ISCP INTERCOLLEGIATE SURGICAL CURRICULUM PROGRAMME

Urology Curriculum

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VERTICAL LINE INDICATES UPDATES

THE INTERCOLLEGIATE
SURGICAL CURRICULUM PROGRAMME

Educating the surgeons of the future

Acknowledgements

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1 Introduction

The curriculum provides the approved United Kingdom (UK) framework for the training of doctors to the level of independent consultant practice in Urology, addressing the requirements of patients, the population and the strategic health services. The curriculum will also be followed for training in the Republic of Ireland. General Medical Council (GMC) approval of the curriculum pertains to UK training programmes while those in the Republic of Ireland are governed by the Royal College of Surgeons in Ireland (RCSI) and the Medical Council of Ireland.

2 Purpose

2.1 Purpose of the curriculum

The purpose of the curriculum for Urology is to produce, at certification, competent doctors, able to deliver excellent outcomes for patients as consultant surgeons in the UK and Ireland. The curriculum will provide consultant surgeons with the generic professional and specialty-specific capabilities needed to manage patients presenting with the full range of acute and elective Urology conditions. Trainees will continue to develop their skills in the generality of Urology (both acute and elective such that they are competent to deal with 95% of cases presenting during an unselected emergency 'take'. Additionally, trainees will be expected to be competent to manage the full range of acute and elective conditions in the generality of their chosen special interest, including the operation. It is acknowledged that the responsibility for patients in this specialist area will include care for patients up to, including and beyond the point of operation. Trainees will be entrusted to undertake the role of the Urology Specialty Registrar (StR) during training and will be qualified at certification to apply for consultant posts in Urology in the UK.

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, critical progression points, 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 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

The curriculum has been developed with extensive input and representation from stakeholders including trainees, trainers, patient and lay representatives, education providers and NHS employers. Previous attempts at revising the Urology curriculum were centred on defining a series of core diagnostic and therapeutic capabilities in a five year training programme. The previous curriculum failed to equip trainees with those skills needed to deliver an unselected take in adult and paediatric emergency urology and to support colleagues from other specialities in the secondary care setting.

Additionally, the curriculum provides for areas of special interest in which trainees can develop areas of expertise which in turn have been proven to deliver better outcomes for patients. The curriculum framework articulates the standard required to work at the consultant level, and at key progression points during training, as well as encouraging the pursuit of excellence in all aspects of clinical and wider practice. Service providers and patients benefit from consultant urologists who are trained in the generality of the specialty but who also have special interest skills to provide more specialist care. The curriculum ensures that trainees will, at certification, have both a special interest skill and full range of general emergency and elective skills.

In addition to service changes, there has been scrutiny of individual surgeon outcome data and associated increased patient expectations. These workforce and service demands together with patient expectations have driven the change to the Urology curriculum.

The Shape of Training (SoT) review[1] and *Excellence by design: standards for postgraduate curricula*[2] also provided opportunities to reform postgraduate training. The Urology curriculum will produce a workforce fit for the needs of patients, producing doctors who are more patient-focused, more general and who have more flexibility in their career structure. The GMC's introduction of updated standards for curricula and assessment processes laid out in *Excellence by Design* requires all medical curricula to be based on high-level outcomes. The high-level outcomes in this curriculum are called Capabilities in Practice (CiPs) and integrate parts of the syllabus to describe the professional tasks within the scope of specialty practice. At the centre of each of these groups of tasks are Generic Professional Capabilities[3] (GPCs), interdependent essential capabilities that underpin professional medical practice and are common to all who practise medicine. The GPCs are in keeping with Good Medical Practice (GMP)[4]. Equipping all trainees with these transferable capabilities should result in a more flexible, adaptable workforce.

