ISCP INTERCOLLEGIATE SURGICAL CURRICULUM PROGRAMME

# Core Surgical Training Curriculum

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THE INTERCOLLEGIATE
SURGICAL CURRICULUM PROGRAMME

*Educating the surgeons of the future*

**Acknowledgements**

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You can also find the curriculum on the ISCP website at **www.iscp.ac.uk**

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# 1 Introduction

The Core Surgical Training curriculum provides the approved United Kingdom (UK) framework for the training of doctors in surgical training from the end of Foundation to the point of entry to specialty training, addressing the requirements of patients, the population and the strategic health services. General Medical Council (GMC) approval of this curriculum pertains to UK training programmes only.

In aiding an understanding of the place and purpose of Core Surgical Training in contemporary surgical training in the UK, an explanation of the evolution and current meaning of general surgery is an appropriate introduction. A century ago, most surgeons could be expected to treat most surgical patients, from those with burns or broken bones to those with vascular and visceral complaints. Even as recently as thirty years ago a "general" surgeon could expect to routinely treat patients with paediatric, urological and vascular disorders. However, as the number of different surgical interventions has increased, a single surgeon cannot be expected to be an expert in them all, and this has led to specialisation. This means that there is no longer a common or shared surgical take, in any way similar to the general medical take. In turn this means that there is no surgical equivalent to the medical registrar. The term "general surgery" has evolved overtime to describe a distinct surgical specialty, mainly concerned with those presentations of visceral disease in the abdomen that may best be treated surgically.

As explained in more detail in 2.2 below, there is a body of knowledge and a set of skills, shared by the ten surgical specialties, to be learnt by a surgeon in training in the gap between the completion of Foundation and the start of higher surgical training. It is in this gap that Core Surgical Training lies, rather than in general surgery or any other particular surgical specialty, and indeed its common content can be completed within placements in any of the surgical specialties.

# 2 Purpose

## 2.1 Purpose of the curriculum

The purpose of the curriculum for Core Surgical Training is to act as a unifying document to govern the first two years of all UK surgical training (with the exception of neurosurgery which combines only the common content component of the core curriculum with Neurosurgery, Neuroradiology, Neurology and Neuro-intensive Care). This is phase 1 of surgical training. Successful completion of the Core Surgical Training curriculum does not confer certification but means that a candidate will have reached the minimum required level of competence for application into one or more of the higher specialised surgical training programmes. Many trainees who make satisfactory progress in core surgical training may also elect to pursue valuable careers in other branches of medical practice and, in recognition of this, the JCST is committed to working through the Academy of Medical Royal Colleges to identify competencies within this curriculum which are transferable to other postgraduate medical training curricula.

The curriculum provides surgical trainees with the generic professional and specialty-specific capabilities needed to be entrusted to undertake the role of core trainee in surgery whilst following this curriculum and prepares trainees to undertake the role of Specialty Registrar (StR) in their subsequent training. These capabilities will include those required of trainees, working under appropriate levels of supervision, to contribute to keeping patients safe in the emergency department, ward and theatre environment, to perform parts initially and, as specialty training progresses, all of increasingly complex surgical procedures, and to be familiar with the management

of acute and elective conditions in the generality of their chosen special interest. Trainees will be qualified, after satisfactory completion of this curriculum, to apply for training posts in one or more surgical specialties in the UK or Republic of Ireland.

Patient safety and competent practice are both essential and the curriculum has been designed so that the learning experience itself should not affect patient safety. Patient safety is the first priority of training demonstrated through safety-critical content, expected levels of performance, required breadth of experience and levels of trainer supervision needed for safe and professional practice. Upon satisfactory completion of training programmes, we expect trainees to be able to work safely and competently in the defined area of practice and to be able to manage or mitigate relevant risks effectively. A feature of the curriculum is that it promotes and encourages excellence through the setting of high-level outcomes, supervision levels for excellence, and tailored assessment and feedback, allowing trainees to progress at their own rate.

This purpose statement has been endorsed by the GMC's Curriculum Oversight Group (COG) and confirmed as meeting the needs of the health services of the countries of the UK.

### 2.2 Rationale and development of a new curriculum

There is a gap between the product of UK Foundation training and the entry requirements for specialty training in the surgical specialties. It contains much common ground; the basic sciences of anatomy, physiology and pathology, the principles of managing patients affected by trauma, infection and cancer, basic surgical skills and the resuscitation of critically ill patients, all within the generic professional framework of medical practice.

The route across the gap from Foundation to surgical specialty training is diverse including both run-through and uncoupled appointment and generic and themed, academic and clinical programmes, with distinct target criteria for appointment or run-through to specialty surgical training. To fulfil this need for diversity, the 2017 Core Surgical Training curriculum took a modular approach around a heart of common content and although accepted, concern was generated amongst employer groups regarding mechanisms for matching trainees to specialty according to workforce requirement. In addition, the GMC in their approval letter required the JCST to work towards a more common core curriculum.

In rising to the challenge of producing a new curriculum to meet the requirements of *Shape of Training*[1] review and *Excellence by Design: standards for postgraduate curricula*[2], the Core Surgical Training Advisory Committee has taken a blank canvas and considered a wide range of options to fill this training gap including a move towards exclusive run-though training, a single year of common content and various hybrid models. Ideas developed internally have been discussed within the Improving Surgical Training (IST) project, the Confederation of Postgraduate Schools of Surgery (CoPSS), the wider JCST and its curriculum development days in October 2017 and June 2018, and at the General Surgery in Scotland workshop in May 2018. An options appraisal, fully exploring the benefits, necessary mitigations and risks of five identified options was presented to the GMC's COG in March 2019. There was agreement that there remains some common ground to surgical training. This is represented in the common content module of the 2017 curriculum and specifies material for learning sufficient to fill an indicative year of training. There were felt to be major logistical difficulties with recruitment to specialty training after just a single year of core surgical training and

[1] Shape of training: Securing the future of excellent patient care
[2] Excellence by design: standards for postgraduate curricula

further concerns about a more generalised training that would mean less experienced trainees entering their specialty training without skills at the level required to participate in the middle grade rota. With the footprint of surgery in both undergraduate medical curricula and the Foundation curriculum reduced over the last ten years, and the existence of undecided surgeons (early years trainees with a career interest in surgery in general, with specialty undecided), it was felt there is still a need for generic core surgical training as a space for career exploration within training. This would exist alongside specialty-specific run-through and themed uncoupled training in what has been referred to as a 'mixed economy'.

There remains therefore a need for a Core Surgical Training curriculum, lasting an indicative two years, as a bridge from completion of Foundation training to the beginning of surgical specialty training. This curriculum specifies those areas of knowledge and skill shared by all surgeons through its common content, describes the additional elements of learning for all core trainees attached to specific surgical teams and facilitates the development by trainees of the requirements for competitive entry by national recruitment, or run-through into, at least one of the specialty programmes in the nine surgical specialties excluding Neurosurgery at ST3 level.

This curriculum takes as its high-level learning outcomes the GMC's framework of Generic Professional Capabilities[3] (GPCs) common to all medical specialties and the five Capabilities in Practice (CiPs) common to all ten surgical specialty curricula. Those following this curriculum will, therefore, begin to develop the generic professional and specialty-specific capabilities needed by surgeons of any specialty, and by completion of the curriculum trainees will be capable of being entrusted to undertake the role of the general (StR) during their subsequent training. The GPCs provide the blueprint for surgical trainees to develop the patterns of professional behaviour which will contribute to functional surgical teams and the delivery of high quality, safe care. By also adopting the CiPs shared across surgical training, this curriculum provides a new unifying structure to generate a more common core curriculum, underpinned by a modular syllabus to reflect the ongoing need for subject-specific diversity. These capabilities will include those required of trainees, working under appropriate levels of supervision, to contribute to keeping patients safe in the emergency department, ward and theatre environment, to perform parts initially and as specialty training progresses, all of increasingly complex surgical procedures, and to be familiar with the management of acute and elective conditions in the generality of their chosen specialty.

## 2.3 The training pathway and duration of training

### 2.3.1 Recruitment

Trainees will follow this Core Surgical Training curriculum after entry into a surgical programme through a variety of routes. Core Surgical Training national recruitment offers uncoupled programmes at CT1 level (87%[4], table 1), either themed to a specific surgical specialty, or generic (19% of uncoupled). Themed programmes provide a rotation through placements specifically chosen to suit the development of an individual who already knows in which surgical specialty they wish to train. Generic programmes provide the opportunity to complete the Core Surgical Training curriculum in a rotation through a wide variety of surgical specialties and may be ideal for a trainee who, although committed to surgery, has yet to decide in which of the nine specialties they wish to

[3] Generic professional capabilities framework

[4] data from 1171 out of 1175 Core Surgical Training trainees responding to the 2019 GMC NTS indicating the proportion of trainees taking these various routes through training; available at https://www.gmc-uk.org/about/what-we-do-and-why/data-and-research/national-training-surveys-reports

undertake higher surgical training. Post-specific preferencing for themed programmes, embedded within the Core Surgical Training national recruitment process, and competitive regional processes for the allocation of placements in generic programmes, both match the number of opportunities to specified ST3 destinations to specialty volume and represent mechanisms for fairly matching trainees to specialty-specific content according to workforce requirements. The GMC National Training Survey (NTS) data suggests that ST3 specialty destination is well balanced to specialty workforce volume.

Specialty-specific national recruitment manages appointment to run-through training at ST1 level in Oral and Maxillofacial Surgery (OMFS) and Cardiothoracic Surgery. Neurosurgery national recruitment manages entry to training in that specialty and those recruited at ST1 level in Neurosurgery follow only the common content of this curriculum.

The National Institute for Health Research (NIHR) and locally funded Academic Clinical Fellowships (ACFs) (3%) appointed at ST1 level also follow this curriculum. They are appointed locally but must in addition benchmark by gaining an appointable score at the appropriate national recruitment process for their level of entry into training.

| **trainee type** | **number in 2018 NTS cohort; n=1171** | **percentage of cohort** |
|---|---|---|
| uncoupled - themed | 833 | 71 |
| uncoupled - generic | 190 | 16 |
| run-through - clinical only | 109 | 10 |
| run-through - ACF | 39 | 3 |

Table 1 – representation of the numbers and proportions of the 2018 Core Surgical Training cohort, as reflected in the GMC NTS, in various trainee groups

### 2.3.2 Progression and completion

Trainees in Core Surgical Training rotate through a number of specialty posts, typically of between four and twelve months each. The Core Surgical Training curriculum is outcome-based rather than time-based. However, it will normally be completed in an indicative time of two years. There will be options for those trainees who demonstrate exceptionally rapid progression and acquisition of capabilities to complete training more rapidly than the current indicative time of two years. There may also be a small number of trainees who develop more slowly and will require an extension of training in line with *A Reference Guide for Postgraduate Foundation and Specialty Training in the UK* (the Gold Guide[5]).

Completing Core Surgical Training satisfactorily as laid out in this curriculum will not lead on directly to certification, but an outcome 6 in the Annual Review of Competence Progression (ARCP) at the end of the CT2 year, which will allow a successful applicant from an uncoupled core programme to enter a higher surgical training programme to take up their ST3 post. An ARCP outcome 1 at the

[5] Gold Guide 10th edition

end of ST2 in a run-through programme will allow a trainee to progress to the next phase of their specialty training. There is no other critical progression point.

Trainees who successfully apply to pursue less than full time training (LTFT), will have the indicative training time extended pro-rata in accordance with the Gold Guide. LTFT trainees will perform both elective and out of hours duties pro-rata throughout the time of LTFT.

Those trainees who complete this curriculum and continue to pursue surgical specialty training as described will enter phase 2 of the appropriate specialty curriculum before, success in attaining the relevant critical progression point criteria permitting, entering phase 3 and completing their training by satisfying the criteria for certification. This Core Surgical Training curriculum does not describe these subsequent stages of training, but they are available to view via each surgical specialty's curriculum on the ISCP website[6].

### 2.3.3 Flexibility

In the early years of surgical training it is possible that a trainee who has started to develop a portfolio consistent with a particular surgical specialty might wish to move to another. The combination of the flexibility of a modular curriculum and the unifying GPC/CiP framework across surgical training should make it possible until well into the CT2 year, for a trainee to change their career intention and adopt a different ST3 preparation module from that of their original intent. It will, therefore, be possible for trainees to transfer knowledge, clinical and surgical skills to another surgical specialty without restarting at CT1/ST1 level. Clearly this would be contingent on local post availability, workforce requirements and notice periods in discussion with the local School of Surgery. This sort of move would be conditional on a trainee achieving the educational milestones so far agreed for them. Moving from one intended specialty to another because of the need to remediate would not normally be permitted. It is unlikely that a change in career intention alone would be a valid reason for an extension of Core Surgical Training beyond two years. This flexible approach with acquisition of transferable capabilities will allow training in Core Surgical Training to adapt to current and future patient and workforce needs as well as to changes in surgery with the advent of new treatments and technologies.

Regarding the transfer of capabilities learned within Core Surgical Training to non-surgical specialties, a trainee who has decided to change career direction would first need to be appointed to their new specialty of choice through the appropriate national recruitment process. The commonality of the GPCs to all medical curricula after August 2021, should facilitate the transfer of learning across all other related specialties and disciplines. As an example, prior learning of history-taking, physical examination, health promotion, medical record keeping, team-working and empathy, compassion and respect for patients should allow accelerated learning in the trainee's new specialty. Progress made against those aspects of the surgical CiPs situated outwith the operating theatre may be similarly transferable while those focused on procedural surgery itself may still be relevant to other procedurally based specialties such as Obstetrics and Gynaecology, Interventional Radiology and some other specialties with significant interventional procedure components such as Cardiology and Gastroenterology. Thus, trainees who choose a different career route may be able to have a shorter than usual training pathway in their new training programme, in recognition of learning already gained.

[6] https://www.iscp.ac.uk

# 3 Programme of Learning

This section covers the expected learning outcomes, learning methods, breadth of experience and levels of performance in the training programme and the levels of performance expected of those completing the Core Surgical Training curriculum.

## 3.1 What has to be learnt to complete the Core Surgical Training curriculum

The practice of surgery requires the generic and specialty knowledge, clinical and technical skills and behaviours to manage patients presenting with a wide range of emergency and elective conditions. It includes the development of competence in diagnostic reasoning, managing uncertainty, dealing with co-morbidities, and recognising when another specialty opinion or care is required. The main areas for learning are described by the GPCs and the five CiPs shared with the ten surgical specialty curricula, which are the high-level learning outcomes for training in surgery. The CiPs are described below and shown in full in appendix 1. In addition, a syllabus, shown in appendix 2, provides a guide to the specific areas of knowledge and skill to be learnt by all using this curriculum (in the common content module), by all attached to clinical teams from each of the surgical specialties and critical care (in the core specialty modules) and by trainees preparing for progression or recruitment to ST3 training in their chosen surgical specialty (in the ST3 preparation modules).

## 3.2 Capabilities in practice (the high-level outcomes of training)

The entirety of surgical training is designed to produce a person capable of safely and effectively performing the role of a first day consultant surgeon. The role of a consultant surgeon can be thought of as a sum of all the various tasks which need to be performed through a working week. These tasks are the high-level outcomes of the curriculum and grouping these together describe the role of a consultant surgeon. To perform a high-level clinical task as a consultant surgeon requires trainees to be able to integrate areas of learning from all parts of the syllabus, including knowledge, clinical skills, professional skills and technical skills. In addition, a surgeon will need to have acquired the generic skills, behaviours and values shared by all doctors in order to perform this task safely and well. A capability is a set of skills that can be developed through training from novice to expert and, therefore, these high-level clinical outcomes are known as Capabilities in Practice. They are common across all surgical specialties and are delivered within the context of the GPCs and the specialty syllabus.

Because surgical specialty trainees train against curricula built on the high-level outcomes which together describe the role of the consultant surgeon, those same outcomes describe the role of the specialty trainee. This Core Surgical Training curriculum, whose product is the first day phase 2 trainee, therefore, uses those same high-level learning outcomes. Each is supposed to deliver to a correspondingly lower level of capability or under a greater level of supervision, than would be expected of a first day consultant.

The five CiPs which are shared between all surgical specialties are:

1) Manages an out-patient clinic
2) Manages the unselected emergency take
3) Manages ward rounds and the on-going care of in-patients
4) Manages an operating list
5) Manages multi-disciplinary working

The generic knowledge, skills, behaviours and values shared by all doctors are described in the GPC framework. The GPCs are essential components and have equal weight to the CiPs in the training and assessment of clinical capabilities and responsibilities in the training programme.

The GPC framework has nine domains:

Domain 1: Professional values and behaviours

Domain 2: Professional skills

*Practical skills*
*Communication and interpersonal skills*
*Dealing with complexity and uncertainty*
*Clinical skills*

Domain 3: Professional knowledge

*Professional requirements*
*National legislative requirements*
*The health service and healthcare system in the four countries*

Domain 4: Capabilities in health promotion and illness prevention

Domain 5: Capabilities in leadership and team working

Domain 6: Capabilities in patient safety and quality improvement

*Patient safety*
*Quality improvement*

Domain 7: Capabilities in safeguarding vulnerable groups

Domain 8: Capabilities in education and training

Domain 9: Capabilities in research and scholarship

Simply put, the CiPs and GPCs are the constituent parts of the role of a consultant surgeon. Each part is as important as the next and doctors are required to be capable in all parts of the role in order to be able to practice independently. Each part is also important to developing the capability to perform as a phase 2 trainee, although independence is far from being required in any of them at this stage. In order to complete training and become a phase 2 surgical trainee, the doctor must demonstrate that they are capable of practice in all CiPs at the supervision levels laid out in section 3.4 below, and that they demonstrate all the GPCs.

The supervision level required for each trainee in each CiP should be made with reference to the syllabus for the common content module, the core specialty module content and the ST3 preparation module content the trainee is undertaking. For example, managing an unselected emergency take (CiP 2) requires the integration of knowledge, clinical and diagnostic skills, and technical skills described in the syllabus, as well as communication and interpersonal skills, time management skills and many other generic skills described in the GPCs in order to be delivered safely, professionally and effectively. This will be assessed using the multiple consultant report (MCR) as described below. The full content of the five CiPs can be found in appendix 1.

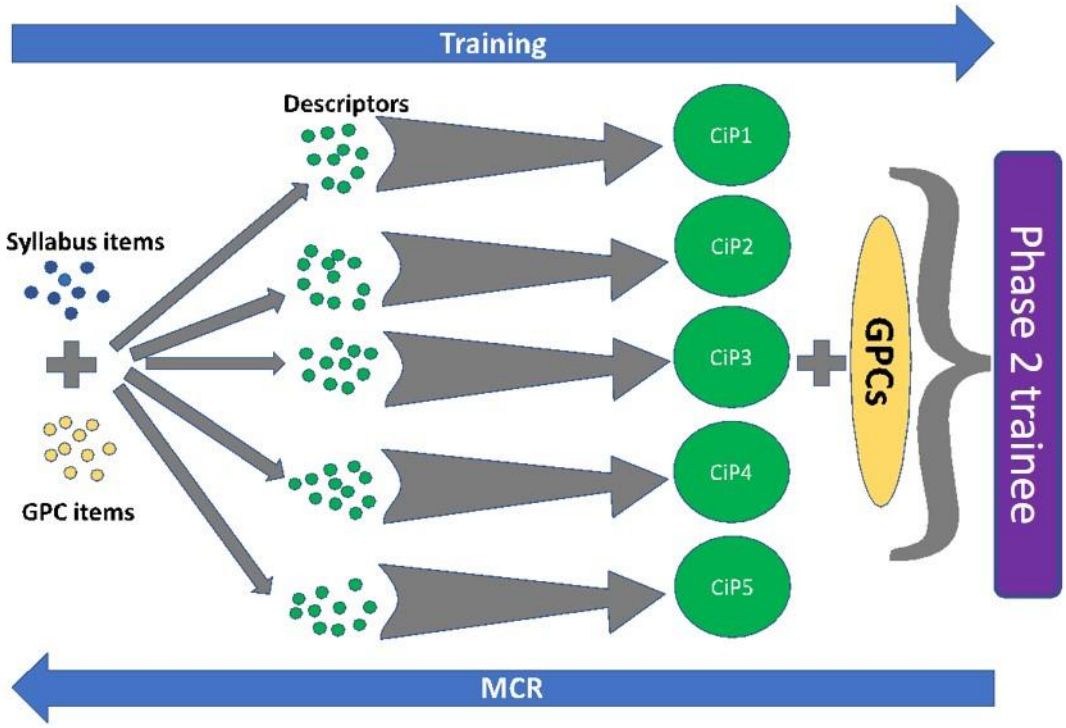


Figure 1 - The interrelationship of the GPCs, the syllabus, the CiPs and their descriptors to the role of a phase 2 trainee, and subsequently to the role of a consultant surgeon. Items from the syllabus are combined with items taken from the GPC framework to form the small tasks which are the CiP descriptors. When the small tasks of the descriptors are integrated, they comprise the constituent parts of the role of a phase 2 trainee/consultant surgeon (the CiPs). When the CiPs are taken together, along with the GPCs, the role of a phase 2 trainee/consultant surgeon (the overall outcome of the curriculum), is described. Each of these CiPs will be developed through training in this and subsequent curricula, until the level required of a day-one consultant is reached. Assessment in an outcome-based curriculum through the MCR examines the trainee from the perspective of the outcome (phase 2 trainee) and compares performance in each CiP and in the GPCs to that level. If the outcome level is not reached, then targeted feedback and development plans can be made with reference to the CiP descriptors and beyond to the syllabus items and GPC items that combine to form the descriptors.

### 3.3 Descriptors for CiPs

The five CiPs taken together with the GPCs describe the role of a phase 2 surgical trainee but more detail is needed to help core trainees develop each capability through training via detailed feedback and focused development goals.

We can break the CiPs down into smaller tasks. Each of these smaller tasks is a CiP descriptor. For example, managing the unselected emergency take (CiP 2), includes the need to promptly assess acutely unwell and deteriorating patients and deliver resuscitative treatment and initial management and ensure sepsis is recognised and treated in compliance with protocol (see appendix 1). If a trainee has not yet reached the level required of a phase 2 surgical trainee in a CiP, then the descriptors can be used to describe in standard language what needs to be improved through learning and training to allow the trainee to get closer towards the outcome of this curriculum. By describing the component parts of a CiP, descriptors also aid decisions on assessment of the level of supervision required by a trainee at the time of that assessment, providing prompts for feedback of performance by allowing identification of areas of excellence or specific detail on areas for

development, including in behavioural and professional domains. Descriptors can, therefore, help trainees identify where to focus their efforts. More detail about assessment and feedback is given in section 5, Programme of Assessment.

Each CiP is judged against a scale that describes the level of supervision required to perform the CiP to the standard required for completion of this curriculum. The level of supervision changes in line with the trainee's progression, consistent with safe and effective care for the patient. Typically, there should be a gradual reduction in the level of supervision required and an increase in the complexity of cases managed as training progresses. The ten surgical specialty curricula specify training until the level of competence for independent practice is acquired at which point little or no supervision is required. In phase 1 of training much closer levels of supervision are needed. In order to allow more scope for the demonstration of progress and excellence by trainees following this core curriculum, the lowest two supervision levels are expanded, compared to those in use in the specialty curricula for phase 2 and phase 3. The supervision levels indicating consultant level practice and beyond, present in the ten surgical specialty curricula, are not reproduced here to avoid unrealistic expectations of core trainees.

The supervision levels are:

Level I: Able and trusted to observe only

a: passive observation

b: active observation

Level II: Able and trusted to act with direct supervision:

a: some of the capability conducted under direct supervision

b: most of the capability conducted under direct supervision

c: capability performed completely under direct supervision

Level III: Able and trusted to act with indirect supervision

### 3.4 Critical progression points

There are no critical progression points within this curriculum other than completion of training at an indicative two years after entering training. This curriculum forms phase 1 of surgical specialty training except in Neurosurgery, in which phase 1 includes the common content described in the syllabus of this curriculum.

