Chapter 5
The Governance of Surgical Education: The Role of the Colleges

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Overview This chapter reviews the place of the Surgical Royal Colleges in the governance of surgical training in the UK. The College structures that oversee training include the Joint Committee for Surgical Training (JCST) and individual Specialty Accreditation Committees (SACs) and their roles in curriculum development, assessment, selection, certification, quality assurance and trainee support are described. The relationship of the Colleges with the regulator, the funder and the education providers is complex and has changed substantially from the time when the Colleges had a central responsibility for accrediting surgical training. The reasons for these changes are discussed. Although set in the UK, there are also commonalities for Colleges internationally.

5.1 Introduction

In the UK, the governance of surgical training rests between four organisations: the regulator (the General Medical Council or GMC); the arm of government that oversees and funds surgical training (currently Health Education England or HEE); the locations where surgical training actually happens, namely, the hospitals or Local Educating Providers (LEPs); and Surgical Royal Colleges. While the focus of this chapter is to discuss the role of the Colleges, it is not possible to do this without a description, where appropriate, of the roles of the other organisations and the consequences of these arrangements. Box 5.1 summarises the abbreviations of the organisations associated with governance of surgical training in the UK.

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Box 5.1: Abbreviations Relevant for Governance of Surgical Training in the UK
Certificate of Completion of Training (CCT)
Certificate of Equivalence of Specialty Training (CESR)
European Economic Community (EEC)
Fellowship of the Royal College of Surgeons (FRCS)
General Medical Council (GMC)
Health Education England (HEE)
Intercollegiate Committee for Basic Surgical Examinations (ICBSE)
Joint Committee for Surgical Training (JCST)
Local Education Providers (LEPs)
Local Education and Training Boards (LETBs)
Membership of the Royal College of Surgeons (MRCS)
National Health Service (NHS)
Objective Structured Clinical Examination (OSCE)
Out of Program Research (OOPR)
Out of Program Training (OOPT)
Out of Programme Experience (OOPE)
Postgraduate Medical Education and Training Board (PMETB)
Quality Improvement Framework (QIF)
Royal College of Physicians and Surgeons of Glasgow (RCPSGlas)
Royal College of Surgeons of Edinburgh (RCSEdin)
Royal College of Surgeons of England (RCSEng)
Royal College of Surgeons of Ireland (RCSIre)
Schools of Surgery (SoS)
Specialty Accreditation Committees (SACs)
Specialty Training Committees (STCs)

5.2 A Historical Perspective

The Barber Surgeons received their Royal Charter from King Henry VIII in 1540, but it was not until 1629 that King Charles I of England ordered the Barber Surgeons to establish a Court of Examiners that would certify ship's surgeons. The Surgeons separated from the Barbers in around 1745, and at that time, there were around 90 practicing surgeons within London. Training was by a process of apprenticeship, which at that time was set at 7 years, with an assessment at the end of that period by a Court of Examiners. In 1836, at an extraordinary General meeting of the Royal College of Surgeons of England, it was agreed that "no person would be recognised as a lecturer on anatomy, physiology, pathology or surgery in England until he shall have undergone an examination by the Council on two separate days, the first on anatomy and physiology and the second on pathology and the principles and

practice of surgery". These examinations were embodied in the Royal Charter of 1843, which established the "Fellowship of the Royal College of Surgeons" (FRCS) as the indication that a surgeon had successfully completed their training.

In many ways, these structures and principles remained unchanged until the latter years of the twentieth century. This author trained when there was no written syllabus or curriculum, but simply a series of examinations with an assessment of "competency" at the end of training by the trainers who had overseen the training of that surgeon. The Colleges largely controlled surgical training, by setting the examinations and assessing the readiness of the trainees for certification while also overseeing the quality of the training posts themselves by means of regular visits to each training unit.

5.2.1 Drivers for Change

Much has changed in healthcare in the past 50 years. From the advent of the National Health Service (NHS) and the principle that treatment should be free at the point of delivery, there has been a progressive requirement by society that the outcomes of care are as good and reproducible as possible, with minimal harm to patients while they receive that care. In surgical education, this has resulted in a need for more standardised and objective outcomes of training, a greater emphasis upon patient safety with closer supervision of trainee surgeons and a need to demonstrate better value for money.

During the early years of the twenty-first century, these drivers resulted in a considerable change in the process of training and in the governance of surgical training and associated changes in the responsibilities and roles of the Colleges. There was a perception by the funders of medical training, the Government that the Colleges, being essentially membership organisations, were neither transparent nor democratic enough to be trusted to maintain their central position within medical training, despite their demonstrable expertise. Until that time, the Government had funded a considerable component of the training functions of the Colleges, but gradually this funding was withdrawn, while a new "regulator" of medical training was introduced, initially in the shape of the Postgraduate Medical Education and Training Board (PMETB) which began to function in 2005 and subsequently by the GMC which took over the functions of PMETB in 2010.

