This has required the previously unthinkable creation and swift implementation of novel methods of assessment, something that the four Royal Surgical Colleges in the UK and Ireland have successfully executed in order to ensure that the prerogative of surgical trainees to sit the Membership of the Royal College of Surgeons (MRCS) examinations has not been hindered.

The intercollegiate MRCS examination is a high-stakes postgraduate examination which permits the successful candidate membership to one of the four Royal Surgical Colleges in the UK and Ireland. It is a prerequisite for any early surgical trainee (Foundation Year Doctor or Core Surgical Trainee) who wishes to continue surgical training since it determines whether he or she possesses the necessary skills, knowledge and attributes to enter a six-year higher surgical training programme, successful completion of which results in a Certificate of Completion of Training and appointment as a consultant.

A detailed description of the content of the MRCS examination is offered by Brennan and Sherman.[1] As a brief overview, the examination consists of two parts: Part A and Part B. Part A is a five-hour written paper that comprises of multiple-choice questions in a single best answer format. It intends to assess a candidate's knowledge in 'Applied Basic Science' and 'Principles of Surgery in General'. Part B is an Objective Structured Clinical Examination (OSCE). It consists of 18 stations, each of which is nine minutes in duration and has one or two examiners. It tests two broad content areas: 'Applied Knowledge', which covers surgical anatomy, surgical pathology, microbiology, applied surgical sciences and critical care, and 'Applied Skills', which assesses clinical examination skills, procedural skills and communication skills.

The MRCS Part A examination is held in January, April and September of each year. Prior to the pandemic, candidates had to travel to an examination centre in order to sit it. While the examination was electronic, it could only be taken at dedicated centres across the country, which included universities and hotels.

The April 2020 sitting of the examination, which was provisioned to take place amid the first wave of the pandemic in the UK, was cancelled. Although this decision would have caused those who were preparing for the examination sincere disappointment, it would have arguably been imprudent for the Royal Surgical Colleges to request candidates from different areas of the country working in different hospitals to travel to and congregate in examination centres. In July 2020, the four Royal Surgical Colleges confirmed that the September 2020 diet would be delivered remotely as an online assessment that candidates would sit at home (or in a place of their preference).[2] Candidates would need basic equipment: a computer with a camera and a stable internet connection. This meant that the number of candidates allowed to sit the examination simultaneously would not be limited by COVID-19 restrictions and that candidates would not need to travel to an examination centre. All candidates who were due to take the examination in April 2020, as well as those who had originally applied to sit the examination in September 2020, were able to take the examination at this time. The curriculum and the format of the examination remained the same.[2]

This imaginative and swift adaptation of the Royal Surgical Colleges to establish a system that permitted this high-stakes examination to be taken remotely enabled trainees to continue to progress in their studies and their training. This method of remote assessment remained in place for the April 2021 diet of the examination, and it seems set to stay at least for the immediate foreseeable future.

Part B of the MRCS is held in February, May and October of each year. The examination that was supposed to take place in May 2020 was cancelled. It went ahead in October 2020 after the Intercollegiate Committee for Basic Surgical Examinations, the body responsible for the quality of the MRCS examination, made amendments to certain aspects of its format to take into account restrictions imposed by the virus. These amendments were approved by the General Medical Council. The total number of stations was decreased to 13, the use of real patients in the clinical examination stations was prohibited, and the employment of actors as simulated patients was limited.[3] In December 2020, it was confirmed that these amendments would remain in place in the examination that was due to be held in February 2021.[4] However, in January 2021, the February examination was cancelled as the UK entered the second wave of the pandemic.

As highlighted above in the context of Part A, the decision to cancel the Part B examination would have disheartened those who were prepared to sit it. Yet, the May 2020 and February 2021 examinations fell at the peak times of the pandemic. It would have been improvident to bring numerous trainees from different hospitals throughout the country to gather in the same venue. Similarly, it would have been unwise to ask examiners, who are typically consultant surgeons working in the NHS, to travel from various hospitals to one centre during the first and second waves of the pandemic. What was perhaps more critical was the fact that doctors of all levels and specialties were desperately needed in hospitals at this time, and it would have been impractical and unjust to remove them from clinical commitments during a pandemic.