Excellence will be recognised by:

a) Achievement of Level III in any of the CiPs
b) Exceeding the supervision level expected for the end of phase 1
c) Achievement of a supervision level at an earlier stage than would normally be expected
d) Recognition of particularly good performance in any of the descriptors within a CiP

| Capability in practice (shared) | Supervision level (end of phase 1) |
|---|---|
| 1. Manages an out-patient clinic | Level IIb |
| 2. Manages the unselected emergency take | Level IIb |
| 3. Manages ward rounds and the on-going care of in-patients | Level IIc |
| 4. Manages an operating list | Level IIb |
| 5. Manages multi-disciplinary working | Level IIa |

Table 2 - Supervision levels to be achieved by the end of training

### 3.5 Breadth of experience required during Core Surgical Training

The curriculum requires trainees to accrue a rich experience that promotes deep learning of knowledge, clinical skills, technical skills, professional behaviour, leadership and all other generic professional skills that are considered necessary to ensure patient safety throughout the training process and specifically at the end of training.

#### 3.5.1 The syllabus

Core surgical training is diverse and is uncoupled from specialty training for the majority of trainees. The Neurosurgery curriculum describes a run-through programme for all ST1 entrants. Cardiothoracic Surgery and OMFS curricula are divided with both run-through and uncoupled programmes. The availability of posts is at the discretion of the statutory postgraduate medical education bodies. In addition, ACFs grant run-through status to successful applicants. While some core surgical training programmes provide two-year rotations themed to one of nine specialties, others are generic. In recognition of the time spent in dental surgery by its trainees, OMFS training omits the CT2 year. The required final competencies of successful trainees are also diverse with each specialty having its own expectation of a new ST3 trainee represented in distinct recruitment person specifications. Despite this diversity, there remains a commitment to retain within core surgical training a generic training in that which is common to all surgical practice.

In order to satisfy the many diverse requirements and stakeholders laid out above in a single document, the syllabus maintains the modular structure of the 2017 curriculum (figure 2). It identifies domains of knowledge, clinical skill and technical skill to inform the development of the CiPs and GPCs as core surgical trainees learn within diverse clinical teams. The detailed syllabus is given in appendix 2.

As surgical practice continues to evolve, it is essential for trainees to develop competencies in areas that are shaping the future of healthcare. The following three areas of practice are becoming increasingly relevant to the delivery of surgery and patient care. While these areas are not written into the syllabus in detail, they are recognised as critical aspects of practice that trainees should be aware of and integrate where appropriate. Given that surgical specialties and healthcare systems adopt these advancements at different rates, trainees are expected to stay informed and adapt their practice accordingly.

Whilst these areas are of growing importance and relevance, they are not expected to be fully evidenced by all trainees at this stage due to current disparities in training opportunities. Where feasible, trainee engagement in these emerging areas is encouraged, with continued focus on demonstrating the essential skills and behaviours in the GPC framework.

***Genomics***

Knowledge of genomics is increasingly important for surgical trainees, aiding them in patient screening, enhancing diagnostics and treatments leading to better targeted care. Genomic technologies allow for the identification of genetic mutations and variations that contribute to disease, enabling treatment plans tailored to individual genetic profiles. Additionally, it is important for understanding hereditary and familial conditions, allowing surgeons to provide better-informed consent and management options for patients and their families. Although some specialties are likely to adopt genomic medicine into their clinical practice sooner than others, trainees will be expected to stay current with these developments and integrate genetic insights into their own clinical practice where appropriate. Trainees can demonstrate their application of genomics to patient care using workplace-based assessment methods such as the CEX, CBD, AoA and through presentations and quality improvement projects. [7] [8] [9]

***Clinical Informatics***

The use of Clinical informatics is a critical area of knowledge for surgical trainees as it encompasses the use of information technology to improve patient care. Proficiency in clinical informatics enables surgeons to efficiently manage electronic health records, use clinical decision support systems, and analyse health data to enhance surgical outcomes. Furthermore, clinical informatics supports evidence-based practice by providing access to the latest research and guidelines, facilitating continuous learning and improvement. Trainees will be expected to demonstrate the use of digital applications and the ability to access critical information for administrative efficiency, making informed surgical decisions and improving patient care. Trainees can demonstrate their knowledge, understanding and application of clinical informatics to patient care using workplace-based assessment methods such as the CEX, CBD, AoA, OoT and through presentations, research, quality improvement projects and health service management related activity.[10] [11] [12]

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[7] https://www.aomrc.org.uk/wp-content/uploads/2021/11/Genomics_syllabus_1121.pdf

[8] https://www.england.nhs.uk/long-read/accelerating-genomic-medicine-in-the-nhs/

[9] https://www.nationalhealthexecutive.com/articles/nhs-scotland-first-genomic-medicine-strategy-launches

[10] https://www.england.nhs.uk/long-read/digital-skills-health-informatics-competency-standards-frameworks-and-tools-for-healthcare-professionals/

[11] https://digital-transformation.hee.nhs.uk/

[12] https://www.aomrc.org.uk/wp-content/uploads/2020/09/Doctors_Download_exploring_doctors_digital_priorities-_for-_action_0320.pdf

***Sustainability***

The use of sustainable practices is an increasingly important consideration in surgery, given the environmental impact of healthcare activities. By adopting sustainable practices, surgeons can contribute to the broader effort of making healthcare more environmentally friendly while still providing high-quality patient care. Trainees will be expected to keep up to date with knowledge of sustainable practices, including an understanding of the environmental implications of surgical procedures, the use of sustainable materials, and the implementation of energy-efficient practices. [13] within the operating room. Trainees should demonstrate that they can incorporate sustainability into their own practice and encourage a culture of environmental responsibility and stewardship. Trainees can demonstrate their commitment to sustainability using workplace-based assessment methods such as DOPS, PBA, CEX, CBD, OoT, AoA and through quality improvement projects, and reflective practice.

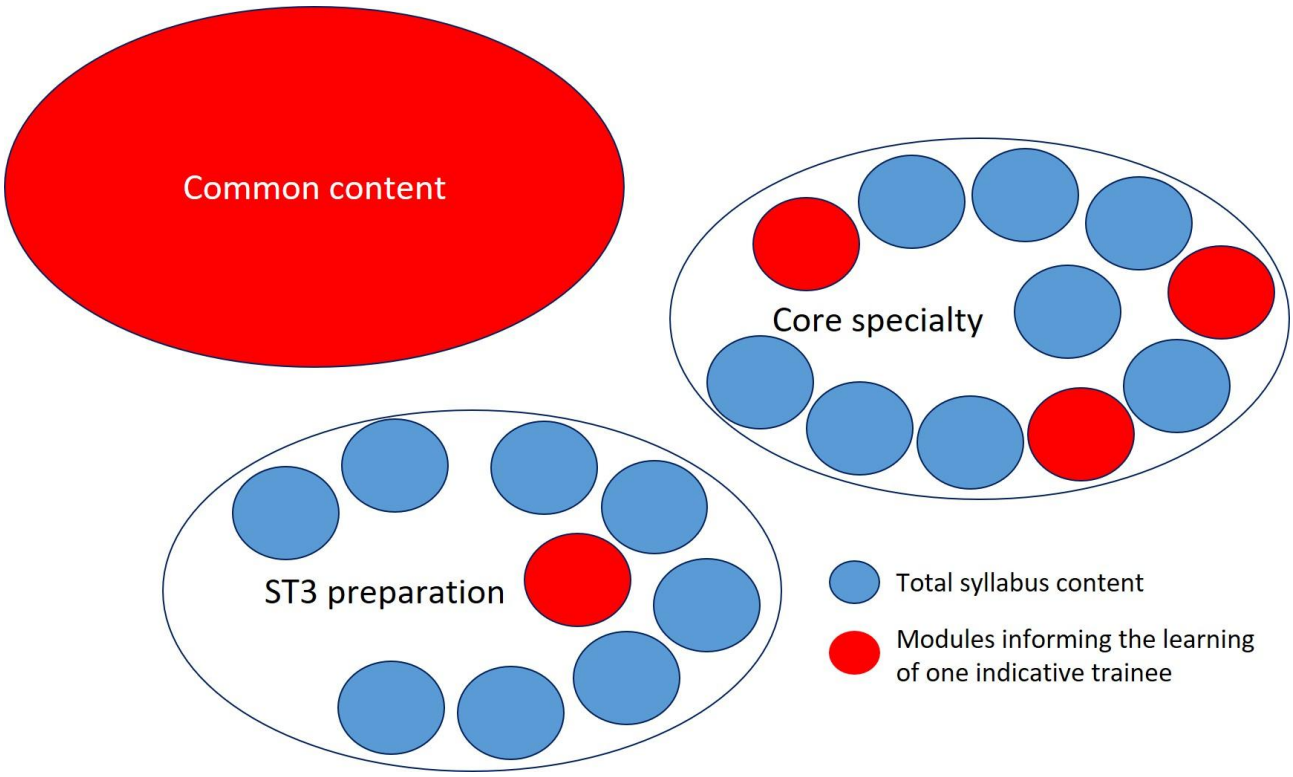



Figure 2 – the Core Surgical Training syllabus, which in turns informs the development of the CiPs, is modular (full description of the modules in appendix 2). There are three types of module. All trainees address the knowledge and skills laid out in the common content module. In addition, when training with a particular clinical team, they will include the respective core specialty module in their learning, from amongst the eleven available in the ten surgical specialties and Intensive Care. These modules specify the knowledge and skills that all surgical trainees in such a placement should address, regardless of their surgical specialty of choice. Trainees choose the ST3 preparation module which matches the surgical specialty they will pursue in phase 2 (i.e. 1 of 9 available modules will be chosen by a trainee, corresponding to surgical specialties, excluding Neurosurgery, where only the common content module is followed by those in neurosurgical training).

[13] https://www.aomrc.org.uk/publication/sustainability-resources/

*Common content*

Those items of knowledge and clinical and technical skills which represent the generic competence required of all future surgeons are represented in a module to inform the learning of all CT1 and ST1 surgical trainees. The Intercollegiate Membership examination of the Royal Colleges of Surgeons (MRCS) aligns to this module which also serves to define the CT1 competencies required by the OMFS ST3 person specification. It is here that those specific areas of knowledge and skill transferable to other training programmes are to be found.

*Core specialty*

As they rotate from specialty to specialty in years one and two, trainees will take on the relevant core specialty modules, which will specify the knowledge and skills that all surgical trainees in such a placement should address, regardless of their surgical specialty of choice. These modules align with the quality indicators suggested by the Specialty Advisory Committees (SACs) for Core Surgical Training posts in their specialties. Most trainees will wish to incorporate at least three of these modules, one of which will be in the same specialty as their ST3 preparation module. Very few trainees will spend their entire programme in just one specialty.

*ST3 preparation*

By the start of their CT2 year, trainees in uncoupled programmes should have made a choice regarding the specialty in which they wish the rest of their career to develop. Run-through trainees will already be bound to a specialty. Starting in an indicative second year, trainees will inform their developing CiPs with the knowledge and skills listed in the ST3 preparation module in their chosen specialty. These modules align with the entry expectations of the specialty surgical training programmes and with the essential criteria of the person specifications for national recruitment at ST3 level.

### 3.5.2 Critical skills (see appendix 3)

Basic critical skills have been identified which are of significant importance for patient safety and demonstration of safe practice. Across surgery, these generic skills lie at the heart of patient assessment and good practice in the operating theatre, where mistakes can be associated with devastating consequences for patients. These critical skills are assessed individually by means of workplace-based assessments (WBAs). They provide formative feedback to the trainee and collectively contribute to the summative assessment of the trainee's performance in the clinical environment and should inform the Assigned Educational Supervisor's (AES) report for the ARCP. A list of critical skills together with the prescribed WBAs for their assessment for Core Surgical Training is given in appendix 3 and is also included in the requirements for completion.

### 3.5.3 Requirements for completion of core surgical training

The requirements for satisfactory completion of this Core Surgical Training curriculum and, therefore, progression to phase 2 of specialty training in a surgical specialty in the UK, are shown in section 5.4.

# 4 Teaching and Learning

## 4.1 How the Core Surgical Training curriculum is delivered

The curriculum is used to help design training programmes locally that ensure all trainees can develop the necessary skills and knowledge in a variety of settings and situations. The curriculum is designed to ensure it can be applied in a flexible manner, meeting service needs as well as supporting each trainee's own tailored learning and development plan. The requirements for curriculum delivery have not changed as a result of this new curriculum. All training must comply with the GMC requirements presented in *Promoting excellence: standards for medical education and training*[14] (2017). This stipulates that all training must comply with the following ten standards:

*Theme 1: learning environment and culture*

S1.1 The learning environment is safe for patients and supportive for learners and educators. The culture is caring, compassionate and provides a good standard of care and experience for patients, carers and families.

S1.2 The learning environment and organisational culture value and support education and training, so that learners are able to demonstrate what is expected in Good Medical Practice and to achieve the learning outcomes required by their curriculum.

*Theme 2: educational governance and leadership*

S2.1 The educational governance system continuously improves the quality and outcomes of education and training by measuring performance against the standards, demonstrating accountability and responding when standards are not being met.

S2.2 The educational and clinical governance systems are integrated, allowing organisations to address concerns about patient safety, the standard of care, and the standard of education and training.

S2.3 The educational governance system makes sure that education and training is fair and is based on the principles of equality and diversity.

*Theme 3: supporting learners*

S3.1 Learners receive educational and pastoral support to be able to demonstrate what is expected in Good Medical Practice, and to achieve the learning outcomes required by their curriculum.

*Theme 4: supporting educators*

S4.1 Educators are selected, inducted, trained, and appraised to reflect their education and training responsibilities.

S4.2 Educators receive the support, resources and time to meet their education and training responsibilities.

*Theme 5: developing and implementing curricula and assessments*

S5.1 Medical school curricula and assessments are developed and implemented so that medical students are able to achieve the learning outcomes required for graduates.

[14] Promoting excellence: standards for medical education and training

S5.2 Postgraduate curricula and assessments are implemented so that doctors in training are able to demonstrate what is expected in Good Medical Practice, and to achieve the learning outcomes required by their curriculum.

It is the responsibility of NHS England, NHS Education for Scotland (NES), Health Education and Improvement Wales (HEIW), the Northern Ireland Medical and Dental Training Agency (NIMDTA) and the Health Service Executive (HSE) in the Republic of Ireland to ensure compliance with these standards. Training delivery must also comply with the latest edition of the Gold Guide. Appendix 7 outlines the quality management arrangements for the curriculum.

### 4.2 Learning opportunities

A variety of educational approaches will be used by education providers to help trainees develop the knowledge, clinical and technical skills, professional judgement, values and behaviours required by the curriculum. Taken together, these educational approaches ensure that the CiPs and GPCs are taught appropriately in order that the purpose of the curriculum is met. These educational approaches divide into three areas:

- Self-directed learning
- Learning from practice
- Learning from formal situations

#### 4.2.1 Self-directed learning

The curriculum is trainee-led and self-directed learning is encouraged. Trainees are expected to take a proactive approach to learning and development and towards working as members of a multi-professional team. Trainees are encouraged to establish study groups, journal clubs and conduct peer reviews. They should take the opportunity of learning with peers at a local level through postgraduate teaching and discussion sessions and nationally with examination preparation courses. Trainees are expected to undertake personal study in addition to attending formal and informal teaching. This includes using study materials and publications and reflective practice. Trainees are expected to use the developmental feedback they get from their trainers in learning agreement meetings and from assessments to focus further research and practice.

Reflective practice is an important part of self-directed learning and of continuing professional development. It is an educational exercise that enables trainees to explore, with rigour, the complexities and underpinning elements of their actions in order to refine and improve them. Reflection in the oral form is very much an activity that surgeons engage in and find useful and developmental. Writing reflectively adds more to the oral process by deepening the understanding of practice. Written reflection offers different benefits to oral reflection which include: a record for later review, a reference point to demonstrate development and a starting point for shared discussion. Whatever the modality of reflection, it is important that it takes place and that there is a record of it having taken place, whether or not the specific subject or content of the reflection is recorded[15]. Self-directed learning permits development in all five CiPs and the GPCs, especially when there is effective reflection on all aspects of learning at the centre of self-directed learning.

[15] Improving feedback and reflection to improve learning. A practical guide for trainees and trainers
https://www.aomrc.org.uk/wp-content/uploads/2024/01/Improving_Feedback_0517.pdf

### 4.2.2 Learning from clinical practice

Surgical learning is largely experiential in nature with any interaction in the workplace having the potential to become a learning episode. The workplace provides learning opportunities on a daily basis for surgical trainees, based on what they see and what they do. Trainees are placed in clinical placements, determined locally by Training Programme Directors (TPDs), which provide teaching and learning opportunities. The placements must be in units that are able to provide sufficient clinical resource and have sufficient trainer capacity.

While in the workplace, trainees are involved in supervised clinical practice, primarily in a hospital environment in wards, clinics or theatre. There are strong links to practitioners working in primary care and training environments may include private settings and, where available for training, a variety of community settings where the necessary facilities and governance arrangements are in place. The trainee role in these contexts determines the nature of the learning experience. Learning begins with observation of a trainer (not necessarily a doctor) and progresses to assisting a trainer; the trainer assisting/supervising the trainee and then the trainee managing a case independently but with access to their supervisor. The level of supervision changes in line with the trainee's progression through the phases of the curriculum. As training progresses, trainees should have the opportunity for increased autonomy, consistent with safe and effective care for the patient. Typically, there should be a gradual reduction in the level of supervision required and an increase in the complexity of cases managed until the level of competence for independent practice is acquired.

The CiPs are best taught, particularly in the early phases of training, by a specifically selected trainer directly watching and supervising while the trainee carries out the activity. This type of training is known as Professionalised Training and requires more time (and so, consequently, a reduced clinical workload) than conventional methods. It permits more thorough teaching, more rapid achievement of skill and earlier recognition of difficulties. Continuous systematic feedback and reflection are integral to learning from clinical practice. The CiP and GPC descriptors through the MCR assessment provide detailed feedback and identify specific, timely and relevant goals for development through training. Education providers should make every attempt to ensure that each trainee has exposure to Professionalised Training appropriate to their phase of progression through the curriculum. It is recommended that this be one session per week per trainee in the early years. Trainees are required to keep a surgical logbook to support their reflection and the assessment of their operative skills.

### 4.2.3 Learning from formal situations

Learning from clinical practice is supplemented by an educational programme of courses and teaching sessions arranged at local, regional and national levels. These should be mapped to the CiPs, GPCs and the syllabus and may include a mixture of formal talks including attendance at national conferences relevant to the specialty, small group discussion, case review and morbidity and mortality meetings, literature review and skills teaching. A list of mandatory courses for trainees is given in appendix 4.

### 4.2.4 Simulation

Teaching in formal situations often involves the use of simulation. In this context simulation can be any reproduction or approximation of a real event, process, or set of conditions or problems e.g. taking a history in clinic, performing a procedure or managing post-operative care. Trainees have the opportunity of learning in the same way as they would in the real situation but in a patient-free environment. Simulation can be used for the development of both individuals and teams. The realism of the simulation may reflect the environment in which simulation takes place, the

instruments used or the emotional and behavioural features of the real situation. Simulation training does not necessarily depend on the use of expensive equipment or complex environments e.g. it may only require a suturing aid or a role play with scenarios.

Simulation training has several purposes:

- supporting learning and keeping up to date
- addressing specific learning needs
- situational awareness of human factors which can influence people and their behaviour
- enabling the refining or exploration of practice in a patient-safe environment
- promoting the development of excellence
- improving patient care.

The use of simulation in surgical training is part of a blended approach to managing teaching and learning concurrent with supervised clinical practice. The use of simulation on its own cannot replace supervised clinical practice and experience or authorise a doctor to practice unsupervised. Provision of feedback and performance debriefing are integral and essential parts of simulation-based training. Simulation training broadly follows the same pattern of learning opportunities offering insight into the development of technical skills, team-working, leadership, judgement and professionalism. Education providers should use all teaching methods available, including simulation teaching, to ensure that the full breadth of the syllabus is covered. Where there is a need for specific intensive courses to meet specific learning outcomes, there may be a number of equivalent providers.

### 4.3 Supervision

Supervision is fundamental in the delivery of safe and effective training. It takes advantage of the experience, knowledge and skills of expert clinicians and ensures interaction between an experienced clinician and a trainee. The ultimate responsibility for the quality of patient care and the quality of training lies with the supervisor. Supervision is designed to ensure the safety of the patient by encouraging safe and effective practice and professional conduct. A number of people from a range of professional groups are involved in teaching and training with subject areas of the curriculum being taught by staff with relevant specialist expertise and knowledge. Those involved in the supervision of trainees must have the relevant qualifications, experience and training to undertake the role. Specialist skills and knowledge are usually taught by consultants and senior trainees whereas the more generic aspects of practice can also be taught by the wider multidisciplinary team (MDT).

The key roles involved in teaching and learning are the Training Programme Director, Assigned Educational Supervisor, Clinical Supervisor, Assessor and Trainee. Their responsibilities are described in appendix 6 and further information is given in the Gold Guide.

In the UK, the GMC's process for the recognition and approval of trainers[16] enables Deaneries to formally recognise AESs and Clinical Supervisors (CSs) and ensure they meet the specified criteria. Trainees must be placed in approved placements that meet the required training and educational standards of the curriculum. In each placement, trainees have a named AES and one or more CS, responsible for overseeing their education. Depending on local arrangements these roles may be combined into a single role of AES.

[16] https://www.gmc-uk.org/education/how-we-quality-assure-education-and-training

All elements of work in training posts must be supervised. The level of supervision varies according to the experience of the trainee, the clinical exposure and the case mix undertaken. As training progresses trainees should have the opportunity for increased autonomy, consistent with safe and effective care for the patient. Achievement of supervision level IV in any of the five CiPs (expected at the completion of specialty training) indicates that a trainee is able to work at an independent level, with advice from their trainer at this level being equivalent to a consultant receiving advice from senior colleagues within an MDT. However, within the context of a training system trainees are always under the educational and clinical governance structures of the Health Service.

### 4.4 Supporting feedback and reflection

Effective feedback is known to enhance learning, and combining self-reflection[9] with feedback promotes deeper learning. Trainees are encouraged to seek feedback on all they do, either informally, through verbal feedback at the end of a learning event, or formally through workplace-based assessments (WBAs). The MCR and use of the CiP and GPC descriptors provide regular opportunities for detailed and specific feedback. Trainee self-assessment provides a regular opportunity for focused and structured reflection and development of self-directed goals for learning as well as developing these goals through dialogue with trainers. All the assessments in the curriculum are designed to include a feedback element as well as to identify concerns in multiple ways:

- *Learning agreement:* appraisal meetings with the AES at the beginning, middle and end of each placement
- *WBA:* immediate verbal dialogue after a learning episode
- *CBD:* meeting with a consultant trainer to discuss the management of a patient case
- *MSF:* meeting with the AES to discuss the trainee's self-assessment and team views
- *MCR (mid-point formative):* meeting with the AES or CS to discuss the trainee's self-assessment and CSs' views on CiPs
- *MCR (final formative, contributing to the AES's summative Report):* meeting with the AES or CS to discuss the trainee's self-assessment and CSs' views on CiPs
- *Formal examinations:* summative feedback on key areas of knowledge and skills
- *ARCP:* a feedback meeting with the TPD or their representative following an ARCP.

Constructive feedback is expected to include three elements i) a reflection on performance ii) identification of the trainee's achievements, challenges and aspirations and iii) an action plan.