5.3 Current Architecture of UK Surgical Training

The GMC currently has a central position in UK medical and surgical training. It is the organisation that sets standards, approves curricula, certifies completion of training, approves equivalence of training for those who have trained outside the UK and quality assures medical training. However, it has neither the resources nor

the expertise to actually do all those things themselves and has to delegate some of the day-to-day activities to others, including the Medical Royal Colleges.

HEE is currently the Governmental body that funds and manages medical training in the UK. It does this through a number of regional structures or Local Education and Training Boards (LETBs) most of which have a Postgraduate Dean to lead training in that locality. LETBs are often loosely referred to as "Deaneries". HEE has responsibility for managing the training not just of doctors but also of allied healthcare professionals including nurses, radiographers, physiotherapists and others. In medicine, they recruit the trainees, provide their salaries, arrange their clinical attachments, oversee the regular assessments of progression, manage trainees in difficulty and oversee the quality management of the clinical attachments. Inevitably, they have to work closely with the GMC, the local education providers and the Colleges. As the arm of government, they also have to deliver value for money and work within centrally determined budgets. The components that oversee surgical training within the LETB are the Schools of Surgery (SoS), with Heads of Schools who are employed by the Deaneries to manage surgical training in all specialties in that locality. Lying below the Schools are the individual Specialty Training Committees (STCs), which comprise a group of surgeons within that locality with a representative for each training unit. The Training Programme Director sits on that committee and has overall charge of the trainees in that specialty, in that locality.

The training units are located in hospitals and are termed the Local Education Providers (LEPs), and they actually deliver the educational attachments for trainees. They have a somewhat conflicted position because the UK NHS has largely been developed on the basis that trainees deliver much of the emergency care for patients, while the trainee salaries are largely paid for by the LETB with the intention that it pays for their training. This conflict between service and training is therefore complex. Many believe that service is essential in order to deliver experience, while others believe that this balance has veered too far in recent years towards service and to the detriment of training.

There are four Surgical Royal Colleges that oversee surgical training in the UK. The Royal College of Surgeons of England (RCSEng), Royal College of Surgeons of Edinburgh (RCSEdin), Royal College of Surgeons of Ireland (RCSIre) and the Royal College of Physicians and Surgeons of Glasgow (RCPSGlas) work together to oversee surgical training through a number of intercollegiate structures. The most senior structures are the Joint Committee for Surgical Training (JCST), the Joint Committee for Intercollegiate Examinations (JCIE) and the Intercollegiate Committee for Basic Surgical Examinations (ICBSE). Below JCST and JCIE, there are specialty-specific Specialty Accreditation Committees (SACs) and specialty-specific Intercollegiate Examination Boards. Currently, there are ten surgical specialties that sit within these structures, cardiothoracic, general, neurosurgery, oro-maxillo-facial, otolaryngology (ENT), paediatric, plastic, trauma and orthopaedic (T&O), urology and vascular, and the membership of each SAC is made up of specialty and College representatives.

5.4 Roles of the Surgical Royal Colleges in UK Surgical Education

5.4.1 Curriculum Development

In the early years of the twenty-first century, it became clear that there was a need for defined, written curricula to underpin postgraduate medical training. Currently, while the responsibility for curriculum approval of those curricula lies with the regulator, the responsibility for their actual development lies with the Colleges, and this responsibility is delegated to the individual SACs. Every 3 or 4 years, the SAC undertakes a review of the specialty curriculum and produces a document describing surgical training in that specialty. There is input from all relevant stakeholders including trainees, the lay public, the service (i.e. the NHS) and HEE, and when the final document is agreed, it is submitted for approval to the GMC. The curriculum must meet certain predefined standards that have been set by the GMC [1], and the GMC scrutinises the curriculum to ensure that those standards are met. There is often a formal panel review of the curriculum as part of this scrutinising process. When approved, it becomes the blueprint for training in that specialty until there is another review some time later.

Currently, the Colleges are the only organisations that have been given the responsibility to write curricula for medical and surgical training, and this ensures, perhaps more than any other single factor, that they remain central to the governance of surgical training in the UK.

Most curricula are now provided online for trainers and trainees in e-portfolios that describe the curriculum and provide real-time workplace-based assessment tools, logbooks for surgical procedures and systems that manage assessment and progression. The surgical curricula are housed in the Intercollegiate Surgical Curriculum Programme (ISCP) [2], and trainees currently pay an annual training fee that gives them access to the e-portfolio.