Trainees will continue to develop the required skills principally within the established hospital setting where increasingly a 'one-stop' approach to diagnosis and management relies on the availability of endoscopy and radiological imaging, which has significantly impacted on the need for repeat attendance in the out-patient setting and/or in-patient investigation. Where opportunities arise within the community setting (subject to appropriate contractual and governance issues) trainees will be encouraged to work alongside Urological Clinical Nurse Specialists (CNS) to support and investigate patients in the community (including but not limited to urodynamics, intermittent self-catheterisation etc.). The curriculum will emphasise aspects of multi-disciplinary team (MDT) practice, the importance of effective communication and the role of community-based care whilst not losing sight of the need for excellence in all hospital based care. An appreciation of what is suitable for community-based care, what is right for district general hospital (DGH) care and what requires tertiary referral will be part of what the trainees will learn in this curriculum.

All the shared CiPs are transferable to other surgical specialties and some may be transferable to non-surgical specialties. In addition, core knowledge and skills gained in any surgical specialty training programme are transferable for entry into Urology. Trainees who choose to move to or from a different speciality training programme having previously gained skills transferable to Urology, therefore, may be able to have a shorter than usual training pathway in their new training programme. While most of the detailed and specialty-specific syllabus is not transferable because

[1] Shape of training: Securing the future of excellent patient care
[2] Excellence by design: standards for postgraduate curricula
[3] Generic professional capabilities framework
[4] Good Medical Practice

the knowledge and detailed technical skills are specific to the practice of urological surgery, some limited areas of the syllabus may be transferable. There are also some opportunities where even quite specialty-specific skills are transferable (such as to the fields or uro-gynaecology as with female incontinence and endocrine adrenal surgery to general surgery etc.). Also, generic operative skills are transferable to any craft specialty.

This flexible approach, with acquisition of transferable capabilities, allows surgical training to adapt to current and future patient and workforce needs and change in the requirements of surgery with the advent of new treatments and technologies.

2.3 The training pathway and duration of training

Uncoupled trainees will enter phase 2 after completion of core surgical training (phase 1) and successfully gaining a National Training Number (NTN) through the national selection process.

Run-through trainees enter phase 2 after having achieved an outcome 1 at their Annual Review of Competence Progression (ARCP) at the end of ST2.

Training is delivered in three phases, phase 1 (two years, of core surgical training or Urology themed run-through training), phase 2 (three years) and phase 3 (two years). There is generic Urology training until the end of phase 2, allowing flexibility in special interest choice until relatively late in the training pathway (figure 1).

The second two phases (P2 and P3) are covered in this curriculum. Trainees in a run-through programme will follow the core surgical curriculum in phase 1 (ST1-2).

Trainees who demonstrate exceptionally rapid development in knowledge, technical skills and acquisition of capabilities can complete training more rapidly than this indicative time. There may also be a small number of trainees who develop more slowly and require an extension of training in line with *A Reference Guide for Postgraduate Foundation and Specialty Training in the UK* (The Gold Guide)[5]. Trainees who opt for training less than full time (LTFT) have their indicative training time extended on a pro-rata basis.