### 4.5 Academic training

All trainees are required to satisfy the learning outcomes in domain 9 of the GPC framework: *Capabilities in research and scholarship*. Trainees are encouraged to participate in clinical research and collaborative trials to achieve these outcomes, as well as in journal clubs, literature review and systematic review and to make a major contribution to the publication of novel findings in peer reviewed journals. An understanding of the principles of research, its interpretation and safe implementation of evidenced-based new methods, processes and techniques is essential for the modern, progressive practice of surgery and in the interests of patients and the service.

Some trainees choose to take time out of training for a formal period of research, as specified in the Gold Guide, which makes this option exceptional in Core Surgical Training. For the majority, this leads to the award of a higher degree in an area related to their chosen specialty. Some also choose

to focus a significant part of their training time on academic medicine but need to complete all the essential elements of their specialty curriculum satisfactorily in order to achieve certification. The rate of progression through the clinical component of their training is determined by the ARCP process to ensure that all clinical requirements are met in keeping with the curriculum. Arrangements for academic training differ in detail across the nations of the UK (and Republic of Ireland for the specialty curricula). Details of arrangements can be found on the webpages of the relevant National Health Education body.

# 5 Programme of Assessment

### 5.1 Purpose of assessment

Assessment of learning is an essential component of any curriculum. This section describes the assessment system and the purpose of its individual components which are blueprinted to the curriculum as shown in appendix 8. The focus is on good practice, based on fair and robust assessment principles and processes in order to ensure a positive educational impact on learners and to support assessors in making valid and reliable judgements. The programme of assessment comprises an integrated framework of examinations, assessments in the workplace and judgements made about a learner during their approved programme of training. Its purpose is to robustly evidence, ensure and clearly communicate the expected levels of performance at critical progression points in, and to demonstrate satisfactory completion of, training as required by the curriculum. The programme of assessment is shown in figure 3 below.

Assessments can be described as *helping* learning or *testing* learning - referred to as formative and summative respectively. There is a link between the two; some assessments are purely formative (shown in green in figure 3), others are explicitly summative with a feedback element (shown in blue) while others provide formative feedback while contributing to summative assessment (shown in orange).

The purposes of formative assessment are to:

- assess trainees' actual performance in the workplace.
- enhance learning by enabling trainees to receive immediate feedback, understand their own performance and identify areas for development.
- drive learning and enhance the training process by making it clear what is required of trainees and motivating them to ensure they receive suitable training and experience.
- enable supervisors to reflect on trainee needs in order to tailor their approach accordingly.

The purposes of summative assessment are to:

- provide robust, summative evidence that trainees are meeting the curriculum requirements during the training programme.
- ensure that trainees possess the essential underlying knowledge required for their specialty, including the GPCs to meet the requirements of GMP.
- inform the ARCP, identifying any requirements for targeted or additional training where necessary and facilitating decisions regarding progression through the training programme.
- identify trainees who should be advised to consider changes of career direction.
- provide information for the quality assurance of the curriculum.

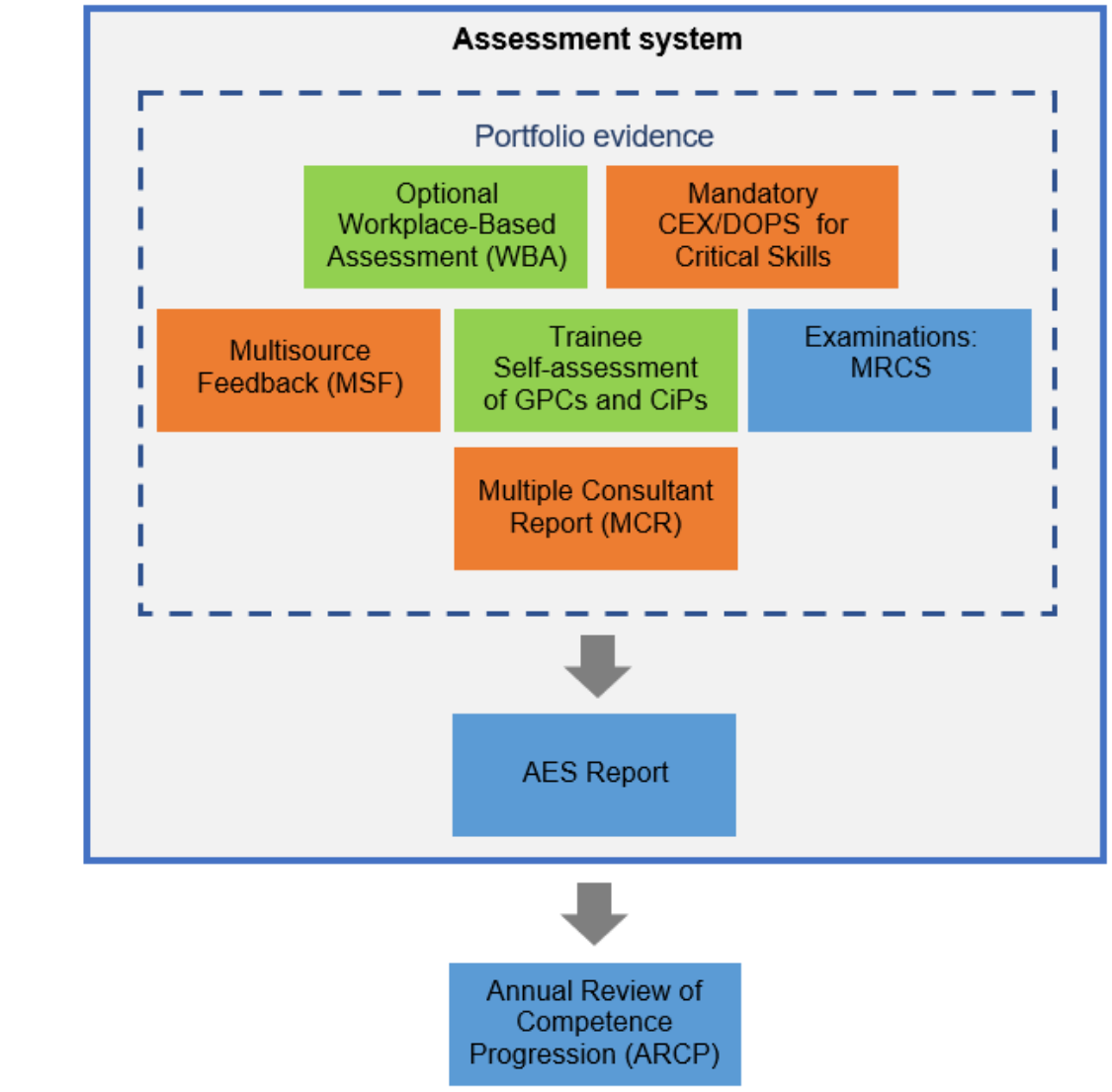



Figure 3 - Assessment framework

## 5.2 Delivery of the programme of assessment

The programme of assessment is comprised of several different types of assessment needed to meet the requirements of the curriculum. These together generate the evidence required for global judgements to be made about satisfactory trainee performance, progression in, and completion of, training. These include the Intercollegiate Committee for Basic Surgical Examinations (ICBSE) assessments leading to the award of the MRCS, and WBAs. The primary assessment in the workplace is the MCR, which, together with other portfolio evidence, contributes to the AES report for the ARCP. Central to the assessment framework is professional judgement. Assessors are responsible and accountable for these judgements and these judgements are supported by structured feedback to trainees. Assessment takes place throughout the training programme to allow trainees to continually gather evidence of learning and to provide formative feedback to the trainee to aid progression.

Reflection and feedback are also integral components of all WBAs. In order for trainees to maximise the benefit of WBA, reflection and feedback should take place as soon as possible after an event. Feedback should be of high quality that should include a verbal dialogue between trainee and assessor in reflection on the learning episode, attention to the trainee's specific questions, learning needs and achievements as well as an action plan for the trainee's future development. Both trainees and trainers should recognise and respect cultural differences when giving and receiving feedback[17]. The assessment framework is also designed to identify where trainees may be running into difficulties. Where possible, these are resolved through targeted training, practise and assessment with specific trainers and, if necessary, with the involvement of the AES and TPD to provide specific remedial placements, additional time and additional resources.

## 5.3 Assessment framework components

Each of the components of the assessment framework is described below.

### 5.3.1 The sequence of assessment

Training and assessment take places within placements of typically six or twelve months' duration throughout Core Surgical Training (figure 4). Assessments are carried out by relevant qualified members of the trainee's multi-professional team whose roles and responsibilities are described in appendix 5. Trainee progress is monitored primarily by the trainee's AES through learning agreement meetings with the trainee. Throughout the placement trainees must undertake WBAs while ICBSE examinations are undertaken before the end of the programme. The trainee's CSs must assess the trainee on the five CiPs and nine GPC domains using the MCR. This must be undertaken towards the mid-point of each placement in a formative way and at the end of the placement when the formative assessment will contribute to the AES's summative assessment at the final review meeting of the learning agreement. The placement culminates with the AES report of the trainee's progress for the ARCP. The ARCP makes the final decision about whether a trainee can progress to the next level or complete training. It bases its decision on the evidence that has been gathered in the trainee's learning portfolio during the period between ARCP reviews, particularly the AES report in each training placement.

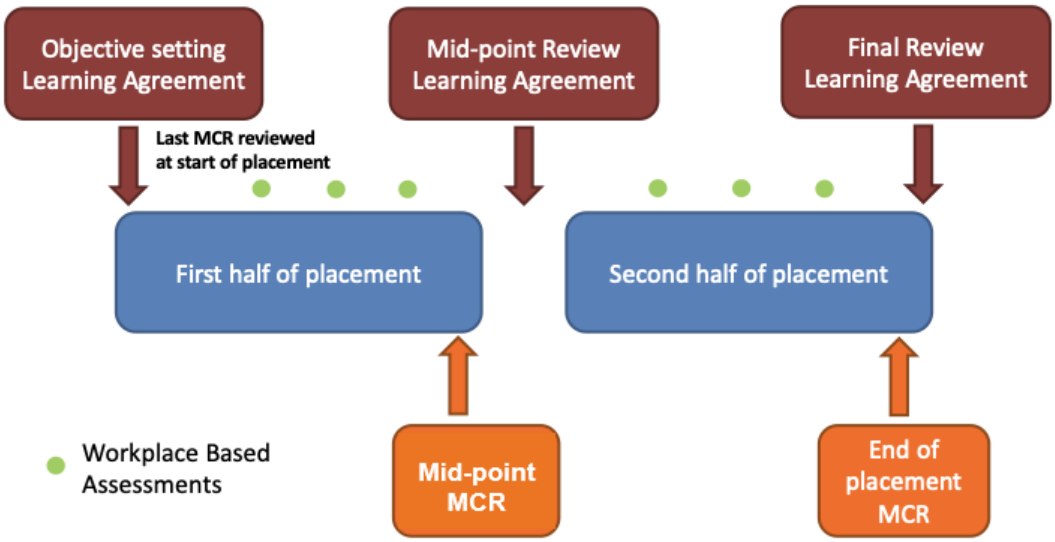



Figure 4 - the sequence of assessment through a placement.

[17] https://www.iscp.ac.uk/courses/culturalawarenesscourse.aspx

### 5.3.2 The learning agreement

The learning agreement is a formal process of goal setting and review meetings that underpin training and is formulated through discussion. The process ensures adequate supervision during training, provides continuity between different placements and supervisors and is one of the main ways of providing feedback to trainees. There are three learning agreement meetings in each placement. Any significant concerns arising from the meetings should be fed back to the TPD at each point in the learning agreement.

*Objective-setting meeting*

At the start of each placement the AES and trainee must meet to review the trainee's progress so far, agree learning objectives for the placement ahead and identify the learning opportunities presented by the placement. The learning agreement is constructively aligned towards achievement of the high-level outcomes (the CiPs and GPCs) and, therefore, the CiPs and GPCs are the primary reference point for planning how trainees will be assessed and whether they have attained the learning required. The learning agreement is also tailored to the trainee's progress, phase of training and learning needs. The final MCR from the previous placement will be reviewed alongside the most recent trainee self-assessment and the action plan for training. Any specific targeted training objectives from the previous ARCP should also be considered and addressed though this meeting and form part of the learning agreement.

*Mid-point review meeting*

A meeting between the AES and the trainee must take place at the mid-point of a placement (or each three months within a placement that is longer than six months). The learning agreement must be reviewed, along with other portfolio evidence of training such as WBAs, the logbook and the formative mid-point MCR, including the trainee's self-assessment. This meeting ensures training opportunities appropriate to the trainee's own needs are being presented in the placement and are adjusted if necessary, in response to the areas for development identified through the MCR. Particular attention must be paid to progress against targeted training objectives and a specific plan for the remaining part of the placement made if these are not yet achieved. There should be a dialogue between the AES and CSs if adequate opportunities have not been presented to the trainee, and the TPD informed if there has been no resolution. Discussion should also take place if the scope and nature of opportunities should change in the remaining portion of the placement in response to areas for development identified through the MCR.

*Final review meeting*

Shortly before the end of each placement trainees should meet with their AES to review portfolio evidence including the final MCR. The dialogue between the trainee and AES should cover the overall progress made in the placement and the AES's view of the placement outcome.

*AES report*

The AES must write an end of placement report which informs the ARCP. The report includes details of any significant concerns and provides the AES's view about whether the trainee is on track in the phase of training for completion within the indicative time. If necessary, the AES must also explain any gaps and resolve any differences in supervision levels which came to light through the MCR.

### 5.3.3 The Multiple Consultant Report

The assessment of the CiPs and GPCs (high-level outcomes of the curriculum) involves a global professional judgement of a range of different skills and behaviours to make decisions about a learner's suitability to take on particular responsibilities or tasks that are essential to the role of the phase 2 surgical trainee. The MCR assessment must be carried out by the consultant CSs involved with a trainee, with the AES contributing as necessary to some domains (e.g. *Quality Improvement, Research and Scholarship*). The number of CSs taking part reflects the size of the specialty unit and is expected to be no fewer than two. The exercise reflects what many consultant trainers do regularly as part of a faculty group.

The MCR includes a global rating in order to indicate how the trainee is progressing in each of the five CiPs. This global rating is expressed as a supervision level recommendation described in table 3 above. Supervision levels are behaviourally anchored ordinal scales based on progression to competence and reflect a judgment that has clinical meaning for assessors. Using the scale, CSs must make an overall, holistic judgement of a trainee's performance on each CiP. The levels set out in table 2 equate to the level required for entry to phase 2 of specialty training. Levels IV and V equate to the level required for certification and the level of practice expected of a day-one consultant in the Health Service (level IV) or beyond (level V). Although an essential feature of the supervision level scale in the ten surgical specialty curricula, they are omitted from this curriculum to avoid unrealistic expectations of core trainees.

Figures 5 and 6 show how the MCR examines performance from the perspective of the outcome of the curriculum, the day-one phase 2 surgical trainee, in the GPCs and CiPs. The MCR can identify areas for improvement by selecting appropriate CiP or GPC descriptors from drop down lists or, if further detail is required, through free text. The assessment of the GPCs can be performed by CSs, whilst GPC domains 6-9 might be more relevant to assessment by the AES in some placements.

CSs will be able to best recommend supervision levels because they observe the performance of the trainee in person on a day-to-day basis. The CS group, led by a Lead CS, should meet at the mid-point and towards the end of a placement to conduct a formative MCR. Through the MCR, they agree which supervision level best describes the performance of a trainee at that time in each of the five CiPs and also identify any areas of the nine GPC domains that require development. It is possible for those who cannot attend the group meeting, or who disagree with the report of the group as a whole, to add their own section (anonymously) to the MCR for consideration by the AES. The AES will provide an overview at the end of the process, adding comments and signing off the MCR.

The MCR uses the principle of highlight reporting, where CSs do not need to comment on every descriptor within each CiP but use them to highlight areas that are above or below the expected level of performance. The MCR can describe areas where the trainee might need to focus development or areas of particular excellence. Feedback must be given for any CiP that is not rated at the level set out in table 2 and in any GPC domain where development is required. Feedback must be given to the trainee in person after each MCR and, therefore, includes a specific feedback meeting with the trainee using the highlighted descriptors within the MCR and/or free text comments.

The mid-point MCR feeds into the mid-point learning agreement meeting. At the mid-point it allows goals to be agreed for the second half of the placement, with an opportunity to specifically address areas where development is required. Towards the end of the placement the MCR feeds into the

final review learning agreement meeting, helping to inform the AES report (figure 4). It also feeds into the objective-setting meeting of the next placement to facilitate discussion between the trainee and the next AES.

The MCR, therefore, gives valuable insight into how well the trainee is performing, highlighting areas of excellence, areas of support required and concerns. It forms an important part of detailed, structured feedback to the trainee at the mid-point, and before the end of the placement, and can trigger any appropriate modifications for the focus of training as required. The final formative MCR, together with other portfolio evidence, feeds into the AES report which in turn feeds into the ARCP. The ARCP uses all presented evidence to make the definitive decision on progression.

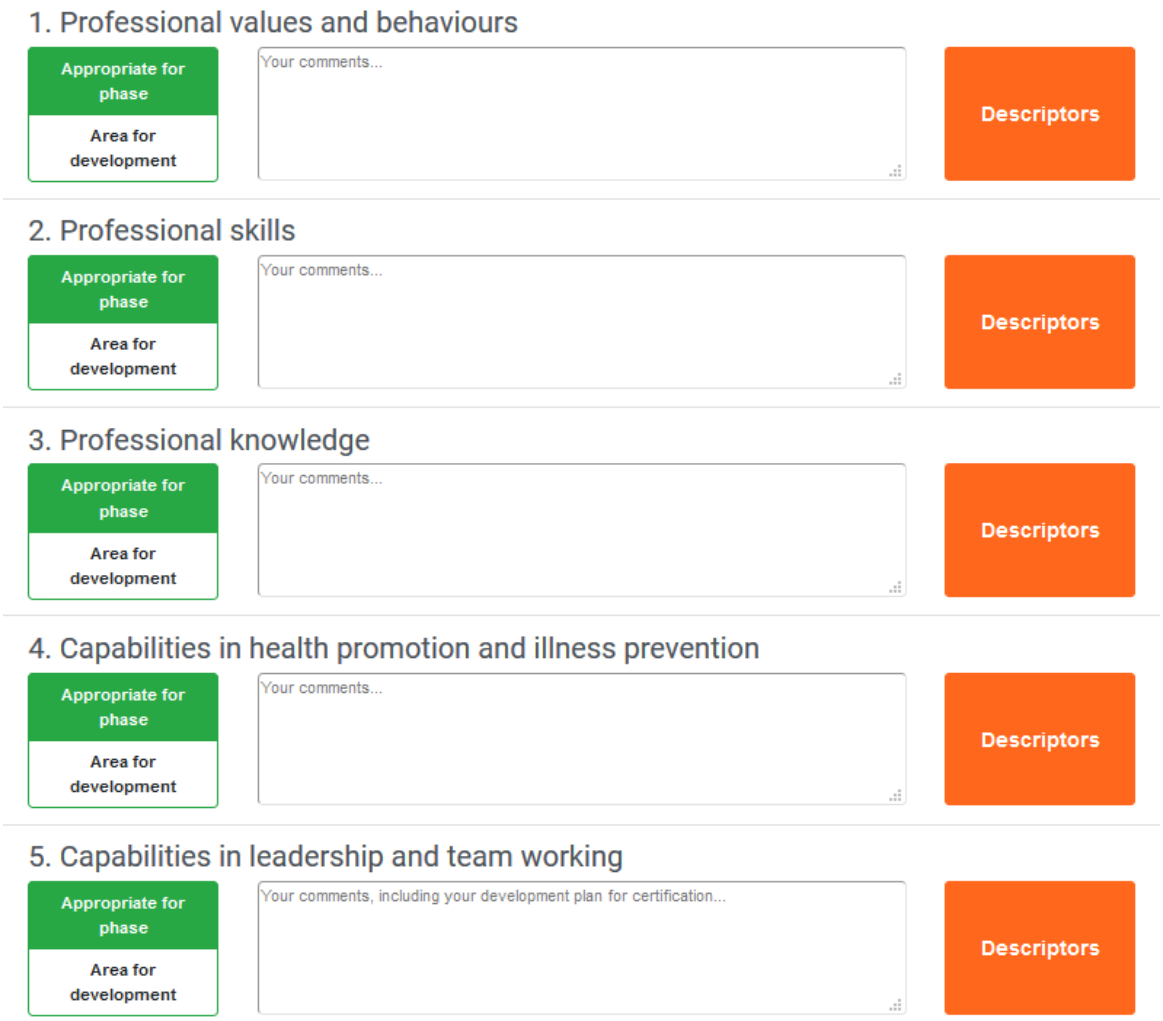
| **MCR Rating Scale (CiPs)** | **Anchor statements** | **Trainer input at each supervision level** | | |
|---|---|---|---|---|
| | | Does the trainee perform part or all* of the task? | Is guidance required? | Is it necessary for a trainer to be present for the task? |
| **Supervision Level Ia:** | Able to observe passively only | no | n/a | throughout |
| **Supervision Level Ib:** | Able to observe actively: may engage in the activity to provide assistance or analyse and discuss what is observed | no | throughout | throughout |
| **Supervision Level IIa:** | Able and trusted to act with direct supervision: some of the activity is performed by the trainee | yes, elements only | all aspects | throughout |
| **Supervision Level IIb:** | Able and trusted to act with direct supervision: the trainee is able to string elements together into fluent parts of the task | yes, fluent parts; most of the task | all aspects | present for most of the task and available to be present as soon as required throughout |
| **Supervision Level IIc** | Able and trusted to act with direct supervision: the trainee is able to complete the task | yes, all of the task | all aspects | present for part of the task and available to be present throughout |
| **Supervision Level III**: | Able and trusted to act with indirect supervision: the supervisor will want to provide guidance for, and oversight of most aspects of the activity. Guidance may be remote or provided in advance of the activity | yes, all of the task | at least some aspects | available to attend in the event of particular challenge |

Table 3 - MCR anchor statements and guide to recommendation of appropriate supervision level in each CiP.

* It is not anticipated that any element of the tasks will be acquired to independence during Core Surgical Training, and some elements, particularly around executive decision-making and office-based administration, may not be engaged with at all during these early years.

In making a supervision level recommendation, CSs should take into account their experience of working with the trainee and the degree of autonomy they were prepared to give the trainee during the placement. They should also take into account all the descriptors of the activities, knowledge and skills listed in the detailed descriptions of the CiPs. The CSs should indicate which of the descriptors of the activities, knowledge and skills require further development (to a limit of five items per CiP, so as to allow targets set at feedback to be timely, relevant and achievable). If a trainee excels in one or more areas, the relevant descriptors should be indicated. Examples of how the online MCR will look are shown in Figures 5 and 6. Figure 7 describes the MCR as an iterative process involving the trainee, CSs, the AES and the development of specific, relevant, timely and achievable action plans.