5.4.2 Assessment

The need to objectively assess trainees, and, in the case of surgery, to assess their ability to undertake technical tasks, has meant that there has been an increased emphasis upon assessment in the workplace. The development of workplace-based assessments as tools for providing formative and summative assessment of clinical, professional and technical skills has largely been led by clinical and surgical educators, sometimes in conjunction with the Colleges. However, while assessment in the workplace is undertaken by working surgeons, the annual review of the trainee progression lies with the SoS, and the determination of which assessments should be undertaken is still largely dictated by the Colleges, through the curricula.

Further, the College examinations first developed in the 1800s are still the basis for the summative assessment of knowledge in surgical training, although their structure and format have changed considerably over the years. Currently, there are two main sets of examinations: the Membership examinations that are taken after 1–2 years of surgical training, which deliver the post-nominal MRCS (Membership of the Royal College of Surgeons), and the Fellowship examinations that are taken towards the end of surgical training, which deliver the post-nominal FRCS (Fellowship of the Royal College of Surgeons). The examinations, being blueprinted to the curriculum, are an intrinsic part of the curriculum and accordingly are also regulated by the GMC, with an expectation that they adhere to the relevant standards [1].

The MRCS is an examination in two parts, a multiple-choice examination and an objective structured clinical examination (OSCE), and it covers the basic surgical sciences and the principles of surgery. It is written, marked and quality assured by the ICBSE and actually delivered as an examination by each of the Surgical Royal Colleges. Currently, all surgeons take this examination, although there is an equivalent alternative for trainees intending a career in ENT.

The FRCS is an examination in two or three parts, a multiple-choice examination, a clinical examination and/or a viva voce assessment, and there are ten specialty-specific versions. They are written, marked, delivered and quality assured by the JCIE and delivered by the specialty intercollegiate boards. Currently, all surgeons take an examination in their specialty FRCS examination. See Chap. 20 for further information on assessment.

5.4.3 Selection into Surgical Training

Surgery is traditionally a competitive specialty, certainly when compared to other medical specialties. Historically, when a vacancy arose, an individual hospital or Deanery advertised for a replacement trainee, and there was often stiff competition for training places. Such a process of local interview was both inefficient and not always transparent, and since 2007, national selection processes have been gradually introduced in every surgical specialty. There is also a further selection point into the early years of surgical training (core surgical training). See Chap. 15 for further information on selection.

Selection centre methodology has been incorporated with the intention of assessing all candidates equally and fairly. The principle is that this is an assessment, but for a different purpose (i.e. selection *into* a period of training). The format of the selection process is an OSCE-style assessment, with each candidate proceeding through a number of stations, where their skills and competencies are assessed. While the human resource components (advertising, contracts, logistics, contractual issues) of the selection process are undertaken by the Deaneries/LETBs, the design of the selection processes themselves (application criteria, standard setting, station design, marking, quality assurance) lies with the individual SACs, who now oversee selection into surgery on an annual basis.

5.4.4 Workforce Planning

The Colleges have no direct responsibility for workforce planning, but each College and each Specialty Association/SAC has a pretty good idea of current workforce numbers. The trainee numbers are supposed to reflect service needs, so that broadly speaking the number of trainees reflects the expected number of consultant jobs in the UK, but given the prolonged nature of the training process, workforce planning in surgical training sometimes gets it wrong! The most recent example of this was the period between 2005 and 2008 when the advent of drug-eluting coronary artery stents made it seem likely that the demand for cardiac surgeons would diminish over a very short time period. The Cardiothoracic SAC and the Colleges were at the centre of the response to that "crisis" including the year to year planning of recruitment numbers and the support for cardiac surgical trainees who might not have a consultant job at the end of their training. Happily for the cardiac surgeons, there still remains a need for their services, since the stents did not prove quite as effective as was once hoped!

5.4.5 Trainee Certification

The decision that a trainee has successfully completed surgical training and is now suitable to be certified is a decision for the regulator (i.e. the GMC), which in the UK holds the register of certified specialists for each specialty. There are currently three main routes to the register, via a UK-based training pathway that delivers a trainee with a Certificate of Completion of Training (CCT), via certification in another European country (at least until Brexit is complete) and via demonstration of equivalence for non-EEC nationals. This latter route requires the trainee to receive a Certificate of Equivalence of Specialty Training (CESR).