The Royal Surgical Colleges allowed those who were confirmed to take the cancelled Part B examinations to transfer to the next diet. However, unlike the Part A examination which could be conducted remotely and could thus accommodate an extensive number of candidates, Part B is an OSCE which requires a high examiner-to-delegate ratio. Since candidates must be examined 'live' in each station by at least one experienced examiner, the number of candidates who can be accommodated in a given sitting is limited. This meant that many trainees were unavoidably left waiting after the cancellation of two examinations. The Royal Surgical Colleges conducted an additional examination in July 2021, which enabled those who

were waiting from previously cancelled examinations to be accommodated. This demonstrated the Colleges' commitment towards the necessity to continue training surgeons and facilitating their mandatory examinations, regardless of the challenges imposed by the pandemic.

The stations in which candidates used to be asked to perform a physical examination on either a real or a simulated patient were reframed in order to be delivered without a (real or simulated) patient. Candidates were not requested to demonstrate that they can physically examine an individual but, rather, they had to *describe* how they would perform an examination. While this inevitably demands a somewhat different skillset from that required to physically examine a patient, COVID-19 regulations meant that physical examinations simply could not be conducted in a simulated assessment environment. This 'COVID-safe' format adopted by the Royal Surgical Colleges permitted a candidate's competence to be tested to the best that it could be in the circumstances. It may not be a practical long-term strategy, and alternatives to assess a trainee's ability to perform clinical examinations might need to be found. Indeed, referring to the removal of the physical examination of patients from Part B, Ricky Ellis *et al*. maintained that 'it is too early to validate this new examination methodology'.[5] However, the fact that this aspect of Part B was quickly restructured to allow the examination to go ahead is commendable.

The UK's medical schools employ OSCEs and Integrated Structured Clinical Examinations (ISCEs) as assessment methods to examine the clinical competency and professionalism of medical students. Prior to the pandemic, these examinations were conducted in person, with the medical student, an examiner and a patient (either real or simulated) present, to test the student's ability to take history, perform physical examinations and communicate with patients. In 2020, medical schools within the UK suspended the OSCEs and ISCEs traditionally sat by final year medical students due to concerns surrounding the transmission of COVID-19.[6] This meant that those who graduated in the summer of 2020 started to work as Foundation Year Doctors without a final assessment of their clinical skills. As mentioned above, the Royal Surgical Colleges cancelled the May 2020 sitting of the MRCS Part B examination. However, in contrast to final year medical students who were allowed to progress in their career without taking the final OSCE or ISCE, surgical trainees were still required to sit the Part B; they were obligated to wait until the examinations could recommence. The Royal Surgical Colleges' decision to postpone Part B until all components could be administered safely prioritised the safety of patients.

Medical schools conducted virtual OSCEs in 2021, which enabled the clinical competency of medical students to continue to be assessed summatively.[7] However, the use of an online platform through which to administer assessments of clinical ability has limitations, the primary obstacle being that it is arguably arduous to appraise an individual's capability to physically examine patients or to perform procedural skills virtually. The Royal Surgical Colleges' commitment to administer Part B—an OSCE—in-person is preferable, particularly given the potential consequences on patient safety of a virtual assessment in which essential clinical skills cannot be adequately evaluated.

While COVID-19 might have provided the impetus to amend assessment methods in postgraduate surgical studies, the traditional way in which surgeons are assessed cannot be completely replaced. The Royal Surgical Colleges' decision to use remote methods of assessment only where appropriate reflects their recognition that surgical examinations must maintain validity and reliability. The validity of the revised Part A and Part B should now be reviewed by those involved in the administration of the examinations to ensure that it is not compromised. There is a delicate balance between restructuring mandatory high-stakes examinations in order to allow trainees to continue to progress and maintaining standards to administer an assessment that achieves its desired outcomes. It should also be considered that, as the UK starts to emerge from the pandemic, a strategy to revert to the traditional structure of the Part A and Part B examinations can now be contemplated. This would arguably respect pertinent COVID-19 precautions and guidelines, such as the wearing of face masks, gloves and gowns, as appropriate and necessitated.

What COVID-19 has highlighted is that rapid and novel adaptation can be achieved and alternatives can be sought when the circumstances truly necessitate them. As many educational institutions and universities in the UK struggle to provide their students with adequate educational opportunities, the Royal Surgical Colleges have created an imaginative and efficient way to guarantee that the progression of surgical trainees is not hindered. Such forethought and prudence have ensured that the development of surgical trainees is not compromised and, very importantly, the care given to patients with cancer, trauma and acute surgical emergencies—illnesses that have not been thwarted by the pandemic— continues to be delivered to the highest of standards.

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