*Multiple Consultant Report – assessment of the GPCs*



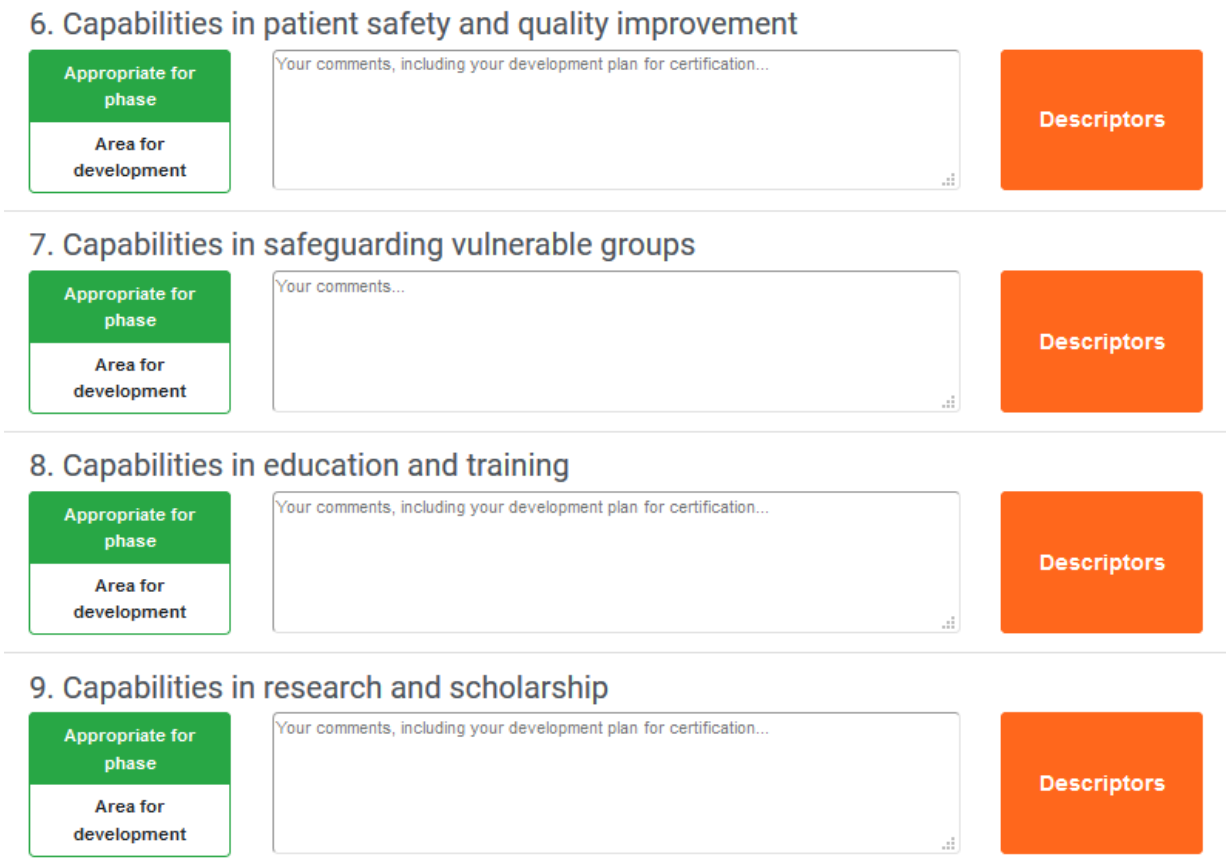



Figure 5 - An example of how the GPCs are assessed through the MCR. CSs would consider whether there are areas for development in any of the nine GPC domains. If not, then nothing further need be recorded. If there are areas for development identified, then CSs are obliged to provide feedback through the MCR. This feedback can be recorded as free text in the comments box indicated. The Descriptors box expands to reveal descriptors taken from the GPC framework. These can be used as prompts for free text feedback or verbatim as standardised language used to describe professional capabilities.

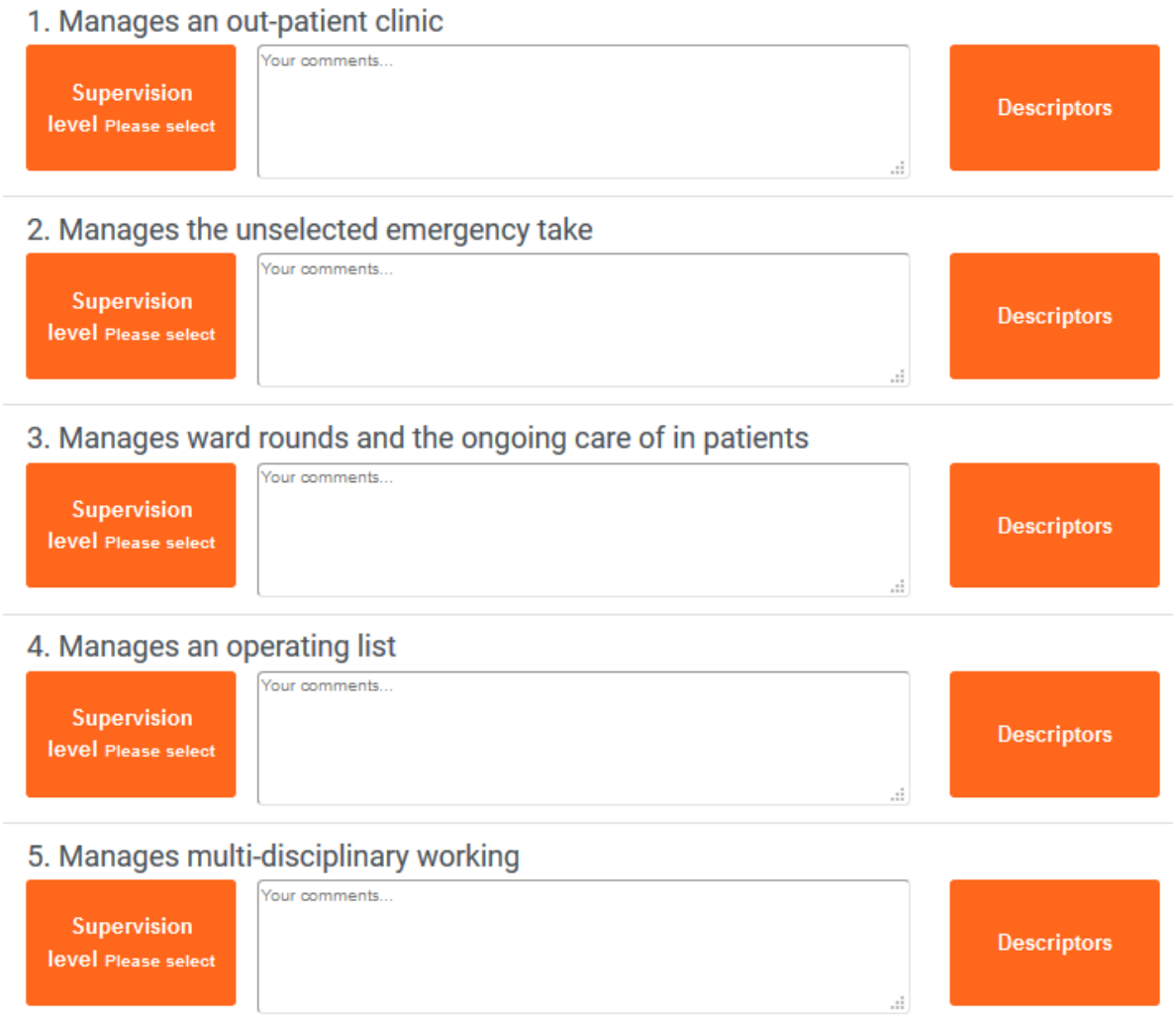



Figure 6 - An example of how the CiPs are assessed through the MCR. CSs would decide what supervision level to recommend for each of the CiPs and record this for each through the Supervision Level box. Trainers are obliged to provide feedback through the MCR in the comments box provided. The Descriptors box expands to reveal CiP descriptors. These can be used as prompts for free text feedback or verbatim as standardised language to describe the clinical capabilities.

### 5.3.4 Trainee Self-assessment

Trainees should complete the self-assessment in the same way as CSs complete the MCR, using the same form and describing self-identified areas for development with free text or using CiP or GPC descriptors. Reflection for insight on performance is an important development tool and self-recognition of the level of supervision needed at any point in training enhances patient safety. Self-assessments are part of the evidence reviewed when meeting the AES at the mid-point and end of a placement. Wide discrepancy between the self-assessment and the recommendation by CSs in the MCR allows identification of over or under confidence and for support to given accordingly.

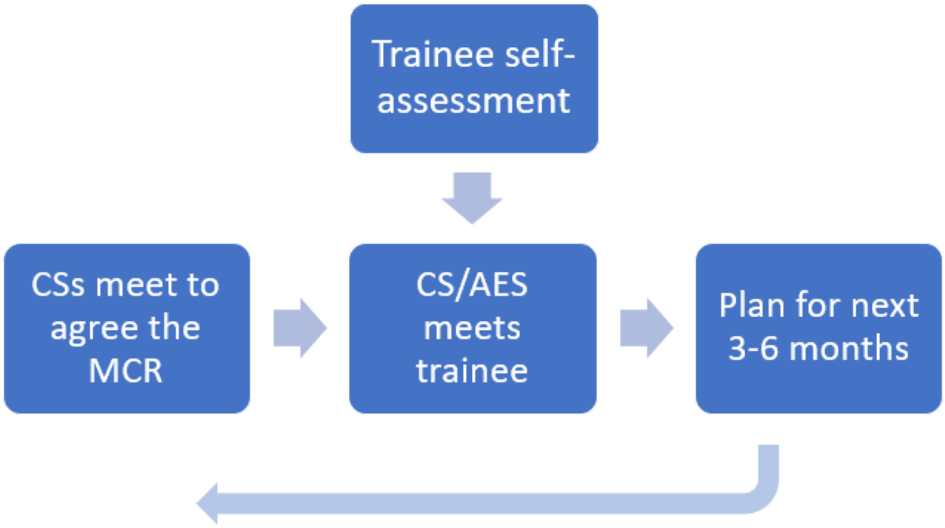



Figure 7 - The iterative process of the MCR, showing the involvement of CSs, self-assessment by trainees, face to face meeting between trainees and supervisors and the development of an action plan focused on identified learning needs over the next three to six months of training. Progress against these action plans is reviewed by AES and at the subsequent MCRs.

### 5.3.5 Workplace-based assessment (WBA)

Each individual WBA is designed to assess a range of important aspects of performance in different training situations. Taken together the WBAs can assess the breadth of knowledge, skills and performance described in the curriculum. They also constructively align with the clinical CiPs and GPCs as shown in appendix 8 and will be used to underpin assessment in those areas of the syllabus central to core surgical training i.e. the critical skills, as well as being available for other conditions and operations as determined by the trainee and supervisors and especially where needed in the assessment of a remediation package to evidence progress in areas of training targeted by a non-standard ARCP outcome. The WBAs described in this curriculum have been in use for over ten years and are now an established component of training.

The WBA methodology is designed to meet the following criteria:

- *Validity* – the assessment actually does test what is intended; that methods are relevant to actual clinical practice; that performance in increasingly complex tasks is reflected in the assessment outcome
- *Reliability* - multiple measures of performance using different assessors in different training situations produce a consistent picture of performance over time
- *Feasibility* – methods are designed to be practical by fitting into the training and working environment
- *Cost-effectiveness* – the only significant additional costs should be in the training of trainers and the time investment needed for feedback and regular appraisal, this should be factored into trainer job plans
- *Opportunities for feedback* – structured feedback is a fundamental component
- Impact on learning – the educational feedback from trainers should lead to trainees' reflections on practice in order to address learning needs.

WBAs use different trainers' direct observations of trainees to assess the actual performance of trainees as they manage different clinical situations in different clinical settings and provide more granular formative assessment in the crucial areas of the curriculum than does the more global

assessment of CiPs in the MCR. WBAs are primarily aimed at providing constructive feedback to trainees in important areas of the syllabus throughout each placement in all phases of training. Trainees undertake each task according to their training phase and ability level and the assessor must intervene if patient safety is at risk. It would be normal for trainees to have some assessments which identify areas for development because their performance is not yet at the standard for the completion of that training.

Each WBA is recorded on a structured form to help assessors distinguish between levels of performance and prompt areas for their verbal developmental feedback to trainees immediately after the observation. Each WBA includes the trainee's and assessor's individual written comments, ratings of individual competencies (e.g. *Satisfactory*, *Needs development* or *Outstanding*) and global rating (using anchor statements mapped to phases of training). Rating scales support the drive towards excellence in practice, enabling learners to be recognised for achievements above the level expected for a level or phase of training. They may also be used to target areas of under-performance. As they accumulate, the WBAs for the critical skills also contribute to the AES report for the ARCP.

WBAs are formative and may be used to assess and provide feedback on all clinical activity. Trainees can use any of the assessments described below to gather feedback or provide evidence of their progression in a particular area. WBAs are only mandatory for the assessment of the critical skills (see appendix 3). They may also be useful to evidence progress in targeted training where this is required e.g. for any areas of concern.

WBAs for the critical skills will inform the AES report along with a range of other evidence to aid the decision about the trainee's progress. All trainees are required to use WBAs to evidence that they have achieved the learning in the index procedures or critical conditions by certification. However, it is recognised that trainees will develop at different rates, and failure to attain a specific level at a given point will not necessarily prevent progression if other evidence shows satisfactory progress.

The assessment blueprint (appendix 8) indicates how the assessment programme provides coverage of the CiPs, the GPC framework and the syllabus. It is not expected that the assessment methods will be used to evidence each competency and additional evidence may be used to help make a supervision level recommendation. The principle of assessment is holistic; individual GPC and CiP descriptors and syllabus items should not be assessed, other than in the critical skills or if an area of concern is identified. The programme of assessment provides a variety of tools to feedback to and assess the trainee.

*Case Based Discussion (CBD)*

The CBD assesses the performance of a trainee in their management of a patient case to provide an indication of competence in areas such as clinical judgement, decision-making and application of medical knowledge in relation to patient care. The CBD process is a structured, in-depth discussion between the trainee and a consultant supervisor. The method is particularly designed to test higher order thinking and synthesis as it allows the assessor to explore deeper understanding of how trainees compile, prioritise and apply knowledge. By using clinical cases that offer a challenge to trainees, rather than routine cases, trainees are able to explain the complexities involved and the reasoning behind choices they made. It also enables the discussion of the ethical and legal framework of practice. It uses patient records as the basis for dialogue, for systematic assessment and structured feedback. As the actual record is the focus for the discussion, the assessor can also

evaluate the quality of record keeping and the presentation of cases. Trainees are assessed against the standard for the completion of core surgical training.

*Clinical Evaluation Exercise (CEX) / CEX for Consent (CEX(C))*

The CEX or CEX(C) assesses a clinical encounter with a patient to provide an indication of competence in skills essential for good clinical care such as communication, history taking, examination and clinical reasoning. These can be used at any time and in any setting when there is a trainee and patient interaction and an assessor is available. The CEX is used in this curriculum to assess the clinical critical skills. Trainees are assessed against the standard for the completion of core surgical training as detailed in appendix 3.

*Direct Observation of Procedural Skills (DOPS)*

The DOPS assesses the trainee's technical, operative and professional skills in a range of basic diagnostic and interventional procedures during routine surgical practice in wards, out-patient clinics and operating theatres. The DOPS is used in this curriculum to assess the technical critical skills. Trainees are assessed against the standard for the completion of core surgical training as detailed in appendix 3.

*Multi-source Feedback (MSF)*

The MSF assesses professional competence within a team working environment. It comprises a self-assessment and the assessments of the trainee's performance from a range colleagues covering different grades and environments (e.g. ward, theatre, out-patients) including the AES. The competencies map to the standards of GMP and enable serious concerns, such as those about a trainee's probity and health, to be highlighted in confidence to the AES, enabling appropriate action to be taken. Feedback is in the form of a peer assessment chart, enabling comparison of the self-assessment with the collated views received from the team and includes their anonymised but verbatim written comments. The AES should meet with the trainee to discuss the feedback on performance in the MSF. Trainees are assessed against the standard for the completion of their training level.

*Procedure Based Assessment (PBA)*

The PBA assesses advanced technical, operative and professional skills in a range of specialty procedures or parts of procedures during routine surgical practice in which trainees are usually scrubbed in theatre. The assessment covers pre-operative planning and preparation; exposure and closure; intra-operative elements specific to each procedure and post-operative management. The standard is at the level of certification, way beyond the end-point of this core surgical training curriculum.

*Surgical logbook*

The logbook is tailored to each specialty and allows the trainee's competence as assessed by DOPS and PBA to be placed in context. It is not a formal assessment in its own right, but trainees are required to keep a log of all operative procedures they have undertaken including the level of supervision required on each occasion using the key below. The logbook demonstrates breadth of experience which can be compared with procedural competence using the DOPS and the PBA and will be compared to the technical critical skills and indicative numbers as detailed in appendix 3.

Observed (O)
Assisted (A)
Supervised - trainer scrubbed (S-TS)
Supervised - trainer unscrubbed (S-TU)
Performed (P)
Training more junior trainee (T)

The following WBAs may also be used to further collect evidence of achievement, particularly in the GPC domains of *Quality improvement*, *Education and training* and *Leadership and team working*:

*Assessment of audit (AoA)*

The AoA reviews a trainee's competence in completing an audit or quality improvement project. It can be based on documentation or a presentation of a project. Trainees are assessed against the standard for the completion of their phase of training.

*Observation of teaching (OoT)*

The OoT assesses the trainee's ability to provide formal teaching. It can be based on any instance of formalised teaching by the trainee which has been observed by the assessor. Trainees are assessed against the standard for the completion of their phase of training.

The forms and guidance for each WBA method can be found on the ISCP website ISCP (see section 7).

### 5.3.6 The Intercollegiate Membership examination of the Royal Colleges of Surgeons (MRCS)

The MRCS examinations are required assessment components of core surgical training and evidence of completion of these is required before the award of an ARCP outcome 6. The MRCS is governed by the ICBSE[18] which develops, maintains and quality assures them on behalf of the four surgical royal colleges. These examinations are a powerful driver for knowledge and clinical skill acquisition. The examination components have been chosen to test the application of knowledge, clinical skills, interpretation of findings, clinical judgement, decision-making, professionalism, and communication skills described within the curriculum. The examination also assesses components of the CiPs and GPCs (as shown in appendix 8).

There are two parts to the MRCS:

- Part A is a multiple-choice question (MCQ) examination consisting of two papers taken on the same day. Both are single best answer (SBA) papers designed to test the application of knowledge and clinical reasoning in basic sciences and principles of surgery in general.

- Part B is a 17-station objective structured clinical examination (OSCE). The 17 stations cover anatomy, pathology and surgical science and critical care (the 'knowledge' content area) and communication skills, physical examination and procedural skills (the 'skills' content area).

Standard setting:

- Part A is standard set by the modified Angoff method, with an Angoff standard setting meeting held every three years. Standards are maintained at examination sittings between these

[18] https://www.intercollegiatemrcsexams.org.uk/about-us/

meetings by using 'marker' questions which inform the standard setting group how well a cohort of candidates is performing compared to previous cohorts. Any questions identified as problematic by statistical analysis are discussed at the standard setting meeting after each exam and, if necessary, removed.

- Part B is standard set as follows: a score of 0-20 is provided on the candidate's performance in addition to a pass/borderline/fail global judgement for each station. The examination is separated into two for the Knowledge and Skills scenarios. The standard setting process involves calculating the total mark for each individual scenario over all UK diets going back to February 2013. If the total number of occasions that the scenario was used was greater than 500, only the most recent 500 results are considered in the calculation. Only scenarios that had not been significantly altered during this period are included in the calculation. The pass mark for each circuit is, therefore, generated by compiling the pass marks of the individual scenarios in each circuit. Pass marks are, therefore, generated for both 'knowledge' and 'skills' scenarios and the standard error of measurement (SEM) is added. The pass mark is calculated in advance of the meeting and the committee are required to consider the effect of external factors highlighted in the feedback (examiner/candidate behaviour or scenario performance) that may have influenced the exam when agreeing the final pass mark for each circuit.

Candidates feedback:

- Part A provides the maximum possible score, the score required to pass and the candidate's own score. Candidates receive:
  - the maximum possible score
  - their own score
  - the average of all candidates' scores for sub-sections within the exam (anatomy, physiology and pharmacology, pathology and microbiology, common surgical conditions, perioperative management, trauma)
- Part B provides the candidate's overall result, the candidate's mark for *knowledge*, the mark required to pass *knowledge*, the candidate's mark for *skills*, the mark required to pass *skills*. Candidates receive:
  - the maximum mark available for the four sub-sections of the exam (anatomy and surgical pathology, applied surgical science and critical care, communication skills, and clinical and procedural skills)
  - their own mark
  - the mean mark for all candidates
  - the maximum mark available for the domains of the exam (clinical knowledge and its application, clinical and technical skill, communication, and professionalism)
  - their own mark
  - the mean mark for all candidates

Attempts

Trainees have a maximum of six attempts at the first section and four attempts at the second section of the examination with no re-entry. A pass in section 1 is required to proceed to section 2 and must be achieved within two years of the first attempt. The GMC sets a time limit for completion of the entire examination process of seven years. Pro-rata adjustments are permissible to these timescales for LTFT trainees.

### 5.3.7 Trauma certification

Satisfactory and contemporary completion of a standard trauma course with current provider status at the point of final ARCP is required for satisfactory completion of the Core Surgical Training curriculum. A valid certificate may be achieved through the Advanced Trauma Life Support (ATLS®), Advanced Paediatric Life Support (APLS®), European Trauma Course, Battlefield Advanced Trauma Life Support (BATLS) or equivalent.

### 5.3.9 Annual Review of Competence Progression (ARCP)

The ARCP is a formal Deanery process overseen and led by the TPD. It scrutinises the trainee's suitability to progress through the training programme. It bases its decisions on the evidence that has been gathered in the trainee's learning portfolio during the period between ARCP reviews, particularly the AES report in each training placement. The ARCP would normally be undertaken on an annual basis for all trainees in surgical training. A panel may be convened more frequently for an interim review or to deal with progression issues (either accelerated or delayed) outside the normal schedule. The ARCP panel makes the final summative judgement on the trainee's supervision level for each learning outcome and determines whether trainees are making appropriate progress through the phase of training within the indicative time for that phase.

## 5.4 Completion of Core Surgical Training

The following requirements are applied to all trainees completing this Core Surgical Training curriculum.

Trainees must:

a) be fully registered with the GMC and have a licence to practise (UK trainees)
b) have successfully completed the MRCS examination
c) have achieved the required supervision levels listed in section 3.4, table 2 in all the CiPs
d) have demonstrated the GPCs as appropriate to the phase of training
e) have achieved the required level of competence in the critical skills as evidenced through the appropriate WBAs (section 3.5.2 and appendix 3)
f) be in possession of in date certification through an approved trauma course (section 5.3.7)
g) have been awarded an outcome 6 at a final ARCP (or an outcome 1 in run-through programmes).

A final ARCP panel should be guided by the decision matrix below (table 4) in considering the award of an outcome 6 (1 in run-through programmes):

| Syllabus area | Required evidence | Suggested Evidence |
|---|---|---|
| Common content module | Certificate of completion of MRCS<br>Mandatory WBAs (appendix 3)<br>Current approved trauma provider status (section 5.3.7)<br>Completed AES report and at least one CS report from each placement<br>Up to date logbook | Logbook evidence of >120 cases per year<br>WBA portfolio[1] covering particular areas of interest as agreed with AES, or to evidence progress in targeted training areas as required by a previous ARCP panel |

| | | |
|---|---|---|
| | MSF from each whole time equivalent (WTE) training year<br>MCR from each placement | |
| Core specialty modules | Completion of at least one module[2] | Logbook, WBA portfolio[1] and CS report covering specified syllabus areas – see syllabus for details |
| ST3 preparation modules | Completion of one module[2]<br>Final MCR showing capability at required supervision levels or better (section 3.4, table 2) | Logbook, WBA portfolio[1] and CS report covering specified syllabus areas – see syllabus for details |
| Annual appraisal | Completed enhanced Form R or equivalent | Engagement with training programme[3] |
| Teaching and training | | Evidence of teaching delivery within AES report, *other evidence* or as OOTs |
| Keeping up to date and understanding how to analyse information | | Evidence of engagement with audit, medical literature and guidelines within AES report, *other evidence* or as AoAs |
| Leadership | | Evidence of engagement with local clinical governance and faculty groups within AES report or *other evidence* |

Table 4 – an ARCP panel guide for Core Surgical Training

[1]Aside from the mandatory WBAs, no minimum number of WBAs is specified by this Core Surgical Training curriculum. Trainees may agree to complete WBAs in areas of interest with their AES, or be required to complete a series of WBAs in targeted areas of training by an ARCP panel.