While the GMC actually delivers these certificates, it delegates much of the responsibility for determining whether a trainee has achieved the requisite standard to the Colleges, who in turn delegate that authority to the SACs. For the award of a CCT, the portfolio of the trainee is assessed firstly in the Deanery, by the annual review process. If approved, the SAC then reviews the whole portfolio, including examination results, logbooks and assessment portfolios. If approved, and the trainee is thought to be worthy of certification, this decision is passed to the GMC who then award the CCT. The GMC quality assures this process by independent review of a proportion of some of the applications (currently around 5–10%).

The SACs have developed a set of certification guidelines [3] that are intended to guide the trainee and which identify what a trainee will normally be expected to have achieved during their training programme. The guidelines cover such aspects of training as clinical and operative experience, operative competency, research, quality improvement and management and leadership.

For the award of a CESR, the applicant has to develop a portfolio of achievements that is mapped to the UK curricula and to the GMC's own Good Medical Practice [4], and when complete, the candidate submits that portfolio to the GMC for review. Again, the GMC delegates the review of that portfolio to the SACs who review the application before recommending an outcome back to the GMC, which may be to award a CESR, to reject the application or to ask for more evidence before making that award. Again, the GMC actually awards the certificate and quality assures a proportion of the SAC's decisions.

5.4.6 Quality Assurance

Historically, the sole responsibility for quality assurance of surgical training lay with the Colleges. Through the SACs, individual LEPs were regularly visited, with external assessments that were largely supportive, but in extreme cases resulted in immediate cessation of training in that unit. This in turn had the potential for enormous impact upon service provision and was in part why the UK government withdrew responsibility for quality assurance from the Colleges and delegated responsibility to an independent regulator. Although this was fought bitterly by the Colleges at the time, the subsequent years have gradually allowed the Colleges back into this essential area of surgical education.

The GMC currently has overall responsibility for setting and regulating standards for medical education and training in the UK. Its Quality Improvement Framework (QIF) sets out how it quality assures education and training and how it works with other organisations, for example, LETBs/Deaneries and Medical Royal Colleges, in this respect. There are three levels of quality activity: quality assurance, quality management and quality control. Quality assurance is the responsibility of the GMC and is the overarching activity under which both quality management and quality control sit. It includes all the policies, standards, systems and processes that are in place to maintain and improve the quality of training. Quality management is the responsibility of LETBs/Deaneries and refers to the processes through which they ensure that the training provided by the LEPs meets the GMC's standards. LEPs, for example, NHS hospitals, are responsible for the quality control of the training they provide by making sure it meets local and national standards.

The Colleges have developed a series of measures that sit alongside this quality framework, including a set of "quality indicators" that identify good training units, an annual survey of surgical trainees delivered to all surgical trainees [5], a process for externality which supports the annual review of trainee progression and a process of externality that supports Deanery visits to individual LEPs. They work closely with the SoS to quality assure surgical training, and while not in the position of central importance that they once held, they remain a crucial component of the system.

5.4.7 Trainee Support

When a surgical trainee is enrolled in surgical training, they are able to access support from a number of sources. At a local level, it will be from their trainer and mentor, while at a regional level, it will be from their programme director and Postgraduate Dean. At a national level, the JCST also supports trainees in a number of ways. They enrol trainees in the curriculum, they certify completion of training and they manage the duration of training, which may be affected by periods of time spent outside training for things such as research (Out of Program Research or OOPR), training (Out of Program Training or OOPT) or experience (Out of Programme Experience or OOPE). The rules for obtaining and accrediting these periods are often complex, and the JCST plays a central role in managing them. In addition, periods of time out of training for reasons of ill health or maternity need to be managed, while trainees who are less than full time also need support and clarity of when they can expect to be certified. JCST undertakes these processes and keeps a provisional CCT date for all trainees within the UK surgical training system.

5.5 An International Perspective

The governance of surgical training differs from country to country with a range of different bodies and roles existing in individual countries. No two systems are the same. However, the functions that need to be accomplished are broadly similar, and the differences are perhaps not as substantial as they might initially seem. Wherever surgical training is undertaken, there is the need to select trainees, to set standards, to write curricula, to assess trainees, to quality assure programmes and to certify the product of training. The strength of the College within an individual country varies enormously with government, funders, regulators, universities and hospitals all playing roles that vary from country to country.

5.6 Conclusion

The UK surgical training governance system is relatively centralised and reflects, in part, the existence of a centralised socialised healthcare system. The main players are the Colleges, the GMC, HEE and the NHS Hospital Trusts. Although the role of the Colleges is not as central as is once was, it remains a strong force in surgical education in the UK with its primacy in curriculum development (and all that goes with it) being perhaps the most important function that it currently undertakes.

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