[5] Gold Guide 11th edition

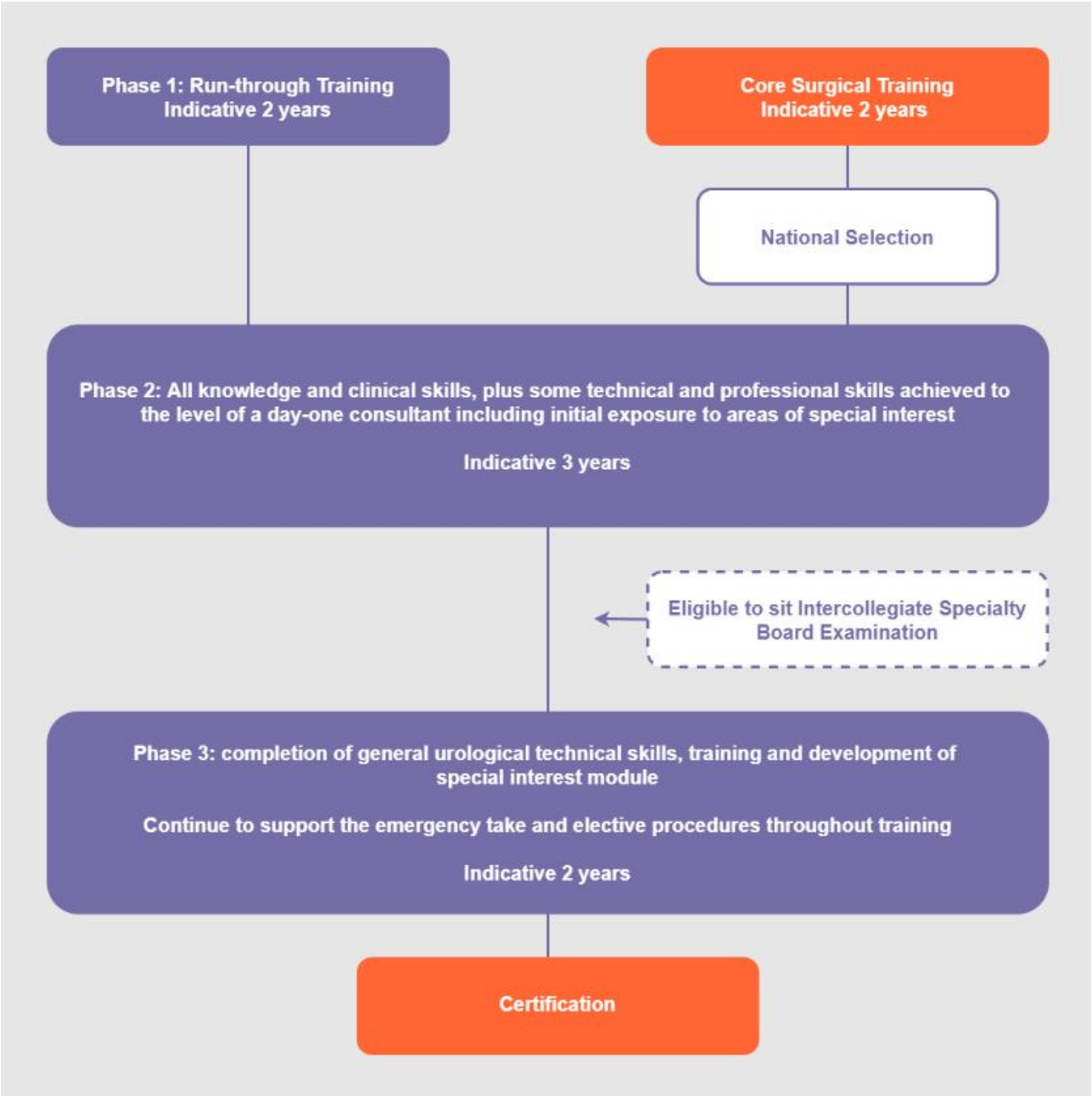

Figure 1*:* Urology training pathway. Trainees can enter urology training at phase 1, following the curriculum for core training in surgery and running through without further selection into phase 2 of the Urology curriculum, or trainees can enter at phase 2, having successfully completed the curriculum for core surgical training and been successful at a national selection process into Urology training. Core surgical training is uncoupled from specialty training for the majority of trainees. The availability of posts is at the discretion of the statutory postgraduate medical education bodies.

Phases of training

Phase 1 (indicative two years): Trainees entering urology run-through training at ST1 will follow a urology themed core surgical training curriculum in the first two years of training, and pass, without further selection, into phase 2 of specialist urology training on the successful completion of the outcomes shared with the core surgical training curriculum, gaining a pass in the Intercollegiate Membership examination of the Royal Colleges of Surgeons (MRCS) and an ARCP outcome 1 at the end of phase 1.

Phase 2 (indicative three years): Trainees will gain many of the GPCs and the knowledge, clinical and technical skills in urological surgery, as defined in the CiPs and syllabus. Uncoupled trainees should have acquired generic skills, both technical and non-technical, during core surgical training. At the end of phase 2 there is a critical progression point where trainees will demonstrate competencies in knowledge, and professional behaviours commensurate with a day-one consultant in Urology and become eligible to sit the Intercollegiate Specialty Board (ISB) examination in Urology. A critical progression point at the end of phase 2 will guide ARCP panels as to the level of competencies to be achieved.