[2]It is to be hoped that the AES final report will provide comment on whether this is the case.

[3]Details of the requirements for annual appraisal and revalidation for doctors in training can be found at https://www.copmed.org.uk/publications/revalidation and https://www.gmc-uk.org/registration-and-licensing/managing-your-registration/revalidation/revalidation-requirements-for-doctors-in-training

# 6 Recording progress in the ISCP learning portfolio

This curriculum is available through the JCST's Intercollegiate Surgical Curriculum Programme (ISCP) training management system at www.iscp.ac.uk. Trainees and all involved with training must register with the ISCP and use the curriculum as the basis of their discussion and to record assessments and appraisals. Both trainers and trainees are expected to have a good knowledge of

the curriculum and should use it as a guide for their training programme. Each trainee must maintain their learning portfolio by developing learning objectives, undergoing assessments, recording training experiences and reflecting on their learning and feedback.

The ISCP learning portfolio can be used to build a training record of trainee conduct and practice as follows:

- Trainees can initiate the learning agreement and WBAs directly with supervisors. They can record logbook procedures and other evidence using a variety of forms. They can also link WBAs with critical conditions and index procedures.
- TPDs can validate trainees in their placements, monitor training and manage the ARCP.
- Deanery administrators can support the TPD, JCST trainee enrolment and ARCP process.
- AESs can complete trainee appraisal through the learning agreement, monitor trainee portfolios and provide end of placement AES reports.
- CSs can complete the MCR at the mid-point and end of each placement.
- Assessors can record feedback and validate WBAs.
- Other people involved in training can access trainee portfolios according to their role and function.

## Appendix 1: Capabilities in Practice

These are the high-level learning outcomes common to all surgical specialty curricula. In each of the CiPs the word 'manage' is defined as clinical assessment, diagnosis, investigation and treatment (both operative and non-operative) and recognising when referral to more specialised or experienced surgeons is required. Trainees are expected to apply syllabus defined knowledge and skills across all CiPs, according to the specialty area in which they are working at any point in time. It is not anticipated that any element of these capabilities will be acquired to independence during Core Surgical Training, and some elements, particularly around executive decision making and office-based administration, may not be engaged with at all during these early years. Supervision levels have been modified to reflect this.

**Shared Capability in Practice 1:**

**Manages an out-patient clinic**

**Good Medical Practice Domains 1,2,3,4**

**Description**

Manages all the administrative and clinical tasks required of a consultant surgeon in order that all patients presenting as out-patients in the specialty are cared for safely and appropriately.

**Example descriptors:**

- Assesses and prioritises GP and inter-departmental referrals and deals correctly with inappropriate referrals
- Assesses new and review patients using a structured history and a focused clinical examination to perform a full clinical assessment, and determines the appropriate plan of action, explains it to the patient and carries out the plan
- Carries out syllabus defined practical investigations or procedures within the out-patient setting
- Adapts approach to accommodate all channels of communication (e.g. interpreter, sign language), communicates using language understandable to the patient, and demonstrates communication skills with particular regard to breaking bad news. Appropriately involves relatives and friends
- Takes co-morbidities into account
- Requests appropriate investigations, does not investigate when not necessary, and interprets results of investigations in context
- Selects patients with urgent conditions who should be admitted from clinic
- Manages potentially difficult or challenging interpersonal situations, including breaking bad news and complaints
- Completes all required documentation
- Makes good use of time
- Uses consultation to emphasise health promotion

**Supervision levels:**

Level I: Able and trusted to observe only

a) passive observation

| | |
|---|---|
| | b) active observation |
| Level II: | Able and trusted to act with direct supervision: |
| | a) some of the capability conducted under direct supervision |
| | b) most of the capability conducted under direct supervision |
| | c) capability performed completely under direct supervision |
| Level III: | Able and trusted to act with indirect supervision |

**Shared Capability in Practice 2:**

**Manages the unselected emergency take**

**Good Medical Practice Domains 1,2,3,4**

**Description**

Manages all patients with an emergency condition requiring management within the specialty. Able to perform all the administrative and clinical tasks required of a consultant surgeon in order that all patients presenting as emergencies in the specialty are cared for safely and appropriately.

**Example descriptors:**

- Promptly assesses acutely unwell and deteriorating patients, delivers resuscitative treatment and initial management, and ensures sepsis is recognised and treated in compliance with protocol
- Makes a full assessment of patients by taking a structured history and by performing a focused clinical examination, and requests, interprets and discusses appropriate investigations to synthesise findings into an appropriate overall impression, management plan and diagnosis
- Identifies, accounts for and manages co-morbidity in the context of the surgical presentation, referring for specialist advice when necessary
- Selects patients for conservative and operative treatment plans as appropriate, explaining these to the patient, and carrying them out
- Demonstrates effective communication with colleagues, patients and relatives
- Makes appropriate peri- and post-operative management plans in conjunction with anaesthetic colleagues
- Delivers ongoing post-operative surgical care in ward and critical care settings, recognising and appropriately managing medical and surgical complications, and referring for specialist care when necessary
- Makes appropriate discharge and follow up arrangements
- Carries out all operative procedures as described in the syllabus
- Manages potentially difficult or challenging interpersonal situations
- Gives and receives appropriate handover

**Supervision levels:**

| | |
|---|---|
| Level I: | Able and trusted to observe only |
| | a) passive observation |

| | |
|---|---|
| | b) active observation |
| Level II: | Able and trusted to act with direct supervision: |
| | a) some of the capability conducted under direct supervision |
| | b) most of the capability conducted under direct supervision |
| | c) capability performed completely under direct supervision |
| Level III: | Able and trusted to act with indirect supervision |

**Shared Capability in Practice 3:**

**Manages ward rounds and the on-going care of in-patients**

**Good Medical Practice Domains 1,2,3,4**

**Description**

Manages all hospital in-patients with conditions requiring management within the specialty. Able to perform all the administrative and clinical tasks required of a consultant surgeon in order that all in-patients requiring care within the specialty are cared for safely and appropriately.

**Example descriptors:**

- Identifies at the start of a ward round if there are acutely unwell patients who require immediate attention
- Ensures that all necessary members of the multi-disciplinary team are present, knows what is expected of them and what each other's roles and contributions will be, and contributes effectively to cross specialty working
- Ensures that all documentation (including results of investigations) will be available when required and interprets them appropriately
- Makes a full assessment of patients by taking a structured history and by performing a focused clinical examination, and requests, interprets and discusses appropriate investigations to synthesise findings into an appropriate overall impression, management plan and diagnosis
- Identifies when the clinical course is progressing as expected and when medical or surgical complications are developing, and recognises when operative intervention or re-intervention is required and ensures this is carried out
- Identifies and initially manages co-morbidity and medical complications, referring on to other specialties as appropriate
- Contributes effectively to level 2 and level 3 care
- Makes good use of time, ensuring all necessary assessments are made and discussions held, while continuing to make progress with the overall workload of the ward round
- Identifies when further therapeutic manoeuvres are not in the patient's best interests, initiates palliative care, refers for specialist advice as required, and discusses plans with the patient and their family
- Summarises important points at the end of the ward rounds and ensures all members of the multi-disciplinary team understand the management plans and their roles within them

- Gives appropriate advice for discharge documentation and follow-up

**Supervision levels:**

| | |
|---|---|
| Level I: | Able and trusted to observe only |
| | a) passive observation |
| | b) active observation |
| Level II: | Able and trusted to act with direct supervision: |
| | a) some of the capability conducted under direct supervision |
| | b) most of the capability conducted under direct supervision |
| | c) capability performed completely under direct supervision |
| Level III: | Able and trusted to act with indirect supervision |

**Shared Capability in Practice 4:**

**Manages an operating list**

**Good Medical Practice Domains 1,2,3,4**

**Description**

Manages all patients with conditions requiring operative treatment within the specialty. Able to perform all the administrative and clinical tasks required of a consultant surgeon in order that all patients requiring operative treatment receive it safely and appropriately.

**Example descriptors:**

- Selects patients appropriately for surgery, taking the surgical condition, co-morbidities, medication and investigations into account, and adds the patient to the waiting list with appropriate priority
- Negotiates reasonable treatment options and shares decision-making with patients
- Takes informed consent in line with national legislation or applies national legislation for patients who are not competent to give consent
- Arranges anaesthetic assessment as required
- Undertakes the appropriate process to list the patient for surgery
- Prepares the operating list, accounting for case mix, skill mix, operating time, clinical priorities, and patient co-morbidity
- Leads the brief and debrief and ensures all relevant points are covered for all patients on the operating list
- Ensures the WHO checklist (or equivalent) is completed for each patient at both the beginning and end of each procedure
- Understands when prophylactic antibiotics should be prescribed and follows local protocol
- Synthesises the patient's surgical condition, the technical details of the operation, co-morbidities and medication into an appropriate operative plan for the patient
- Carries out the operative procedures to the required level for the phase of training as described in the specialty syllabus

- Uses good judgement to adapt operative strategy to take account of pathological findings and any changes in clinical condition
- Undertakes the operation in a technically safe manner, using time efficiently
- Demonstrates good application of knowledge and non-technical skills in the operating theatre, including situation awareness, decision-making, communication, leadership, and teamwork
- Writes a full operation note for each patient, ensuring inclusion of all post-operative instructions
- Reviews all patients post-operatively
- Manages complications safely, requesting help from colleagues where required

**Supervision levels:**

| | |
|---|---|
| Level I: | Able and trusted to observe only |
| | a) passive observation |
| | b) active observation |
| Level II: | Able and trusted to act with direct supervision: |
| | a) some of the capability conducted under direct supervision |
| | b) most of the capability conducted under direct supervision |
| | c) capability performed completely under direct supervision |
| Level III: | Able and trusted to act with indirect supervision |

**Shared Capability in Practice 5:**

**Manages multi-disciplinary working**

**Good Medical Practice Domains 1,2,3,4**

**Description**

Manages all patients with conditions requiring inter-disciplinary management (or multi-consultant input as in trauma or fracture meetings in Trauma and Orthopaedic Surgery) including care within the specialty. Able to perform all the administrative and clinical tasks required of a consultant surgeon in order that safe and appropriate multi-disciplinary decisions are made on all patients with such conditions requiring care within the specialty.

**Example Descriptors:**

Appropriately selects patients who require discussion at the multi-disciplinary team

Follows the appropriate administrative process

Deals correctly with inappropriate referrals for discussion (e.g. postpones discussion if information is incomplete or out-of-date)

Presents relevant case history, recognising important clinical features, co-morbidities and investigations

Identifies patients with unusual, serious or urgent conditions

Engages constructively with all members of the multi-disciplinary team in reaching an agreed management decision, taking co-morbidities into account, recognising when uncertainty exists, and being able to manage this

Effectively manages potentially challenging situations such as conflicting opinions

Develops a clear management plan and communicates discussion outcomes and subsequent plans by appropriate means to the patient, GP and administrative staff as appropriate

Manages time to ensure the case list is discussed in the time available

Arranges follow up investigations when appropriate and knows indications for follow up

**Supervision levels:**

| | |
|---|---|
| Level I: | Able and trusted to observe only |
| | a) passive observation |
| | b) active observation |
| Level II: | Able and trusted to act with direct supervision: |
| | a) some of the capability conducted under direct supervision |
| | b) most of the capability conducted under direct supervision |
| | c) capability performed completely under direct supervision |
| Level III: | Able and trusted to act with indirect supervision |

WBA

Formative WBAs may be used to assess and provide feedback on any areas of clinical activity. However, other than for the critical skills or where they have been identified to address a concern, WBAs are optional and trainees, therefore, do not need to use WBAs to evidence their learning against each syllabus topic.

Standards for technical skills

Each technical skill listed in this syllabus has a standard ascribed to it ranging from 1 to 4, to support understanding of the CiP supervision level required for completion of training:

1. Has observed. At this level the trainee:
    - Has adequate knowledge of the steps through direct observation
    - Can handle instruments relevant to the procedure appropriately and safely
    - Can perform some parts of the procedure with reasonable fluency
2. Can do with assistance. At this level the trainee:
    - Knows all the steps - and the reasons that lie behind the methodology
    - Can carry out a straightforward procedure fluently from start to finish under direct supervision
    - Knows and demonstrates when to call for assistance/advice from the supervisor (knows personal limitations)
3. Can do whole but may need assistance. At this level the trainee:
    - Can adapt to well- known variations in the procedure encountered, without direct input from the trainer
    - Recognises and makes a correct assessment of common problems that are encountered
    - Is able to deal with most of the common problems
    - Knows and demonstrates when help is needed
    - Requires advice rather than help that requires the trainer to scrub
4. Competent to do without assistance, including complications. At this level the trainee:
    - With regard to the common clinical situations in the specialty, can deal with straightforward and difficult cases to a satisfactory level and without the requirement for external input
    - Is at the level at which one would expect a UK consultant surgeon to function
    - Is capable of supervising trainees

**COMMON CONTENT MODULE**

**Basic Sciences**

| | |
|---|---|
| **Objective** | To acquire and demonstrate a knowledge of the basic science which underpins the practice of surgery |
| **Knowledge** | *Applied anatomy*:<br>• Gross and microscopic anatomy of the organs and other structures<br>• Surface anatomy<br>• Imaging anatomy<br>• Development and embryology<br>This will include anatomy of thorax, abdomen, pelvis, perineum, limbs, spine, head and neck.<br><br>*Physiology*:<br>General physiological principles including:<br>• Thermoregulation<br>• Metabolic, ionic and acid/base homeostasis<br>• Cardiorespiratory homeostasis<br>• Haemostasis<br>• Acid base balance<br>This will include the physiology of specific organ systems relevant to surgical care including the cardiovascular, respiratory, gastrointestinal, urinary, endocrine, musculoskeletal and neurological systems.<br><br>*Pharmacology*:<br>• The pharmacology of drugs used in surgical practice, both for treatment and prophylaxis, including analgesics, antibiotics, anticoagulants and local anaesthetics<br>• The pharmacology and recommended modification in the perioperative period of the common agents used for the treatment of chronic intercurrent disease<br>• The pharmacological principles of general anaesthesia and intensive care medicine<br>• The pharmacological principles relevant to the treatment of malignancy<br>• The pharmacological principles of immunosuppression<br><br>*Pathology*:<br>General pathological principles including:<br>• Necrosis and apoptosis<br>• Inflammation and immunity including transplant rejection<br>• Repair, regeneration and healing<br>• Thrombosis and embolism<br>• Shock, systemic inflammatory response syndrome and multiple organ failure<br>• Neoplasia including carcinogenesis, the biology of tumour growth, metastasis and the principles of grading and staging<br>• Genetics including genomics<br>The pathology of specific organ systems relevant to surgical care including cardiovascular pathology, respiratory pathology, gastrointestinal pathology, |

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| | genitourinary disease, breast, exocrine and endocrine pathology, central and peripheral, neurological systems, skin, lymphoreticular and musculoskeletal systems.<br><br>*Microbiology*:<br>• Infection control including sources of infection, asepsis, disinfection and sterilisation<br>• General pathology of bacterial and viral disease including mechanisms of injury and systemic sepsis<br>• Soft tissue infections including cellulitis, abscesses, necrotising fasciitis and gangrene<br>• Hospital acquired infection, antibiotic governance and bacterial resistance<br>• Prevention of the transmission of blood born viral infection during surgery<br><br>*Medical physics*:<br>• Principles of diagnostic and interventional imaging including plain and contrast radiography, ultrasound, CT, MRI, PET and radionuclide imaging<br>• Principles of diathermy, LASER, ultrasonic aspiration<br>• Principles of radiotherapy<br>• Application of robotics and artificial intelligence to surgery<br><br>*Medical statistics*:<br>• Principles of screening<br>• The null hypothesis and common tests used with parametric and non-parametric data |

**The clinical method in surgical practice**

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| **Objective** | To demonstrate the knowledge and clinical skill necessary to assess and investigate a patient presenting to a surgical team |
| **Knowledge** | For each of the index conditions below:<br>• epidemiology<br>• common presentations<br>• expected findings on history and examination<br>• natural history<br>• important investigations and likely findings<br>• management options and published guidelines<br>• prognosis |
| **Clinical Skills** | Take a tailored history and perform a relevant examination in an outpatient clinic<br>Detect the need for and initiate resuscitation in an unwell patient<br>Take a tailored history and perform a relevant examination for an acutely unwell patient<br>Construct and investigate a differential diagnosis<br>Facilitate a patient centred discussion of treatment options and agree on a management plan |

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| **Reference to other relevant syllabus items** | Critical care<br>Professional/leadership skills: good clinical care<br>Surgical care of the paediatric patient | |
| **Index conditions** | This section sets out those common and important conditions about which a working knowledge of the relevant clinical science and principles of management are essential for all core surgical trainees. | |
| *Organ system* | *Presentations* | *Conditions* |
| Abdomen | • Abdominal pain<br>• Abdominal swelling<br>• Change in bowel habit<br>• Gastrointestinal haemorrhage<br>• Dysphagia<br>• Dyspepsia<br>• Jaundice | • Appendicitis<br>• Gastrointestinal malignancy<br>• Inflammatory bowel disease<br>• Diverticular disease<br>• Intestinal obstruction<br>• Adhesions<br>• Abdominal hernias<br>• Peritonitis<br>• Intestinal perforation<br>• Benign oesophageal disease<br>• Peptic ulcer disease<br>• Benign and malignant hepatic, gall bladder and pancreatic disease<br>• Haemorrhoids and perianal disease<br>• Abdominal wall stomata<br>• Abdominal trauma including splenic injury |
| Breast | • Breast lumps and nipple discharge<br>• Acute Breast pain | • Benign and malignant breast lumps<br>• Mastitis and breast abscess |
| Vascular | • Chronic and acute limb ischaemia<br>• Aneurysmal disease<br>• Transient ischaemic attacks<br>• Varicose veins<br>• Leg ulceration | • Atherosclerotic arterial disease<br>• Embolic and thrombotic arterial disease<br>• Venous insufficiency<br>• Diabetic ulceration<br>• Vascular injury |
| Cardiac & respiratory | | • Coronary heart disease<br>• Valvular heart disease<br>• Bronchial carcinoma<br>• Obstructive airways disease<br>• Tumours of the chest including carcinoma of the bronchus<br>• Thoracic trauma |
| Genitourinary | • Loin pain<br>• Haematuria<br>• Lower urinary tract symptoms<br>• Urinary retention<br>• Renal failure<br>• Scrotal swellings<br>• Testicular pain | • Genitourinary malignancy<br>• Urinary calculus disease<br>• Urinary tract infection<br>• Benign prostatic hyperplasia<br>• Obstructive uropathy |

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| Musculo-skeletal | • Acute limb pain and deformity<br>• Chronic joint pain and deformity<br>• Back pain | • Simple fractures and joint dislocations<br>• Fractures around the hip and ankle<br>• Degenerative joint disease<br>• Inflammatory joint disease including bone and joint infection<br>• Compartment syndrome<br>• Bony metastatic malignancy |
| Skin, head and neck | • Lumps in the neck<br>• Skin lumps<br>• Epistaxis<br>• Upper airway obstruction | • Benign and malignant skin and subcutaneous lesions<br>• Benign and malignant lesions of the mouth and tongue<br>• Burns<br>• Soft tissue trauma and skin loss<br>• Infections related to the nose, ears, throat and face |
| Neurological | • Headache<br>• Coma | • Intracranial tumour<br>• Traumatic brain injury<br>• Common entrapment neuropathies<br>• Peripheral nerve injury<br>• Spinal nerve root entrapment, spinal cord compression & cauda equina compression |
| Endocrine | • Acute endocrine crises | • Thyroid and parathyroid disease<br>• Adrenal gland disease<br>• Diabetes |
| Paediatric | • Abdominal pain<br>• Vomiting<br>• Constipation | • Pyloric disease<br>• Intussusception<br>• Undescended testis, PPV and inguinal hernia<br>• Phimosis |

**Peri-operative care**

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| **Objective** | To assess and manage preoperative risk and prepare a patient for theatre, to conduct safe surgery in the operating theatre environment and to provide medical care for the patient in the post- operative period. |
| Pre-operative care | |
| **Knowledge** | • Risk factors for surgery and scoring systems including ASA and VTE risk<br>• Antibiotic and VTE prophylaxis guidelines<br>• Principles of ambulatory day surgery including selection and discharge criteria<br>• Ethical principles of, and legislative framework for, capacity and consent<br>• Nutritional assessment methods and feeding options |
| **Clinical skills** | • The safe prescribing of pharmacological agents used for the treatment of chronic intercurrent disease, modified appropriately to the peri-operative period<br>• The safe prescribing of measures for antibiotic and VTE prophylaxis<br>• Assessing patient capacity<br>• Obtaining consent for surgery |

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| | • Communication with anaesthetic and scrub teams in advance<br>• Planning perioperative nutrition in advance in partnership with the nutrition team<br>• Engaging with multidisciplinary team discussions including those with oncology and interventional radiology | |
| Intra-operative care | | |
| **Knowledge** | • The patient safety movement and the evidence behind the WHO check list<br>• The principles of positioning and pressure area care<br>• Radiation protection legislation<br>• Guidelines for tourniquet use<br>• Safety requirements for use of sharps, LASER and diathermy<br>• What to do when something goes wrong<br>• Anaesthetic monitoring techniques | |
| **Clinical skills** | • Maintenance of communication with theatre team throughout procedure<br>• Crisis management | |
| **Technical skills and procedures** | • Safe positioning of the patient on the operating table<br>• Safe intraoperative use of sharps and diathermy<br>• Completion of team briefing<br>• Completion of WHO check list (time out and sign out) | 2<br>3<br>1<br>3 |
| Post-operative care | | |
| **Knowledge** | • Delirium<br>  ○ Epidemiology and prognosis of delirium<br>  ○ Causes and clinical features of delirium<br>  ○ The impact of delirium on patient, family and carers<br>• Spectrum of post-operative complications<br>• Guidelines for indications, prescription and management of complications of the transfusion of blood products | |
| **Clinical skills** | • Assessment of the unwell postoperative patient<br>• Writing an operation note with clear post-operative instructions<br>• Delivery of effective analgesia<br>• Diagnosis and treatment of VTE<br>• Post-operative monitoring and optimisation of fluid & electrolyte balance<br>• Diagnosis and treatment of post-operative infection and sepsis<br>• Diagnosis and treatment of transfusion reactions<br>• Delirium<br>  ○ Assessment of cognitive impairment seeking to differentiate dementia from delirium, with the knowledge that delirium is common in people with dementia<br>  ○ Management of patients with delirium including addressing triggers and using non-pharmacological and pharmacological methods where appropriate<br>  ○ Explanation of delirium to patients and advocates | |

**Basic surgical skills**

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| **Objective** | To acquire and develop throughout the programme those generic technical skills common to all or many areas of surgical practice. | |
| **Knowledge** | Surgical wounds:<br>• Classification of surgical wounds<br>• Principles of wound management<br>• Principles underlying incision placement including cosmesis and Langer's lines, vascularity and function<br>• Principles underlying wound closure including suture method, needle types and the physical and biological characteristics of suture material<br>The range, nomenclature and functional design of surgical instruments | |
| **Technical skills and procedures** | Effective hand washing, gloving and gowning<br>Accurate, effective and safe administration of local anaesthetic<br>Preparation and maintenance of an aseptic field<br>Incision of skin and subcutaneous tissue:<br>• Ability to use scalpel, cutting diathermy and scissors<br>• Control of superficial bleeding using diathermy and ligation<br>Closure of skin and subcutaneous tissue:<br>• Accurate and tension free apposition of wound edges<br>• Knot tying by hand and instrument<br>Selection and placement of tissue retractors<br>Insertion, fixation and removal of drains<br>Appropriate selection and use of instruments to handle tissue with minimal trauma<br>Taking biopsies, safe labelling and completion of request forms<br>Anticipation of needs of surgeon when assisting<br>Co-ordination of camera and instrument from a 2-dimensional display during surgical endoscopy | 4<br>3<br>3<br>3<br><br><br><br>3<br><br><br><br>2<br>2<br>2<br>2<br>2<br>2 |