Phase 3 (indicative two years): Trainees will further develop the technical skills in the elective and emergency aspects of the specialty and will undertake more focussed training in a particular area of special interest. A special interest area module will be followed after discussion with the Training Programme Director (TPD) and will be based on the preference of the trainee, the needs of the service and the ability of the programme to support the trainee in that special interest. Whilst we anticipate programmes will offer most or all of the special interest areas, either within the programme or by arrangement with a neighbouring programme, there is no requirement for any one programme to offer all the areas of special interest. There may additionally be instances where there are more trainees in a cohort who wish to pursue an area of a specific special interest than a programme can accommodate, and the TPD may need to suggest a different special interest to some of these trainees. On completion of phase 3 trainees will have reached supervision level IV in each of the shared CiPs and acquired all GPCs and recorded a pass in the ISB examination in Urology. This, in addition to the achievement of all certification requirements described, will allow the award of ARCP outcome 6 and recommendation for certification and entry onto the specialist register. Trainees who do not meet the requirements of phase 3 within the indicative 2 years may require an extension of training time in accordance with the Gold Guide.

A number of special interest modules are currently considered suitable for delivery in phase 3. These are: Endo-urology; Andrology and Infertility; Female, Functional and Reconstructive Urology; Advanced General Urology (including the specialist management of Benign Prostatic Hyperplasia (BPH) which may include Holmium laser enucleation (HoLEP) and laser ablative surgery etc.); and Urological Oncology Surgery (which will consist of those components relating to Renal Cancer Surgery and the management of benign upper tract pathology such as renal cysts and Pelvi-Ureteric Junction (PUJ) obstruction, Prostate Cancer and Bladder Cancer) and one or more components of which may be completed within this period depending on progression.

3 Programme of Learning

This section covers the expected learning outcomes, learning methods, breadth of experience and levels of performance at critical progression points in the training programme and the levels of performance expected of those completing training.

3.1 What has to be learnt to complete the Urology curriculum

The practice of Urology requires the generic and specialty knowledge, clinical and technical skills and behaviours to manage patients presenting with urological disorders. It involves development of competence in diagnostic reasoning, managing uncertainty, dealing with co-morbidities, and recognising when another specialty opinion or care is required (as well as developing technical skills in the areas and to the level described in the syllabus as shown in appendix 2). The main areas for learning are described by the CiPs which are the high-level learning outcomes for training in the specialty described below and shown in full in appendix 1.

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

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 consultant 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.

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

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 in Urology. 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. In order to complete training and be recommended to the GMC for certification and entry to the specialist register, the doctor must demonstrate that they are capable of unsupervised practice in all CiPs and GPCs. For example, managing the 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.