**Critical care**

| | | |
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| **Objective** | To demonstrate the knowledge and clinical and technical skills necessary to contribute to the management of critically unwell patients suffering from traumatic injuries or sepsis. | |
| <u>Trauma management</u> | | |
| **Knowledge** | A systematic, prioritised method of trauma management such as that set out by the American College of Surgeons, Committee on Trauma<br>Scoring systems for assessment of global injury severity including ISS | |
| **Clinical skills** | Resuscitation and early management of the patient who has sustained thoracic, head, spinal, abdominal and/or limb injury according to ATLS®, APLS or European Trauma Course guidelines | |
| **Technical skills and procedures** | Chest drain insertion | 2 |
| <u>Sepsis management</u> | | |
| **Knowledge** | A systematic, prioritised method of managing the septic patient<br>Recommendations of the surviving sepsis campaign including the "Sepsis 6" | |
| **Clinical skills** | Resuscitation and early management of the septic patient | |

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| **Technical skills and procedures** | Surgical drainage of pus | 2 |
| Intensive care medicine | | |
| **Knowledge** | Classification of levels of critical care<br>Principles of organ support including:<br>• Invasive monitoring of circulation and ionotropic support<br>• Mechanical ventilation and tracheostomy<br>Haemofiltration and haemodialysis | |
| **Clinical skills** | Assessment of a patient receiving critical care<br>Surgical contribution, in discussion with the critical care team, to the management plan of a patient receiving critical care | |

**Surgical care of the paediatric patient**

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|---|---|
| **Objective** | To assess and manage children with surgical problems, understanding the similarities and differences from adult surgical patients, within the appropriate legal and safeguarding frameworks. |
| **Knowledge** | An awareness of the normal physiological parameters at different ages<br>Principles of vascular access in children<br>Working knowledge of employer safeguarding and child protection procedures<br>Child protection law and the issues of consent in childhood<br>Working knowledge of types and categories of child maltreatment |
| **Clinical Skills** | Recognise limitations of own knowledge and experience and seek early advice from dedicated paediatric teams<br>History and examination of paediatric surgical patient<br>Recognition of the unwell child<br>Assessment of respiratory and cardiovascular status in a child<br>Obtaining consent for operative treatment in a paediatric patient |

**Management of the dying patient**

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| **Objective** | To demonstrate the knowledge and clinical skills necessary to manage the transition from life to death including palliation of symptoms, certification of death and the discussion of resuscitation status and organ donation. |
| **Knowledge** | Awareness of the public debate around resuscitation and palliative care, and organ donation<br>Classification of organ donors<br>The role of the coroner and the certification of death |
| **Clinical Skills** | Assessment and control of distress in the dying patient in collaboration with a palliative care team<br>The diagnosis of death following irreversible cessation of brain-stem function<br>Discussion of best interest including resuscitation status and limits of care with patient advocate<br>Discussion of organ donation with family in collaboration with transplant coordinators |

**Health promotion**

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| **Objective** | This syllabus module aims to enable all surgical trainees to develop the competencies necessary to support patients in caring for themselves; to empower them to improve and maintain their own health. |
| General aspects | |
| **Knowledge** | Damaging health and social issues such as excessive alcohol consumption, obesity, smoking and illicit drugs and the harmful effects they have on health<br>The connection between mental health and physical health<br>The importance of health education for promoting self-care for patients<br>The GMC's requirement that doctors protect patients and colleagues from any risk posed by their own health |
| **Clinical Skills** | Modification of explanations to match the intellectual, social and cultural background of individual patients<br>Patient centred care<br>Identification and utilisation of opportunities to promote health including positive role modelling |
| **Reference to other relevant syllabus items** | • Nutrition (Module 5, Perioperative Care)<br>• Drugs and alcohol (Module 1, Pharmacology)<br>• Screening (Module 1, Pathology)<br>• Child protection (Module 7, Surgical Care of the Paediatric Patient) |
| Obesity | |
| **Knowledge** | Classification of excess body mass<br>The health risks posed by obesity including an increased incidence of coronary heart disease, type 2 diabetes, hypertension, stroke, and some major cancers<br>Social, psychological and environmental factors that underpin obesity<br>Physiological and metabolic effects of obesity on the surgical patient<br>Available treatments for obesity including diet, exercise, medication and surgery |
| **Clinical Skills** | The ability to treat patients who are obese in a supportive and sensitive manner<br>Assess and explain the higher risks for obese individuals undergoing surgery<br>Management of cardiovascular, respiratory and metabolic complications in patients with obesity undergoing surgery<br>Provide advice and guidance about weight loss to overweight and obese patients within the context of a multidisciplinary team |
| Dementia | |
| **Knowledge** | Clinical features of dementia and the distinction between it and delirium<br>The impact of dementia on patient, family and carers<br>Principles and key provisions of the relevant legislation regarding the safeguarding of vulnerable adults across the UK, such as the Mental Capacity Act 2005 and the Adult Support and Protection (Scotland) Act 2007 |
| **Clinical Skills** | Recognises cognitive impairment and appropriately refers<br>Management of surgical patients in the context of their dementia<br>A range of techniques and strategies to communicate effectively with people with dementia and their carers/families<br>Assessment of capacity, involvement of advocates and documentation of consent and best interests |
| Exercise and physical fitness | |

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| **Knowledge** | Physical inactivity as an independent risk factor for ill health and obesity<br>Relationship between physical exercise programmes and healthy eating and smoking cessation programmes<br>Government behaviour change programmes such as 'Let's Get Moving' and 'Shift into Sports' |
| **Clinical Skills** | Utilisation of all patient interactions as opportunities for health and fitness promotion with particular reference to the prevention and management of long-term chronic conditions such as coronary heart disease, diabetes, hypertension, obesity, cancer, osteoporosis, peripheral vascular disease and depression and the promotion of health and well being<br>Modification of advice on physical exercise to the specific requirements of individual patients |

**CORE SPECIALTY MODULES**

**Cardiothoracic Surgery**

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|---|---|---|
| **Objective** | To acquire experience of the management of cardiothoracic surgical patients in critical care and ward environments and participate under supervision in their operative management. | |
| <u>Management of the cardiothoracic surgical patient</u> | | |
| **Knowledge** | Principles of intra-aortic balloon pumps | |
| **Clinical skills** | Assessment and early management of the post-operative cardiothoracic surgical patient including the use of inotropes and vasoactive drugs<br>Echocardiography including TOE<br>Assessment and planning the investigation of new and follow-up patients in cardiothoracic surgical outpatient clinics | |
| **Technical skills and procedures** | Use of defibrillator | 3 |
| <u>Operative cardiothoracic surgery</u> | | |
| **Knowledge** | Specific knowledge relating to the principles of cardiopulmonary bypass and myocardial management and their consequences. Includes an understanding of the relevant equipment and technology | |
| **Technical skills and procedures** | Sternotomy<br>Thoracotomy/thoracoscopy<br>Harvesting long saphenous vein | 1<br>1<br>2 |

**General Surgery**

| | | |
|---|---|---|
| **Objective** | To develop the skills required to contribute to the management of general surgical patients in elective and emergency settings and participate under supervision in their operative management. | |
| <u>Management of the elective general surgical patient</u> | | |
| **Clinical skills** | Assessment and planning the investigation of new and follow-up patients in general surgical outpatient clinics | |
| **Technical skills and procedures** | Outpatient treatment of haemorrhoids | 2 |
| <u>Management of the acutely unwell general surgical patient</u> | | |

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| **Clinical skills** | Contribution to the trauma team as general surgical representative<br>Interpretation of abdominal CT scans<br>Assessment and early management of acutely unwell patients presenting with an acute abdomen | |
| **Technical skills and procedures** | Rigid sigmoidoscopy | 2 |
| Operative general surgery | | |
| **Technical skills and procedures** | Excision biopsy of skin lesion<br>Repair of primary abdominal wall hernia<br>Open and close midline laparotomy incision<br>Placement of laparoscopic ports<br>Appendicectomy<br>Superficial abscess drainage | 2<br>1<br>1<br>1<br>1<br>2 |

**Intensive Care Medicine**

| | | |
|---|---|---|
| **Objective** | To develop the skills required to contribute to the management of surgical patients in the critical care environment. | |
| **Clinical skills** | Assessment of a patient receiving critical care<br>Daily management planning for a patient receiving critical care<br>Discharge planning<br>Contribution to critical care outreach service<br>Assessment of patients in the critical care follow up clinic | |
| **Technical skills and procedures** | Insertion of central venous catheter under ultrasound guidance<br>Insertion of arterial line<br>Percutaneous tracheostomy | 2<br>2<br>1 |

**Neurosurgery**

| | | |
|---|---|---|
| **Objective** | To acquire experience of the management of neurosurgical patients in critical care and ward environments and participate under supervision in their operative management. | |
| **Knowledge** | Physiology of intracranial pressure, cerebrospinal fluid and intracranial blood flow<br>Principles of management of subarachnoid haemorrhage | |
| **Clinical skills** | Interpretation of cranial CT scans<br>Contribution to the trauma team as neurosurgical representative<br>Assessment and planning the investigation of new and follow-up patients in neurosurgical outpatient clinics<br>Assessment and early management of acutely unwell neurosurgical patient | |
| **Technical skills and procedures** | Lumbar puncture<br>Sampling of CSF from and administration of intrathecal antibiotics through, lumbar drains and external ventricular drains<br>Insertion of ICP monitor<br>Insertion of external ventricular drain<br>Burr hole drainage of chronic subdural haematoma<br>Dorsal exposure of spine<br>Opening and closing craniotomy | 3<br>3<br>2<br>2<br>2<br>1<br>1 |

**Oral & Maxillofacial Surgery**

| | | |
|---|---|---|
| **Objective** | To develop the knowledge and skills required to contribute to the management of oral & maxillofacial surgical patients in elective and emergency settings and participate under supervision in their operative management. | |
| Trauma management | | |
| **Knowledge** | Patterns and management principles of facial fracture<br>Principles of the management of dento-alveolar trauma<br>Principles of the surgical management of dento-facial sepsis | |
| **Clinical skills** | Assessment and immediate management of dento-alveolar trauma<br>Interpretation of plain facial radiographs and CT scans | |
| **Technical skills and procedures** | Closure of simple facial lacerations including full thickness lip and eyelid lacerations<br>Surgical management of simple mandibular and zygomatic fracture<br>Application of intermaxillary fixation<br>Surgical airway care including changing tracheostomy | 2<br>1<br>2<br>3 |
| Elective OMFS | | |
| **Knowledge** | Anatomy of teeth and supporting structures<br>Principles of the management of odontogenic cysts and impacted teeth<br>Principles of the management of premalignant and malignant conditions affecting the head and neck | |
| **Clinical skills** | Assessment of patients presenting with dento-alveolar and intra oral mucosal signs and symptoms<br>Assessment of skin lesions of the head and neck | |
| **Technical skills and procedures** | Dental extraction<br>Surgical removal of retained roots and impacted teeth<br>Biopsy of intraoral lesions<br>Split skin graft<br>Full thickness skin graft<br>Excision and closure of simple skin lesions | 2<br>1<br>2<br>1<br>1<br>2 |

**Otolaryngology**

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|---|---|
| **Objective** | To develop the skills required to contribute to the management of otolaryngological patients presenting in elective and emergency settings and participate under supervision in their operative management |
| Clinical assessment and emergency management | |
| **Clinical skills** | Otoscopy<br>Nasal examination with speculum<br>Flexible nasendoscopy<br>Assessment and planning the investigation of patients presenting with a neck lump<br>Recognition of the clinical signs of airway obstruction and respiratory distress in adults and children<br>Interpretation of audiological investigations<br>Interpretation of head and neck CT and MRI<br>Initial assessment and management of patients presenting with:<br>• epistaxis<br>• acute tonsillitis and quinsies |

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| | • hearing loss<br>• facial palsy<br>• facial trauma<br>• foreign body<br>• dysphagia | |
| **Technical skills and procedures** | Packing of nose<br>Removal of nasal packing<br>Cautery of nasal mucosa<br>Otomicroscopy and removal of foreign body<br>Drainage of quinsy | 2<br>3<br>2<br>2<br>1 |
| <u>Operative otolaryngology</u> | | |
| **Clinical skills** | Diagnosis and medical management of post-operative haemorrhage following adenotonsillar surgery | |
| **Technical skills and procedures** | Insertion of grommets<br>Reduction of nasal fracture<br>Adult tonsillectomy<br>Paediatric adenotonsillectomy<br>Excision of neck lumps<br>Excision of skin lesions | 2<br>2<br>2<br>1<br>2<br>2 |

**Paediatric Surgery**

| | | |
|---|---|---|
| **Objective** | To develop the knowledge and skills required to contribute to the management of paediatric surgical patients presenting in elective and emergency settings and participate under supervision in their operative management. | |
| **Knowledge** | The embryology of common congenital malformations<br>Detailed understanding of child protection legislation and working practice | |
| **Clinical skills** | Paediatric resuscitation<br>History and examination of neonatal surgical patient<br>Communication with children, their parents and carers<br>Assessment and planning the investigation of new and follow-up patients in paediatric surgical outpatient clinics<br>Assessment and early management of acutely unwell paediatric surgical patients | |
| **Technical skills and procedures** | Circumcision<br>Non-neonatal inguinal hernia repair<br>Ligation of patent processus vaginalis<br>Umbilical hernia repair<br>Appendicectomy<br>I & D of abscess<br>Exploration of scrotum (testicular torsion) | 1<br>1<br>1<br>1<br>1<br>1<br>1 |

**Plastic Surgery**

| | | |
|---|---|---|
| **Objective** | To develop the skills required to contribute to the management of plastic surgery patients presenting in elective and emergency settings and participate under supervision in their operative management. | |
| **Clinical skills** | Assessment of burns area & severity<br>Assessment of the injured hand<br>Resuscitation of a patient suffering from thermal injury<br>Assessment and planning the investigation of new and follow-up patients in plastic surgery outpatient clinics | |
| **Technical skills and procedures** | Split skin graft<br>Full thickness skin graft<br>Repair of divided extensor tendon<br>Excision and closure of simple skin lesions<br>Debridement of contaminated or infected wound<br>Repair of full thickness lip and eyelid lacerations | 1<br>1<br>1<br>2<br>2<br>1 |

**Trauma & Orthopaedic Surgery**

| | | |
|---|---|---|
| **Objective** | To develop the knowledge and skills required to contribute to the management of patients with significant musculoskeletal trauma and to gain exposure to elective orthopaedic surgery. | |
| <u>Trauma management</u> | | |
| **Knowledge** | Common systems employed for the identification of important fracture subtypes to a level sufficient to allow contribution to discussions about their management at trauma meetings | |
| **Clinical skills** | Contribution to the trauma team as orthopaedic representative<br>Interpretation of plain radiographs of common fractures<br>Management of patients in the fracture clinic<br>Assessment and early management of acutely unwell patients suffering the complications of musculoskeletal trauma | |
| **Technical skills and procedures** | Application of cast and common splints<br>Manipulation under anaesthesia<br>Open reduction and internal fixation of ankle fracture<br>Operative management of proximal femoral fracture | 2<br>1<br>1<br>1 |
| <u>Elective orthopaedics</u> | | |
| **Clinical skills** | Assessment and planning the investigation of new and follow-up patients in elective orthopaedic surgery outpatient clinics<br>Assessment and early management of acutely unwell patients suffering the complications of elective orthopaedic surgery | |
| **Technical skills and procedures** | Arthroscopy<br>Arthroplasty | 1<br>1 |

**Urology**

| | | |
|---|---|---|
| **Objective** | To develop the skills required to contribute to the management of urology patients presenting in elective and emergency settings and participate under supervision in their operative management. | |
| **Clinical skills** | Assessment and planning the investigation of new and follow-up patients in urology outpatient clinics<br>Assessment and early management of patients suffering the complications of urological surgery<br>Assessment and early management of patients with acute testicular pain, urinary retention, ureteric colic and obstructive uropathy | |
| **Technical skills and procedures** | Suprapubic catheterisation<br>Flexible cystoscopy<br>Rigid cystoscopy and:<br>• Biopsy and diathermy<br>• Retrograde ureterogram<br>• Insertion retrograde ureteric stent<br>Exploration of scrotum<br>Excision of epididymal cyst<br>Circumcision | 3<br>3<br>2<br><br><br><br>2<br>2<br>2 |

**Vascular Surgery**

| | | |
|---|---|---|
| **Objective** | To develop the skills required to contribute to the management of vascular surgery patients presenting in elective and emergency settings and participate under supervision in their operative management. | |
| **Clinical skills** | Assessment and planning the investigation of new and follow-up patients in vascular surgery outpatient clinics<br>Interpretation of CT, MR and digital subtraction angiography<br>Clinical assessment of limb arterial supply and venous drainage<br>Measurement of ABPI and lower limb venous circulation using hand held Doppler ultrasound probe and tourniquet | |
| **Technical skills and procedures** | Primary varicose vein surgery<br>Exposure & control of major vessels<br>Vascular suturing<br>Open and close midline laparotomy incision<br>Angiography<br>Major lower limb amputation | 2<br>2<br>1<br>1<br>1<br>1 |

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**ST3 PREPARATION MODULES**

**Cardiothoracic surgery**

In order to meet the job specifications of an ST3 trainee, an early years' trainee must take a clear role in the cardiothoracic team, managing cardiac intensive care and ward-based patients under supervision, including the management of acute admissions. They will need to be able to take part

in an outpatient clinic and see new and follow-up patients themselves with the consultant available for advice. Trainees must attend MDT and other departmental meetings and ward rounds and contribute to the surgical care of patients in the operating theatre. They should recognise and initiate the management of common complications and emergencies, over and above those already laid out in the common content and core specialty modules.

This means spending an indicative minimum of 6 months in cardiothoracic surgery in a service which gives trainees access to the appropriate learning opportunities, within a core surgical training programme.

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| **Objective** | To acquire sufficient knowledge and skill of the management of patients under the care of a Cardiothoracic team in both elective and emergency environments and in the operating theatre to be ready to enter higher surgical training in Cardiothoracic surgery | |
| **Knowledge** | To understand the science, technology and practical applications of cardiopulmonary bypass, myocardial protection and circulatory support<br>An in depth working knowledge of the full range of Cardiothoracic conditions | |
| **Clinical skills** | Management of a patient after cardiac or thoracic surgery on the critical care, high dependency and post-operative wards | |
| **Technical skills and procedures** | Use of defibrillator<br>Arterial cannulation<br>Central venous cannulation<br>Saphenous vein harvest<br>Median sternotomy<br>Chest aspiration<br>Chest drain insertion and management<br>Thoracotomy<br>Thoracoscopy port placement | 4<br>3<br>2<br>3<br>2<br>3<br>3<br>2<br>3 |

**General Surgery**

In order to meet the job specifications of an ST3 trainee, an early years' trainee must take a clear role in the general surgery team, managing intensive care and ward-based patients under supervision, including the management of acute admissions. They will need to be able to take part in an outpatient clinic and see new and follow-up patients themselves with the consultant available for advice. Trainees must attend MDT and other departmental meetings and ward rounds and contribute to the surgical care of patients in the operating theatre. They should recognise and initiate the management of common complications and emergencies, over and above those already laid out in the common content and core specialty modules.

This means spending an indicative minimum of 12 months in general surgery in a service which gives trainees access to the appropriate learning opportunities, within a core surgical training programme.

| | |
|---|---|
| **Objective** | To acquire sufficient knowledge and skill of the management of patients under the care of general surgical teams in both elective and emergency environments and in the operating theatre to be ready to enter higher surgical training in General Surgery |
| **Knowledge** | An in-depth working knowledge of the full range of general surgical conditions |

| | | |
|---|---|---|
| **Clinical skills** | To be able to diagnose and manage a range of elective conditions presenting to general surgeons including appropriate investigation. This should include primary abdominal wall hernias, lesions of the cutaneous and subcutaneous tissues.<br>To be able to assess and initiate management of patients presenting with common conditions electively to subspecialty clinics. This should include gall stones, upper and lower gastrointestinal tract cancers.<br>To be able to assess and provide the early care of a patient presenting with acute abdominal symptoms and signs. This should include localised and generalised peritonitis (Acute cholecystitis, acute diverticulitis, acute pancreatitis, visceral perforation, acute appendicitis and acute gynaecological conditions), obstruction (small and large bowel-obstructed hernias, adhesions, colonic carcinoma) and localised abdominal pain (biliary colic, non-specific abdominal pain).<br>To be able to assess and provide the early care of a patient with suspected abdominal trauma. This should include primary and secondary survey.<br>To be able to recognise assess and provide the early care of a patient presenting with ruptured abdominal aortic aneurysm and acute arterial insufficiency.<br>To be able to provide the early care of a patients presenting with acute urological conditions including acute urinary retention, ureteric colic, urinary tract infection and acute testicular pain.<br>To be able to diagnose and manage with appropriate investigations superficial and common acute septic conditions including subcutaneous abscess, cellulitis, perianal and pilonidal abscess and breast abscess. To be aware of gas gangrene and necrotising fasciitis. | |
| **Technical skills and procedures** | Chest drain insertion | 3 |
| | Needle biopsy including fine needle aspiration | 3 |
| | Rigid sigmoidoscopy | 3 |
| | Excision biopsy of benign skin or subcutaneous lesions | 4 |
| | Outpatient treatment of haemorrhoids | 2 |
| | Induction of pneumoperitoneum for laparoscopy with port placement | 2 |
| | Open and close midline laparotomy incision | 2 |
| | Appendicectomy | 3 |
| | Inguinal hernia repair | 2 |
| | Primary abdominal wall hernia repair | 2 |

**Oral & Maxillofacial Surgery**

A trainee can meet the personal specification for appointment to higher surgical training at ST3 level in oral & maxillofacial surgery after an indicative period of just 12 months of core surgical training. A dually qualified core surgical trainee entering ST3 training in any other specialty would face the same requirements as a non-dentally qualified surgical trainee. The syllabus items of the core specialty module for OMFS should be addressed.

**Otolaryngology**

In order to meet the job specification of an ST3 trainee, an early years' trainee must take a clear role in the Otolaryngology team, managing clinic and ward-based patients under supervision, including the management of acute admissions. This means spending an indicative minimum of six months and preferably 12 months in Otolaryngology with appropriate special interest experience in a service, which gives trainees access to the appropriate learning opportunities. Experience in specialties complementary to Otolaryngology, such as OMFS, plastic surgery, paediatric surgery, neurosurgery, cardiothoracic surgery, ITU and upper GI surgery is also desirable.