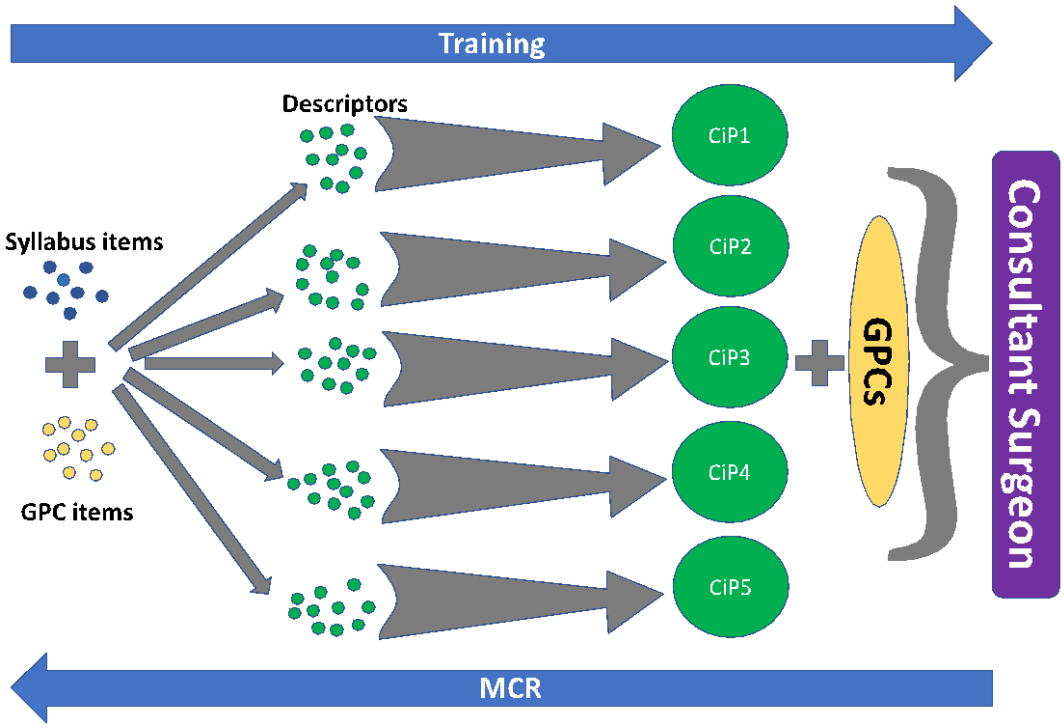

Figure 2 - The interrelationship of GPCs, the syllabus, the CiPs and their descriptors to the role of a consultant surgeon. Items from the syllabus are combined with items taken from the GPC framework to form the small tasks which are the CiP descriptors. When the small tasks of the descriptors are integrated, they comprise the constituent parts of the role of a consultant surgeon (the CiPs). When the CiPs are taken together, along with the GPCs, the role of a consultant surgeon (the overall outcome of the curriculum), is described. Each of these CiPs will be developed through training until the level required of a day-one consultant is reached. Assessment in an outcomes-based curriculum through the MCR) examines the trainee from the perspective of the outcome (a consultant surgeon), 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 describe the role of a consultant in Urology but more detail is needed to help trainees develop that 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 new consultant 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 training. 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 to become competent and safe independent practitioners. 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 of certification. 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 until the level of competence for independent practice is acquired. In the early years, therefore, it would be normal for trainees to achieve a lower supervision level and progress as experience is gained.

The supervision levels are:

Level I: Able to observe only
Level II: Able and trusted to act with direct supervision:
  a) Supervisor present throughout
  b) Supervisor present for part
Level III: Able and trusted to act with indirect supervision
Level IV: Able and trusted to act at the level expected of a day-one consultant
Level V: Able and trusted to act at a level beyond that expected of a day-one consultant

3.4 Critical progression points

The training pathway described above (figure 1) shows that after phase 1 all trainees will complete two further phases. There is a single critical progression point at the end of phase 2. To move from phase 2 to phase 3 trainees must demonstrate knowledge, clinical skills and professional behaviours commensurate with certification and, therefore, become eligible to sit the ISB examination in Urology. Table 1 shows the indicative supervision levels to be achieved to complete phase 2 and the supervision levels required by the end of phase 3. A trainee becomes eligible for certification when supervision level IV has been achieved in each CiP as well as acquiring all of the skills described in the GPC framework (in addition to the other certification requirements shown in section 5.4) as confirmed by an ARCP panel.

Capabilities in Practice	Indicative Supervision Level (end of phase 2)	Supervision Level (end of phase 3 and certification)
Manages an Outpatient Clinic	SL III	SL IV
Manages the Unselected Emergency Take	SL III	SL IV
Manages Ward Rounds and Inpatients	SL III	SL IV
Manages the Operating List	SL III	SL IV
Manages the Multi-Disciplinary Meeting	SL III	SL IV

Table 1: Supervision levels to be achieved by the end of each phase of training

3.5 Breadth of experience required during training in Urology

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. The scope of practice of a day-one consultant in Urology is described in the syllabus. In addition, there are certain skills and conditions within the syllabus that are of such central and fundamental importance to the safe practice of Urology that they are highlighted as critical conditions and index procedures.

3.5.1 The syllabus

The syllabus, shown in appendix 2, provides a detailed description of the specialty-specific knowledge, clinical and technical skills required for each phase of training and for certification in Urology. The syllabus is organised by topics which are the presenting conditions of patients in relation to the specialty. Trainees are expected to have exposure to all topics in phase 2 of training.

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. [6] [7] [8]

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. [9] [10] [11]

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

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

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

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

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

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

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

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. [12]

3.5.2 Critical conditions

From the syllabus, a list of critical conditions has been identified which are of significant importance for patient safety and demonstration of a safe breadth of practice. Across surgery, these are defined as any condition where a misdiagnosis could be associated with devastating consequences for life or limb. These critical conditions are assessed individually by means of the Case Based Discussion (CBD) and Clinical Evaluation Exercise (CEX), which both include an assessment of clinical judgement and decision-making. They provide formative feedback to the trainee and feed into the summative assessment of the Assigned Educational Supervisor (AES) via the AES report for the ARCP. A list of critical conditions for Urology is given in appendix 3 and is included in the certification requirements in this curriculum. These critical conditions were decided following wide consultation with clinicians and trainers in the specialty.

3.5.3 Index procedures

In addition to the critical conditions, a list of index procedures has been identified. Index procedures are common but important operations central to the specialty, competence in which is essential to the delivery of safe patient care. Taken together they form a representative sample of the breadth of operative procedures in the specialty. Learning in the index procedures is indicative of learning in the broad range of technical procedures in the syllabus and surgical logbook and are, therefore of significant importance for patient safety and demonstration of a safe breadth of practice. Each of these index procedures are assessed individually by means of the Procedure Based Assessment (PBA) which provides formative feedback to the trainee and feeds into the summative AES report for the ARCP. A list of index procedures is shown in appendix 4. This includes indicative numbers of assessments necessary before certification as trainees would not normally be expected to have achieved sufficient experience to be able to manage the range of pathology they encounter unless these numbers were met. It is recognised that competence could be achieved with fewer assessments, if supported by equivalent evidence. Meeting the numbers does not, in itself, imply competence. These index procedures were decided following wide consultation with clinicians and trainers in the specialty.

The certification requirements, shown in section 5.4, summarise the experience trainees need to achieve by the end of the training programme.

4 Teaching and Learning

4.1 How the Urology 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

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

with the GMC requirements presented in *Promoting excellence: standards for medical education and training*[13] (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.

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 6 outlines the quality management arrangements for the curriculum.

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

4.2 Learning opportunities

A variety of educational approaches are used by education providers in order 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 a member 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[14]. 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.

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 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

[14] Improving feedback and reflection to improve learning. A practical guide for trainees and trainers

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 and the Urology 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.

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.

Simulation in Urology is also important to supplement exposure to emergency urology especially the management of the damaged ureter. It is expected that a day-one consultant in every DGH hospital will be able to deal with this reasonably complex issue but exposure during training is limited. The GMC demand that the new curriculum ensures Urological surgeons are emergency ready has led to the development of bespoke simulation training both in the early years and again in phase 3 without which it will not be possible to certify trainees as emergency competent at the end of training.

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 MDT.

The key roles involved in teaching and learning are the Training Programme Director, Assigned Educational Supervisor (AES), Clinical Supervisor (CS), Assessor and Trainee. Their responsibilities are described in appendix 5 and further information is given in the Gold Guide.

In the UK, the GMC's process for the recognition and approval of trainers[15] 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.

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 indicates that a trainee is able to work at an independent level, with advice from their trainer at this level

[15] GMC recognition and approval of trainers

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[7] 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 a make 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. 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. 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.