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|---|---|---|
| **Objective** | To acquire sufficient knowledge and skill of the management of patients under the care of the Otolaryngology team in both elective and emergency environments and in the operating theatre to be ready to enter higher surgical training in Otolaryngology | |
| <u>General clinical skills</u> | | |
| **Clinical skills** | Take an appropriately focused clinical history<br>Perform a full ENT examination | |
| <u>Head and Neck</u> | | |
| **Knowledge** | Anatomy & embryology of the head and neck incl. oral cavity & dentition<br>Physiology of swallowing & speech<br>Microbiology of head and neck<br>The aetiology, presentation, differential diagnosis & management of:<br>• infections of the head and neck<br>• inflammatory disorders of the head and neck<br>• neoplasms of the head and neck<br>• trauma of the head and neck<br>• neck lumps incl. salivary gland & thyroid disease<br>voice & swallowing disorders | |
| **Clinical skills** | Management of acute airway compromise including an awareness of the importance of a team approach<br>Demonstrate competence in the initial management of post tonsillectomy haemorrhage | |
| **Technical skills and procedures** | Drainage peritonsillar abscess<br>Flexible nasendoscopy<br>Tonsillectomy<br>Direct laryngoscopy and pharyngoscopy<br>Lymph node biopsy<br>Resection of skin lesions of H&N<br>Tracheostomy | 4<br>4<br>2<br>2<br>2<br>2<br>1 |
| <u>Otology</u> | | |
| **Knowledge** | Anatomy & embryology of the ear<br>Physiology of hearing & balance<br>Aetiology, presentation, differential diagnosis & management of infections of:<br>• infections of the ear<br>• ear trauma including skull base trauma<br>• hearing loss, tinnitus & vertigo<br>facial palsy | |
| **Clinical skills** | Balance testing<br>Particle repositioning procedures | |

| | | |
|---|---|---|
| | Pure tone audiometry<br>Tympanometry | |
| **Technical skills and procedures** | EUA ear and microsuction<br>Removal of foreign bodies<br>Myringotomy & Grommet<br>Suturing of pinna laceration<br>Drainage of pinna haematoma | 4<br>4<br>2<br>2<br>2 |

| | | |
|---|---|---|
| <u>Rhinology</u> | | |
| **Knowledge** | Anatomy & embryology of the nose & paranasal sinuses<br>Microbiology of the nose & paranasal sinuses<br>Nasal physiology including olfaction<br>Aetiology, presentation, differential diagnosis & management of:<br>• epistaxis<br>• infections of the nose & paranasal sinuses<br>• inflammatory disease of the paranasal sinuses<br>• neoplasms of the nose & paranasal sinuses<br>trauma to the nose & paranasal sinuses | |
| **Clinical skills** | Assessment & initial management of facial trauma incl. fractured nose<br>Assessment & initial management of epistaxis<br>Perform a structured visual assessment | |
| **Technical skills and procedures** | Rigid nasal endoscopy<br>Nasal packing (anterior & posterior)<br>Nasal cautery<br>Manipulation of fractured nose<br>Endoscopic nasal polypectomy | 4<br>4<br>4<br>2<br>2 |
| <u>Paediatric otolaryngology</u><br>While competencies listed in the other 3 domains of this module will be relevant to paediatric ENT, this domain contains competencies specific to paediatric conditions | | |
| **Knowledge** | Differences in anatomy of the upper aerodigestive tract, nose and ear between children and adults<br>How ENT disease may present differently in children<br>Speech development<br>Methods for age appropriate hearing assessment<br>Aetiology, presentation, differential diagnosis & management of sleep disordered breathing and airway compromise in children<br>How NAI may present to ENT surgeons & appropriate pathways for onward referral | |
| **Clinical skills** | Take an appropriately focused clinical history in children<br>Perform a full ENT examination in children<br>Assessment & initial management of epistaxis in children<br>Assessment & initial management of acute airway compromise in children including an awareness of a team approach to management | |
| **Technical skills and procedures** | Myringotomy & grommet insertion<br>Paediatric (adeno)tonsillectomy<br>Nasal cautery | 2<br>2<br>4 |

**Paediatric Surgery**

In order to meet the job specifications of an ST3 trainee, an early years' trainee must take a clear role in the paediatric surgical team managing clinic and ward-based children and their parents and carers under supervision, including the management of acute paediatric surgical admissions. They will need to be able to take part in an outpatient clinic and see patients with their carers themselves with the consultant available for advice. This means spending an indicative period of 6-12 months in paediatric surgery in a service which gives trainees access to appropriate learning opportunities including exposure to paediatric intensive care as well as an indicative period of 6 months in general surgery.

| | | |
|---|---|---|
| **Objective** | To acquire sufficient knowledge and skill of the management of patients managed by the paediatric surgery team in both elective and emergency environments and in the operating theatre to be ready to enter higher surgical training in paediatric surgery. | |
| <u>Management of the elective paediatric surgical patient</u> | | |
| **Knowledge** | Common general surgical conditions of childhood | |
| **Clinical skills** | Clinical assessment and organization of appropriate investigations for elective admissions and out-patients | |
| **Technical skills and procedures** | Intravenous cannulation of infants and children | 3 |
| <u>Management of the emergency paediatric surgical patient including trauma</u> | | |
| **Knowledge** | General surgical conditions of childhood including: acute abdominal pain, intussusception, bilious vomiting, patterns of trauma including NAI | |
| **Clinical skills** | Assessment and organization of appropriate investigations | |
| **Technical skills and procedures** | Intravenous cannulation of children and infants<br>Urethral catheterization of children and infants<br>Air enema reduction of Intussusception | 3<br>3<br>1 |
| <u>Operative paediatric surgery</u> | | |
| **Clinical skills** | Taking consent for: inguinal hernia repair, circumcision, orchidopexy, ligation of PPV, umbilical hernia and appendicectomy | |
| **Technical skills and procedures** | Circumcision<br>Inguinal hernia (not infant)<br>Ligation of PPV<br>Umbilical hernia repair<br>Appendicectomy<br>I & D of abscess<br>Exploration of scrotum (testicular torsion)<br>Pyloromyotomy | 2<br>2<br>2<br>2<br>2<br>2<br>2<br>1 |
| <u>Intensive care of paediatric surgery patients</u> | | |
| **Knowledge** | Principles of neonatal and paediatric intensive care | |
| **Clinical skills** | Assessment and daily management of patients receiving paediatric/neonatal intensive care | |
| **Technical skills and procedures** | Insertion of PIC line<br>Tracheal intubation | 3<br>3 |

**Plastic Surgery**

In order to meet the person specifications of an ST3 trainee, an early years' trainee must take a clear role in the plastic surgery team, managing clinic and ward-based patients under supervision, including the management of acute plastic surgery admissions. They will need to be able to take part in outpatient clinics and see patients themselves with the consultant available for advice. This means spending an indicative period of 6-12 months in plastic surgery in a service which gives trainees access to the appropriate learning opportunities. Also, by the time a trainee enters ST3 they need to be familiar with the operating room environment both with respect to elective and emergency cases.

Those conditions that present on an urgent or emergency basis necessarily involve some out of hours working. It is expected that there will be appropriate allocation of duties such that the trainee has the opportunity to gain such experience. It is not regarded as sufficient that trainees be taught on daytime trauma lists as this will mean loss of exposure to the more complex and challenging cases that are an important part of the trainee's experience.

The range of conditions a trainee needs to manage are laid out below:

1. Assessment and diagnosis of hand trauma cases and including operative management in some cases with appropriate supervision as appropriate
2. Assessment and initial management of burns and scalds in children and adults.
3. Wound management including complex and contaminated wounds and involving both conservative and operative management
4. Assessment and initial management of cases of lower limb trauma involving compound fractures with soft tissue damage, skin loss, major nerve and/or vessel injury
5. Diagnosis and management of skin lesions, including skin malignancy
6. Competence in the use of general plastic surgery techniques in reconstruction including skin grafting, z-plasty, flap elevation and related techniques. Early competence in the use of the operating microscope
7. Management of common elective plastic surgical procedures

| | | |
|---|---|---|
| **Objective** | To acquire sufficient knowledge and skill of the management of patients managed by the plastic surgical team in both elective and emergency environments and in the operating theatre to be ready to enter higher surgical training in plastic surgery. | |
| <u>Hand Trauma</u> | | |
| **Knowledge** | Principles of management in hand trauma | |
| **Clinical skills** | Assess, diagnose and formulate management plan for hand trauma cases | |
| **Technical skills and procedures** | Flexor tendon repair<br>Extensor tendon repair<br>K-wire fixation closed metacarpal and phalangeal fractures<br>Digital nerve repair<br>Washout of hand infection<br>Revision amputation of digit | 2<br>2<br>2<br>2<br>2<br>2 |
| <u>Burns</u> | | |
| **Knowledge** | Principles of management in thermal injury including an understanding of respiratory injury | |
| **Clinical skills** | Assess and initiate the management of burns and scalds in children and adults<br>Assessment of the airway in thermal injury | |

| | | |
|---|---|---|
| | Fluid resuscitation following thermal injury, informed by standard protocols | |
| **Technical skills and procedures** | Change of burns dressings | 3 |
| Wound Management | | |
| **Knowledge** | BAPRAS/BOA guidelines on management of lower limb trauma<br>Principles of the management of complex or contaminated wounds | |
| **Clinical skills** | Assessment and provision of advice on treatment of the open tibial fracture with soft tissue loss, major nerve or vessel injury<br>Assess and initiate treatment for the complex or contaminated wound | |
| **Technical skills and procedures** | Harvesting of split skin graft<br>Application of vacuum-assisted suction device | 3<br>3 |
| Elective Plastic Surgery | | |
| **Knowledge** | An appreciation of the breadth of conditions encountered in the elective practice of the plastic surgery | |
| **Clinical skills** | Diagnosis of skin lesions, including skin malignancy | |
| **Technical skills and procedures** | Use of the operating microscope<br>Skin grafting<br>Z-plasty<br>Flap elevation | 2<br>2<br>2<br>2 |

**Trauma & Orthopaedic Surgery**

Core trainees wishing to enter T&O for higher training should endeavour to choose a Core Surgical Training programme that enables them to build foundations for a future career in the specialty. This will involve spending an indicative minimum of 12 months in T&O posts as well as an indicative period of 8 months in other surgical specialties relevant to T&O, such as general surgery, vascular surgery, plastic surgery, neurosurgery and intensive care. Further, core trainees wishing to enter T&O at ST3 level are encouraged to be involved in audit and research relevant to T&O.

By the end of Core Surgical Training, trainees wishing to enter ST3 in T&O must show competence in the overall management of simple and common trauma episodes. They should also be part of the trauma team involved in the management of major and complex trauma. Specifically, they must be able to manage a limited range of techniques involved in treating fractures around the hip and simple internal fixations around the ankle or wrist. In terms of operative fixation, this small selection contains common technical problems. The techniques utilised to resolve them are representative of the types and levels of skills which give an indication of a trainee's fitness to proceed to ST3.

| | | |
|---|---|---|
| **Objective** | To acquire sufficient knowledge and skill of the management of patients under the care of the Trauma & Orthopaedic team in both elective and emergency environments and in the operating theatre to be ready to enter higher surgical training in Trauma & Orthopaedics. | |
| Trauma | | |
| **Knowledge** | Common fracture patterns of upper and lower limbs and spine - presentation, management and complications<br>Prioritisation of the multiply injured patient<br>Soft tissue injuries including compartment syndrome, open fractures, cauda equina syndrome, peripheral nerve injury - diagnosis and early management.<br>Musculo-skeletal infection - diagnosis and early management | |
| **Clinical skills** | Peri-operative management of emergency orthopaedic patients.<br>Assessment and management planning, including investigations, of new and follow-up patients in fracture clinics.<br>Interpretation of radiology of musculoskeletal trauma | |
| **Technical skills and procedures** | Application of back-slab cast<br>Removal of encircling limb cast<br>MUA - reduction of displaced fracture / dislocation<br>Ankle - closed reduction of fracture/dislocation<br>Ankle - ORIF lateral malleolus fracture<br>Hip - extra-capsular - reduction and insertion of DHS<br>Hip - intra-capsular - hemiarthroplasty replacement<br>Wrist - closed reduction & cast<br>Wrist - closed reduction & per-cutaneous k-wires | 3<br>4<br>2<br>3<br>2<br>2<br>2<br>2<br>2 |
| Elective Orthopaedics | | |
| **Knowledge** | Basic science (inc. anatomy, physiology, pharmacology, radiology) relevant to the management of patients with common elective orthopaedic conditions<br>Clinical presentation and pathology of common orthopaedic conditions<br>Principles of management of patients with common orthopaedic conditions<br>Principles of musculoskeletal neoplasia - including skeletal metastases | |
| **Clinical skills** | Peri-operative management of elective orthopaedic patients<br>Assessment and management, including investigations, of patients in elective orthopaedic clinic<br>Interpretation of radiology of common orthopaedic conditions<br>Discharge planning of patients with common orthopaedic conditions | |
| **Technical skills and procedures** | Total hip arthroplasty<br>Total knee arthroplasty<br>Knee arthroscopy | 1<br>1<br>1 |

**Urology**

In order to meet the job specifications of an ST3 trainee, an early years' trainee must take a clear role in the Urology team, managing clinic and ward-based patients under supervision, including the management of acute urological admissions. They will need to be able to take part in an outpatient clinic and see patients themselves with the consultant available for advice. This means spending an indicative period of 6-12 months in Urology in a service which gives trainees access to the appropriate learning opportunities.

The range of conditions a trainee needs to manage is laid out below:

1. Urinary tract calculi
    a. to be able to provide the early care of a patient presenting with the symptoms suggestive of urinary tract calculi including onward referral
2. Functional urology
    a. to be able to provide the early care of a patient presenting with lower urinary tract symptoms and dysfunction including onward referral to be able
    b. to provide the early care of a patient presenting with urinary tract obstruction including onward referral
    c. to diagnose and initiate management of a patient presenting with acute or chronic urinary retention
3. Urinary tract infection to be able
    a. to provide the early care of a patient presenting with urinary tract infections including onward referral when appropriate
    b. to be able to provide the early care of a patient presenting with epididymitis and scrotal abscess including onward referral when appropriate
4. Urological oncology
    a. to be able to provide the early care of a patient with suspected urological cancer including onward referral
5. Treatment of renal failure
    a. to be able to provide the early care of a patient presenting with renal failure including onward referral when appropriate
6. Testicular pain and swelling
    a. to be able to provide the early care of a patients presenting with acute testicular pain or testicular swelling

| | | |
|---|---|---|
| **Objective** | To acquire sufficient knowledge and skill of the management of patients under the care of the Urology team in both elective and emergency environments and in the operating theatre to be ready to enter higher surgical training in Urology. | |
| <u>Emergency Urology</u> | | |
| **Knowledge** | Pathophysiology of obstructive uropathy | |
| **Clinical skills** | A systematic prioritised method of managing the patient with urosepsis<br>Contribution to the on-call team as urology representative<br>Assessment and early management of patients with acute testicular pain, urinary retention, ureteric colic and obstructive uropathy | |
| **Technical skills and procedures** | Ability to insert urethral catheters<br>Ability to insert suprapubic catheters<br>Ability to explore the acutely painful testis | 4<br>3<br>3 |
| <u>Elective Urology</u> | | |
| **Knowledge** | Detailed anatomy of the urogenital tract | |

| | | |
|---|---|---|
| | Principles of contemporary urological practice | |
| **Clinical skills** | Assessment and early management of the post-operative urology surgical patient<br>Assessment and planning the investigation of new and follow-up patients in urology outpatient clinics | |
| **Technical skills and procedures** | Ability to perform flexible cystoscopy<br>Ultrasound guided prostate biopsy | 4<br>2 |

**Vascular Surgery**

In order to meet the job specification of an ST3 trainee, an early years' trainee must take a clear role in the surgical team, managing clinic and ward-based patients under supervision, including the management of acute admissions. They will need to be able to take part in an outpatient clinic and see both new and follow-up patients themselves with the consultant available for advice. This means that it is desirable to spend an indicative period of 6 months in vascular surgery and essential to spend a further indicative period of 6 months in general or vascular surgery in a service which gives trainees access to the appropriate learning opportunities. Because vascular surgical experience is not required for ST3 appointment in that specialty, the outcomes in this module exceed the essential criteria for selection.

| | | |
|---|---|---|
| **Objective** | To acquire sufficient knowledge and skill of the management of patients under the care of the Vascular Surgical team in both elective and emergency environments and in the operating theatre to be ready to enter higher surgical training in Vascular Surgery. | |
| <u>Aortic Aneurysm</u> | | |
| **Knowledge** | Aetiology, presentation, investigation and management options for aortic aneurysm in the elective setting<br>Presentation, investigation and management options for ruptured aortic aneurysm | |
| **Clinical skills** | Assessment and planning investigation of new patients in the out-patient setting<br>Assessment and planning management of patients presenting as emergencies<br>Contribution to Aortic Aneurysm planning MDT meetings | |
| **Technical skills and procedures** | Exposure of the femoral artery for EVAR<br>Open and close laparotomy wounds | 2<br>2 |
| <u>Limb Ischaemia</u> | | |
| **Knowledge** | Aetiology, presentation, investigation and management of peripheral arterial disease | |
| **Clinical skills** | Assessment and planning investigation of new patients in the outpatient or emergency setting<br>Interpretation of the results of Duplex US, CT, MR and DSA angiography<br>Measurement of ABP index<br>Contribution to multi-disciplinary meetings | |
| **Technical skills and procedures** | Exposure of femoral artery<br>Arterial suturing<br>Angioplasty & endovascular stenting | 2<br>2<br>1 |
| <u>Venous Disease</u> | | |

| | | |
|---|---|---|
| **Knowledge** | Aetiology, presentation, investigation and management of varicose veins, venous ulcers and deep venous thrombosis | |
| **Clinical skills** | Assessment and planning investigation of new patients in the outpatient setting<br>Interpretation of results of venous Duplex investigations | |
| **Technical skills and procedures** | Endovenous treatment of varicose veins<br>Open surgery on the long saphenous vein | 1<br>2 |
| <u>Amputation</u> | | |
| **Knowledge** | Indications for amputation and the risks of surgery<br>Principles of rehabilitation after amputation | |
| **Clinical skills** | Assessment of patients and planning level of amputation | |
| **Technical skills and procedures** | Major limb amputation | 2 |

**Appendix 3: Critical Skills**

Basic critical skills have been identified which are of significant importance for patient safety and demonstration of safe practice. Across surgery, these generic skills lie at the heart of patient assessment and good practice in the operating theatre, where mistakes can be associated with devastating consequences for patients. These critical skills are assessed individually by means of WBA. They provide formative feedback to the trainee and collectively contribute to the summative assessment of the trainee's performance in the clinical environment and should inform the AES report and ARCP.

| **Competency** | **Form to use** | **Indicative number** | **Level of performance required** |
|---|---|---|---|
| Take a tailored history and perform a relevant examination in an outpatient clinic | CEX (Clinic; history & exam) | 3 | 2 |
| Take a tailored history and perform a relevant examination for an acutely unwell patient | CEX (A&E/ward; history & exam) | 3 | 2 |
| Effective hand washing, gloving and gowning | DOPS (Surgeon preparation) | 3 | 4 |
| Accurate, effective and safe administration of local anaesthetic | DOPS (Administration of local anaesthetic) | 3 | 3 |
| Preparation and maintenance of an aseptic field | DOPS (Preparation of aseptic field) | 3 | 3 |
| Incision of skin and subcutaneous tissue | DOPS (Incision) | 3 | 3 |
| Closure of skin and subcutaneous tissue | DOPS (Closure) | 3 | 3 |
| Completion of WHO check list (time out and sign out) | DOPS (WHO checklist completion) | 3 | 3 |

Description of performance levels

1. Has observed. At this level the trainee:

- Has adequate knowledge of the steps through direct observation
- Can handle instruments relevant to the procedure appropriately and safely
- Can perform some parts of the procedure with reasonable fluency

2. Can do with assistance. At this level the trainee:

- Knows all the steps - and the reasons that lie behind the methodology
- Can carry out a straightforward procedure fluently from start to finish under direct supervision
- Knows and demonstrates when to call for assistance/advice from the supervisor (knows personal limitations)

3. Can do whole but may need assistance. At this level the trainee:

- Can adapt to well- known variations in the procedure encountered, without direct input from the trainer
- Recognises and makes a correct assessment of common problems that are encountered
- Is able to deal with most of the common problems
- Knows and demonstrates when help is needed
- Requires advice rather than hands on help

4. Competent to do without assistance, including complications. At this level the trainee:

- With regard to the common clinical situations in the specialty, can deal with straightforward and difficult cases to a satisfactory level and without the requirement for external input
- Is at the level at which one would expect a UK consultant surgeon to function
- Is capable of supervising trainees

**Appendix 4: Courses and other learning opportunities away from the workplace**

Some knowledge and capabilities are best gained in the formal setting of a taught course. These areas are listed below.

| **Trauma learning outcomes** | **Rationale for learning by attendance at a course** | **Phase of training** | **GPC** | **CiP** | **Examples of ways to meet trauma learning outcomes** |
|---|---|---|---|---|---|
| *Knowledge of Trauma management*<br>A systematic, prioritised method of trauma management such as that set out by the American College of Surgeons, Committee on Trauma<br>Scoring systems for assessment of global injury severity including ISS<br><br>*Clinical Skills in Trauma management*<br>Resuscitation and early management of the patient who has sustained thoracic, head, spinal, abdominal and/or limb injury according to ATLS®, APLS or European Trauma Course guidelines | Cannot be learned in the workplace to the level required for patient safety<br><br>Allows a systematic process of teaching a safe and reliable method of immediate management of severely injured patients and comprises a range of comprehensive and adaptable trauma management skills relevant to all specialties | Current throughout training | Domain 2: Professional skills<br><br>Domain 3: Professional knowledge<br><br>Domain 5: Capabilities in leadership and team working | 2) Manages the unselected emergency take | The Advanced Trauma Life Support® (ATLS®), European Trauma Course or equivalent and APLS<br>locally provided course(s) meeting the outcomes described |

## Appendix 5: Roles and responsibilities for supervision

### The role of the Training Programme Director (TPD)

TPDs are responsible for managing the specialty training programmes, ensuring they deliver the specialty curriculum.

TPDs are responsible for:

- Organising, managing and directing the training programmes, ensuring that the programmes meet curriculum requirements
- Identifying, appointing and supporting local faculty i.e. Assigned Educational Supervisors (AESs) and Clinical Supervisors (CSs), providing training as necessary, including training in equality and diversity and providing feedback to AESs and CSs on the quality of their performance
- Ensuring a policy for career management and advice covering the needs of trainees in their placements and programmes
- Overseeing progress of individual trainees through the levels of the curriculum, ensuring learning objectives are set, appropriate assessments are being undertaken and that appropriate levels of supervision and support are in place
- Helping the Postgraduate Dean and AES manage trainees who are running into difficulties by identifying remedial placements and resources where required
- Working with delegated Specialty Advisory Committee (SAC) representatives (SAC Liaison Members) and College representatives (e.g. college tutors) to ensure that programmes deliver the specialty curriculum
- Ensuring that Deanery administrative support are knowledgeable about curriculum delivery and are able to work with NHS Employers, SACs, trainees and trainers
- Providing induction for trainees entering specialty programmes
- Administering and chairing the Annual Review of Competence Progression (ARCP) meetings
- Monitoring the quality of the training programme and producing quality reports (including the quality of trainer assessments and feedback) for the Postgraduate Dean
- Ensuring access to trainee data is kept confidential.

### The role of the Assigned Educational Supervisor (AES)

AESs are consultant surgeons responsible for the management and educational progress of one or more specified trainee(s) in a training placement or series of placements. AESs must be appropriately trained for the role, familiar with the curriculum and have demonstrated an interest and ability in teaching, training, assessing and appraising. They should have gained skills equivalent to courses such as Training the Trainer offered by an appropriate educational institution and must keep up-to-date with developments in training. They must have appropriate access to teaching resources and time for training allocated to their job plan (approx. 0.25 PA per trainee). They must have access to the support and advice of their senior colleagues regarding any issues related to teaching and training and to keep up-to-date with their own professional development.