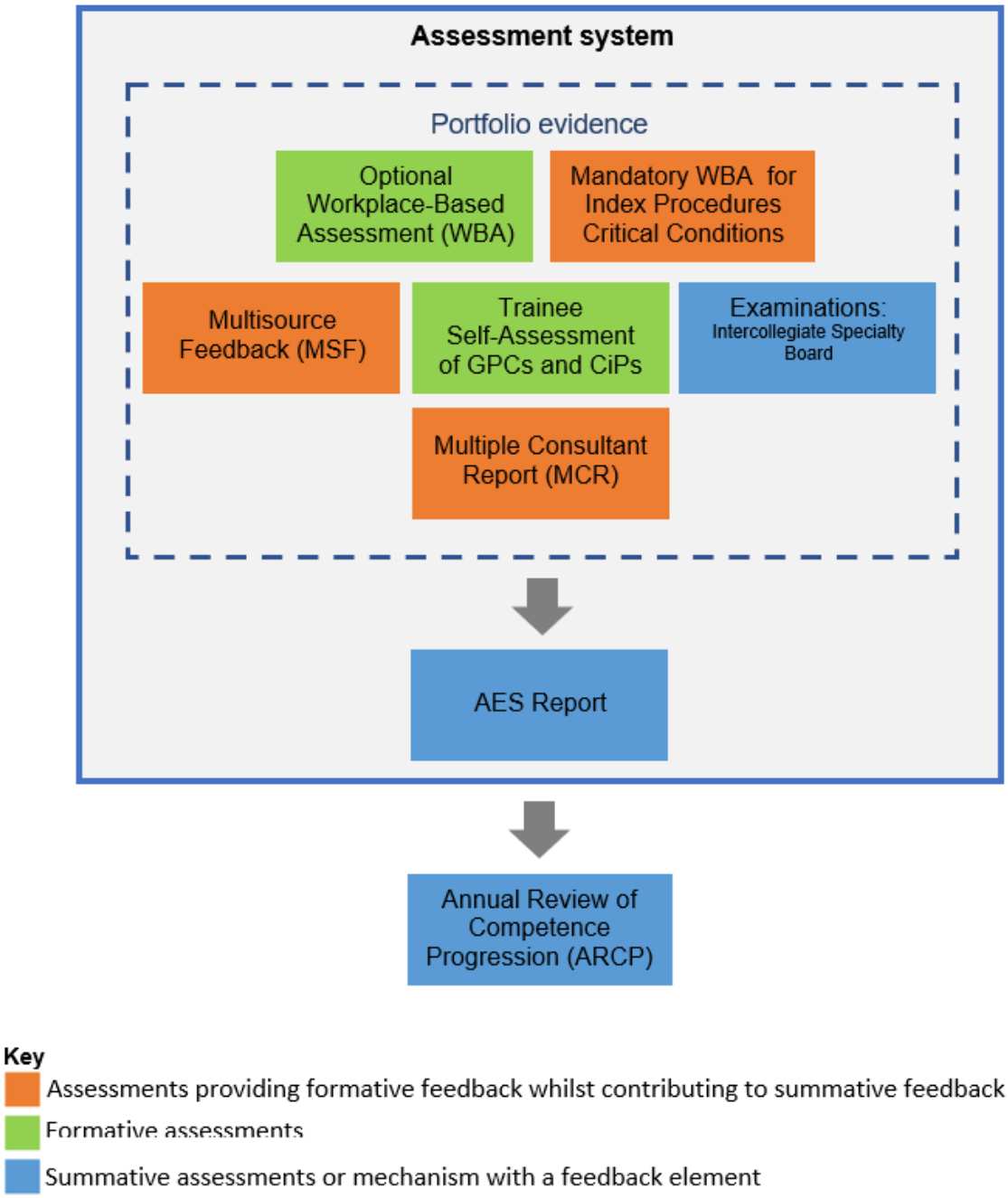

Figure 3: Assessment framework

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 ISB examination 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 an 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[16]. 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 are described below.