AESs are responsible for:

- Providing induction to the unit (where appropriate)
- Ensuring that trainees are familiar with the curriculum and assessment system relevant to the level/phase of training and undertake it according to requirements
- Ensuring that trainees have appropriate day-to-day supervision appropriate to their phase of training
- Helping trainees with both professional and personal development

- Completing a learning agreement with trainees and undertaking appraisal meetings (typically one at the beginning, middle and end of a placement)
- Ensuring the MCR is completed by CSs, ensuring all the CiPs are addressed, any differences in supervision level are explained and final sign off of the MCR
- Ensuring a record is kept in the portfolio of any serious incidents or concerns and how they have been resolved
- Regularly inspecting trainee learning portfolios and ensuring trainees are making the necessary clinical and educational progress
- Informing trainees of their progress and encouraging trainees to discuss any deficiencies in the training programme, ensuring that records of such discussions are kept
- Ensuring access to trainee data is kept confidential
- Ensuring patient safety in relation to trainee performance by the early recognition and management of those doctors in distress or difficulty
- Keeping the TPD informed of any significant problems that may affect training
- Discussing trainees' progress with each trainer with whom trainees spend a period of training and involving them in the formal reporting process
- Providing an end of placement AES report for the ARCP.

**The role of the Clinical Supervisor (CS)**

CSs are consultant surgeons responsible for delivering teaching and training under the delegated authority of the AES. The training of CSs should be similar to that of the AES.

CSs are responsible for:

- Ensuring patient safety in relation to trainee performance
- Carrying out WBAs on trainees and providing verbal and written feedback
- Liaising closely with other colleagues, with whom the trainee is working, regarding the progress and performance of trainees
- Keeping the AES informed of any significant problems that may affect training
- Ensuring access to trainee data is kept confidential
- Contributing to the MCR as part of the faculty of CSs and providing constructive feedback to the trainee.

The roles of AES and CS come under the umbrella of the Professionalised Trainer outlined in section 3.2.2. The JSCT is supportive of the GMC's moves towards greater recognition and accreditation for clinicians undertaking the roles of AES and CS, and other responsibilities supporting education and training.

**The role of the Assessor**

Assessors carry out a range of WBAs and provide verbal and written feedback trainees. Assessments during training are usually be carried out by CSs, who will be responsible for the MCR, recommending the supervision level and providing detailed formative feedback to trainees with reference to the CiPs. Other members of the surgical team including senior trainees, senior nurses and doctors from other medical disciplines may assess trainees in areas where they have particular expertise (e.g. with the use of the DOPS). Those who are not medically qualified may also act as assessors for the trainee's Multi-source Feedback (MSF). Assessors must be appropriately qualified in the relevant professional discipline and trained in the methodology of WBA. This does not apply to MSF raters.

Assessors are responsible for:

- Carrying out WBA, including the MCR, according to their area of expertise and training
- Providing constructive verbal feedback to trainees, including an action plan, immediately after the event
- Ensuring access to trainee data is kept confidential
- Providing written feedback and/or validating WBAs in a timely manner.

**The role of the Trainee**

Trainees are the learners who have been selected into a specialty training programme. Other surgeons who have registered to use the curriculum and learning portfolio as learners have the same responsibilities. All trainees/learners have a responsibility to recognise and work within the limits of their professional competence and to consult with colleagues as appropriate. Throughout the curriculum, great emphasis is laid on the development of good judgement and this includes the ability to judge when to seek assistance and advice. Trainees/learners must place the well-being and safety of patients above all other considerations. They are required to take responsibility for their own learning and to be proactive in initiating appointments to plan, undertake and receive feedback on learning opportunities.

Trainees/learners are responsible for:

- Engaging with opportunities for learning
- Creating a learning agreement and initiating meetings with the AES
- Raising concerns with the AES and/or TPD about any problems that might affect training
- Initiating regular WBAs with assessors in advance of observations
- Undertaking self and peer assessment
- Undertaking regular reflective practice
- Maintaining an up to date learning portfolio
- Working as part of the surgical and wider multi-professional team.

## Appendix 6: Quality Management of the Curriculum

The Joint Committee on Surgical Training (JCST) works as an advisory body to the four surgical Royal Colleges of the UK and Ireland for all matters related to surgical training. It is the parent body of the Specialty Advisory Committees (SACs) and the Training Interface Groups (TIGs) and works closely with the Surgical Specialty Associations in Great Britain and Ireland. The JCST sets out a curriculum quality framework directed at evaluating and monitoring curriculum delivery against curriculum standards whereby a range of qualitative and quantitative measures inform continuous improvement. The JCST is also the umbrella organisation for the Intercollegiate Surgical Curriculum Programme (ISCP), the curriculum training management system. Through the variety of mechanisms outlined below, the JCST complies, and ensures compliance, with the requirements of equality and diversity legislation set out in the Equality Act 2010.

The quality system includes the following components:

- Quality assurance (QA): the development and maintenance of the curriculum links with the GMC's role in providing standards for training and for curricula.
- Quality management (QM): the implementation of training and curriculum standards by Deaneries through training programmes and post locations approved by the GMC. The system includes processes for recruitment and selection and mechanisms to address concerns. SAC Liaison Members provide externality and support for local quality management.
- Quality control (QC): the implementation of training standards by local education providers (LEPs). The local delivery of curriculum is through the trainers recognised by the GMC.

### Internal Quality Review

The following mechanisms provide sources of information that, together, provide complementary information which informs quality management and quality improvement.

*Specialty Advisory Committees (SACs)*

There is one SAC for each GMC recognised surgical specialty and a Core Surgical Training Advisory Committee (CSTAC) which oversees core surgical training. Each SAC will comprise appointed Liaison Members to cover all training regions in the UK, the Lead Dean for the specialty, a trainee representative, the Chair of the Intercollegiate Specialty Board (ex officio), the President of the Specialty Association or deputy, a representative of Royal College of Surgeons in Ireland and additional members may be co-opted for a time-limited period to provide specific expertise as necessary. The skill set and experience of SAC members will reflect the breadth of the specialty. The Liaison Members act on behalf of the SAC by overseeing training in a particular region(s) other than their own. Duties include contributing to the local quality management systems, the ARCP and to the regular reporting through first-hand independent knowledge of training programmes.

*Curriculum development*

The SACs, working with their Specialty Associations, are responsible for curriculum development and maintenance. They monitor innovations in clinical practice and, when these become established components of service delivery, they can be incorporated into an approximately three yearly review of the specialty curriculum. Similarly, the JCST, ISCP Management Committee, JCST Quality Assurance Group and the SACs monitor developments in training delivery and incorporate these into formal curriculum reviews. Curriculum updates are made in consultation with all stakeholders, including trainees, trainers, speciality organisations, deans, employers, patient and lay representatives and the GMC including specific trials and pilots when required.

Equality and diversity implications are considered throughout the development of curricula in association with trainees and trainers through specific development events, which feed into impact assessments, noting any potential adverse effects on learners with protected characteristics as defined by the Equality Act 2010. Curricula are also developed through regular meetings with the GMC, helping to refine the curriculum approach and ensuring that the standards for curricula are met and identify future developments.

*GMC Survey*

The GMC undertakes a national training survey of trainee views on their training. The findings of the survey are available by country, postgraduate body, LEP, training level and graduating medical school. The GMC also conducts a survey of educational and clinical supervisors in the UK, which aims to collect evidence on whether trainers are able to undertake their duties as trainers effectively; have support for training including trainer development and the formal recognition of their duties in job plans; are implementing curricula and assessments appropriately.

The JCST analyses the GMC's published reports on these surveys, drawing out the key messages for surgery to feed into each SAC and QA Group meeting. SAC Liaison Members are responsible for consulting on the outcomes of these discussions with those responsible for curriculum delivery in their regions including TPDs and Specialty Training Committees (STCs). They also report key learning points through their Liaison Member Reports. The JCST uses the initial analysis and feedback from these processes to help address ad hoc queries and inform projects, pilots, monitoring and evaluation work. The outcomes of these processes are to report the specialty and national view of postgraduate surgical training through a continuous model of reporting to the GMC at regional and national level.

The GMC also provides a progression data portal, which colleges and faculties can use to consider data on the progression of trainees by specialties and regions. The JCST uses these data to help identify system or policy changes that might need review in order to ensure equality, diversity and fairness. See also below – External Quality Review (the GMC and postgraduate bodies use the GMC survey findings in external quality review).

Quality Indicators

The JCST Quality Indicators are the JCST and SACs' guidance on the attributes of good quality training posts. They are not an assessment for measuring the achievements of individual trainee. They are a tool to monitor the quality of training posts and drive quality improvement.

JCST Survey

The JCST trainee survey measures training post compliance with the JCST Quality Indicators across all UK training programmes. The anonymised survey responses are pivotal to the JCST's quality processes. Trainees complete one survey for each training placement prior to their ARCP. As part of its five-year strategy, the JCST shares this information in the form of annual reports. The JCST also conducts a biennial survey of surgical Assigned Educational Supervisors to gather information on issues particularly relevant to surgical trainers, such as use of the web-based ISCP, time and support available to undertake training and other related activities. Analysis of the findings from these surveys are key to the work of the SACs and QA Group. This informs their meetings and the consultations SAC Liaison Members have with those responsible for curriculum delivery within their regions including TPDs and STCs. The learning points drawn from the analysis and feedback inform all JCST work including projects, pilots and evaluation and help report the specialty and national view of postgraduate surgical training.

*JCST and ISCP data*

Training data collected through the JCST and ISCP are used to review quality. These include curriculum delivery, adherence to quality indicators and equality and diversity issues. The ISCP is used to monitor curriculum delivery, trainee progression and WBA performance. The ISCP Management Committee undertakes and supports qualitative and quantitative research and recruits external Research Fellows to conduct specific studies to support curriculum and assessment change.

*Trainee views*

Representatives of trainee associations are members of the JCST committees and have specific sections of meetings to report on training issues and raise concerns. Trainee representatives are involved in working groups, curriculum review and the development of the ISCP training management system, including, where necessary, cascading training, testing and piloting.

**External Quality Review**

*Postgraduate Deans*

The responsibility for the quality management of specialty training programmes rests with the Deans. They ensure posts and programmes are approved by the GMC, oversee the appointment of trainees and of TPDs. They ensure that training in the regions is implemented in accordance with GMC-approved curricula. Deans work through STCs and Boards, seeking advice from the JCST, the surgical Royal Colleges and SACs on curriculum delivery, the local content of programmes, assessment of trainees, remedial training and the recognition and training of trainers. The Deans contract LEPs through Service Level Agreements to deliver training to agreed standards. Working alongside Postgraduate Deans, education providers must take responsibility for ensuring that clinical governance and health and safety standards are met. This includes the provision of a system of training including in equality and diversity, a process of revalidation and annual appraisals of trainers by employers set against the professional standards for Good Medical Practice.

*Schools of Surgery*

The co-ordination of surgical training is through Schools and their devolved nation equivalents, which are accountable to the Deaneries. They bring together networks of lead providers of postgraduate medical education in a particular specialty or group of specialties to decide how educational initiatives are best delivered and ensure consistency of approach. Each School is led by the Head of School who acts as a workforce adviser to the education commissioners, leads on quality management of surgery, supports and develops lead providers, provides regional representation in national fora and an interface with other disciplines. The Head of School or their devolved nation equivalent also oversees the quality of training posts provided locally. The national Heads of School and their devolved nation equivalents meet through their Confederation of Postgraduate Schools of Surgery (CoPSS), which is also attended by the Chair of the JCST and ISCP Surgical Director.

*Training Programme Directors*

Training programmes are led by TPDs or their designated equivalent. TPDs have responsibility for managing individual specialty training programmes. Their responsibilities include allocating trainees to training placements and rotations, providing systems for career management, flexible training, academic training and remedial training as well as organising the recognition and training of trainers and co-ordinating the ARCP. TPDs, working alongside Heads of School, are also introducing a standardised form for the evaluation of AES reports in order to offer feedback to AESs about the quality of their feedback to trainees, along with mechanisms for development.

*Statutory Education Bodies*

Co-ordination and alignment of policy on medical education is devolved from health ministers to bodies governing the health services in the four nations of the UK NHS England, NHS Education for Scotland (NES), the Northern Ireland Medical and Dental Training Agency (NIMDTA) and Health Education and Improvement Wales (HEIW)) and Ireland (the Health Service Executive (HSE)). These organisations are responsible for healthcare, education, training and workforce development. They take advice from the JCST and the surgical Royal Colleges in order to ensure consistent regional delivery. These organisations can undertake visits to LEPs and visits can be triggered by specific concerns. They highlight any areas for improvement, agree the timetable for any appropriate action and identify areas of notable practice. SAC Liaison Members may be involved in the visits to provide both specialty-specific input and externality.

*UK Medical Education Reference Group (UKMERG)*

The UKMERG is a forum for discussion, co-ordination and alignment of matters relating to medical education across the UK. It includes representation from the four UK health departments and the four statutory postgraduate medical education bodies.

*General Medical Council*

The GMC is responsible for setting the standards for curricula and approving curricula as well as approval of training programmes and training post locations. The Deanery submits an application for programme and post location approval. Support for an application is available from the relevant surgical SAC. There is regular reporting to the GMC as part of their quality framework. The GMC activities may include document requests, meetings, shadowing, observations, visits and document reviews. The GMC uses the GMC survey results in quality assurance by monitoring that training meets the required standards. It will escalate issues through other QA activity such as an enhanced monitoring process. Triggered visits investigate possible serious educational failures or risks to patient safety as part of the GMC's enhanced monitoring process. The GMC’s QA process includes the ability to impose a sanction in response to a failure to meet its standards including imposing conditions which limit the time or scope of approval, refusing approval, and withdrawing recognition for training.

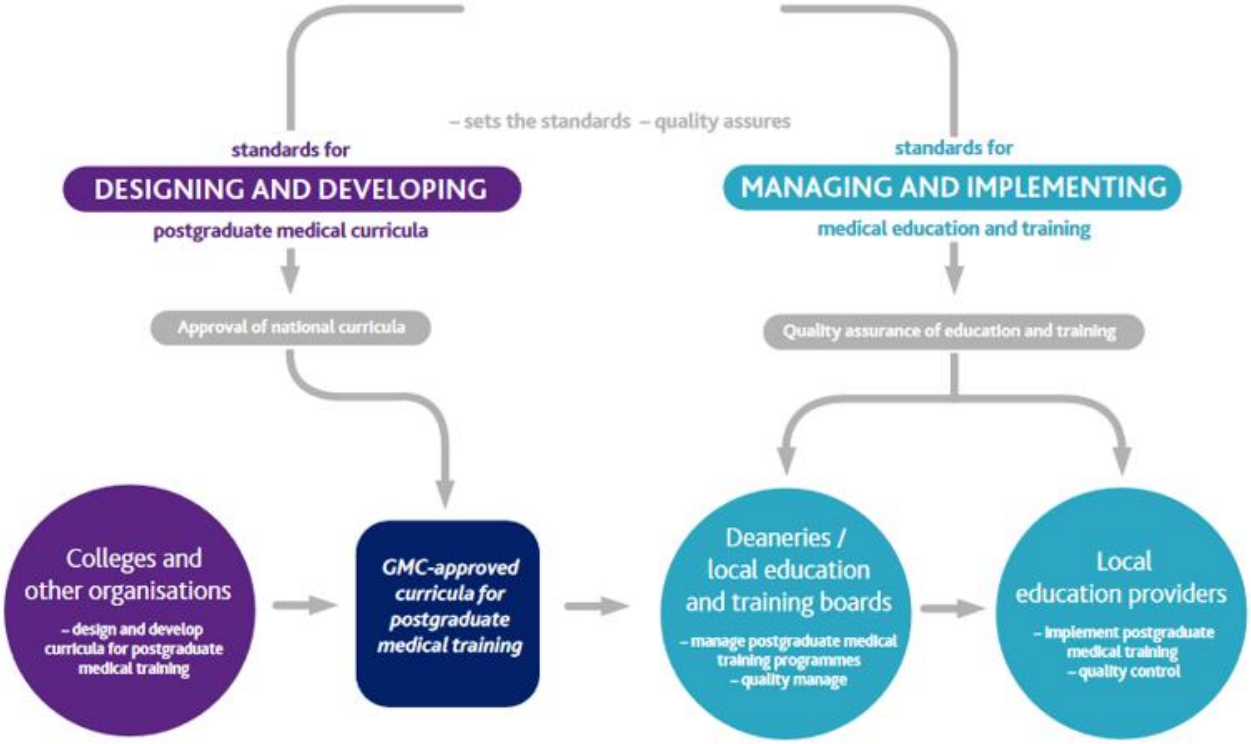


Figure 8: The quality assurance structure of the curriculum (adapted from Excellence by Design, GMC, 2017)

**Appendix 7: Glossary**

| Term | Definition |
|---|---|
| AES Report | An end of placement report by the trainee's Assigned Educational Supervisor, providing key evidence for the trainee's ARCP. |
| ARCP / ARCP 6 | The Annual Review of Competence Progression (ARCP) panel will recommend one of 8 outcomes to trainees. Outcome 6 sets out that a trainee has gained all required competencies and will be recommended as having completed the training programme. (For further information, please see the Gold Guide). |
| Capability | The ability to be able to perform an activity in a competent way. |
| Capabilities in Practice (CiP) | The high-level learning outcomes of the curriculum.<br>Learning outcomes operationalise groups of competencies by describing them in terms of holistic professional activities. In surgery they are aligned to what a day-one consultant will need to be able to know and do. Rather than learning 'inputs' ('what is learned', they set out what the learner must be able to do as a result of the learning at the end of the training programme – a practical skill) and clarify the extent to which trainees should successfully perform to reach certification. |
| Critical Condition | Any condition where a misdiagnosis can be associated with devastating consequences for life or limb. |
| Critical Progression Points | Key points during the curriculum where trainees will transition to a higher level of responsibility or enter a new area of practice. These points are frequently associated with increased risk, and so robust assessment is required. These points are at the end of phase 2 (transition to phase 3), and the end of phase 3 to achieve certification. |
| Core Surgical Training | The early years of surgical training for all ten surgical specialties. |
| Generic | Applicable to *all* trainees regardless of specialty, discipline and level of training, e.g. Generic Professional Capabilities. |
| Generic Professional Capabilities (GPCs) | A framework of educational outcomes that underpin medical professional practice for all doctors in the United Kingdom. |
| Good Medical Practice (GMP) | The core ethical guidance that the General Medical Council (GMC) provides for doctors. |
| High-Level Outcome | See Capability in Practice. |
| Index Procedure | Operative procedures that refer to some of the more commonly performed clinical interventions and operations in the specialty. They represent evidence of technical competence across the whole range of specialty procedures in supervised settings, ensuring that the required elements of specialty practice are acquired and adequately assessed. Direct Observations of Procedural Skills (DOPS) and Procedure-based Assessments (PBAs) assess trainees carrying out index procedures (whole procedures or specific sections) to evidence learning. |
| Manage | Throughout the curriculum the term 'manage' indicates competence in clinical assessment, diagnosis, investigation and treatment (both operative and non-operative), recognising when referral to more |

| | |
|---|---|
| | specialised or experienced surgeons is required for definitive treatment. |
| Multiple Consultant Report (MCR) | An assessment by Clinical Supervisors that assesses trainees on the high-level outcomes of the curriculum. The MCR provides a supervision level for each of the five Capabilities in Practice (CiPs) as well as giving outcomes for the nine domains of the Generic Professional Capabilities. The assessment will be at the mid-point and end of a placement. The MCR is a formative assessment, providing trainees with formative feedback. However, the final MCR also contributes to the summative AES report. |
| Phase | An indicative period of training encompassing a number of indicative training levels. Phases are divided by critical progression points to ensure safe transitioning where patient or training risk may increase. Phases have replaced 'stages' of training in previous versions of the curriculum. |
| Placement | A surgical unit in which trainees work in order to gain experiential training and assessment under named supervisors. |
| Run-through training | The route which allows trainees, after a single competitive selection process at ST1 and satisfactory progress, to progress through to specialty training at ST3 onwards (unlike uncoupled training). |
| Specialty Advisory Committee (SAC) | The committee which oversees training in a particular specialty, reporting to the JCST. SAC responsibilities include trainee enrolment and support, certification, out of programme and LTFT training, curriculum development, logbook development, simulation training, quality assurance (including processes for externality via the provision of regional liaison members), national recruitment also credentialing (if appropriate). |
| Shared | Applicable to all specialties i.e. the five shared CiPs are identical to all ten surgical specialties. In some specialties some additional CiPs may be specialty-specific. |
| Special Interest | Advanced areas of training in the specialty. |
| Supervision level | The level of supervision required by a trainee to undertake an activity, task or group of tasks, ranging from the ability to observe only through direct and indirect supervision to the ability to perform unsupervised. |
| Trainees | Doctors in training programmes. |
| Training programme | A rotation of placements in which training is provided under a Training Programme Director and named supervisors. |
| Uncoupled programme | The route where core surgical training (CT1 and CT2) and specialty training (ST3 onwards) are separated by a national recruitment process (unlike run-through training). |

**Appendix 8: Assessment Blueprint**

All aspects of the curriculum are assessed using one or more of the described components of the assessment system. Some curriculum content can be assessed in more than one component but the emphasis will differ between assessments so that testing is not excessive in any one area. The key assessment is the MCR through which trainees are assessed on the high-level outcomes of the curriculum; the CiPs and GPCs. A fully mapped assessment method is marked with an asterisk (*). If an assessment method only partially covers a syllabus item, it will not have an asterisk, as it does not assess the item in enough depth to be represented in this definitive way.

| High-level outcomes | Assessment Framework | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CiP/GPC self-assessment | MCR | MSF | CEX | CBD | PBA | DOPS | AoA | OoT | MRCS Part A | MRCS Part B |
| | **Capabilities in Practice** | | | | | | | | | | | |
| | 1. Manages an out-patient clinic | * | * | * | * | * | | | | | | * |
| | 2. Manages the unselected emergency take | * | * | * | * | * | * | * | | | | * |
| | 3. Manages ward rounds and the on-going care of in-patients | * | * | * | * | * | | | | | | * |
| | 4. Managing an operating list | * | * | * | | | * | * | | | | |
| | 5. Managing multi-disciplinary working | * | * | * | | * | | | | | | |

| High-level outcomes | Generic Professional Capabilities | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CiP/GPC self-assessment | MCR | MSF | CEX | CBD | PBA | DOPS | AoA | OoT | MRCS Part A | MRCS Part B |
| | Domain 1: Professional values and behaviours | * | * | * | * | * | * | * | * | * | | * |
| | Domain 2: Professional skills | * | * | * | * | * | * | * | | * | | * |
| | Domain 3: Professional knowledge | * | * | * | * | * | * | * | * | * | * | * |
| | Domain 4: Capabilities in health promotion and illness prevention | * | * | | * | * | | | | | | |
| | Domain 5: Capabilities in leadership and team working | * | * | * | | * | * | * | * | * | | |
| | Domain 6: Capabilities in patient safety and quality improvement | * | * | | | * | | | * | | | |
| | Domain 7: Capabilities in safeguarding vulnerable groups | * | * | | * | * | * | * | | | | |
| | Domain 8: Capabilities in education and training | * | * | | | | | | | * | | |
| | Domain 9: Capabilities in research and scholarship | * | * | | | | | | | | | |

| **Syllabus** | | | CiP/GPC self-assessment | MCR | MSF | CEX | CBD | PBA | DOPS | AoA | OoT | MRCS Part A | MRCS Part B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Knowledge | | * | * | * | * | * | * | * | * | * | * | * |
| | Clinical skills | Clinical skills (general) | * | * | * | * | * | | | | | | |
| | | Critical skills (mandated CEX) | * | * | * | * | * | | | | | | * |
| | Technical skills | Technical skills (general) | * | * | | | | * | * | | | | |
| | | Critical skills (mandated DOPS) | * | * | | | | | * | | | | * |