5.3.1 The sequence of assessment

Training and assessment take place within placements of six to twelve months' duration throughout each phase of 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 specialty examinations are undertaken towards at the higher end of the programme after satisfactory completion of phase 2. 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 phase of 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.

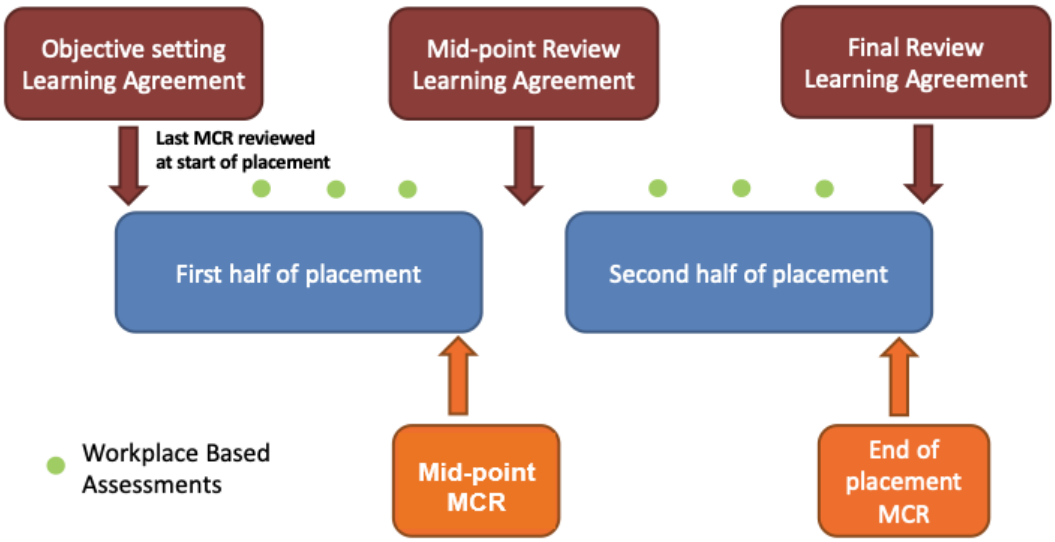

Figure 4: The sequence of assessment through a placement.

[16] 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 and these are recorded in the trainee's learning portfolio. 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 summative 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 WBA, 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 consultant practice at the standard of certification. 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 2 below. 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. Levels IV and V, shaded in grey, 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). Figures 5 and 6 show how the MCR examines performance from the perspective of the outcome of the curriculum, the day-one consultant surgeon, in the GPCs and CiPs. If not at the level required for certification the MCR can identify areas for improvement by using the CiP or GPC descriptors 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 summative 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 as level IV 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?**	**Is the trainee performing at a level beyond that expected of a day one consultant?** [c]
Supervision Level I:	Able to observe only: no execution.	no	n/a	n/a	n/a
Supervision Level IIa:	Able and trusted to act with direct supervision: The supervisor needs to be physically present throughout the activity to provide direct supervision.	yes	all aspects	throughout	n/a
Supervision Level IIb:	Able and trusted to act with direct supervision: The supervisor will need to be physically present for part of the activity. The supervisor needs to guide all aspects of the activity. This guidance may partly be given from another setting.	yes	all aspects	will be necessary for part	n/a
Supervision Level III:	Able and trusted to act with indirect supervision: The supervisor may be required to be physically present on occasions.	yes	some aspects	may be necessary for part	n/a

	The supervisor does not need to guide all aspects of the activity. For those aspects which do need guidance, this may be given from another setting.				
Supervision Level IV:	Able and trusted to act at the level of a day-one consultant.	yes	None [a,b]	None [a, b]	n/a
Supervision Level V:	Able and trusted to act at a level beyond that expected of a day-one consultant.	yes	None[a]	None [a]	yes

Table 2: MCR anchor statements and guide to recommendation of appropriate supervision level in each CiP.

a This equates to the level of practice expected of a day-one consultant in the Health Service. It is recognised that advice from senior colleagues within an MDT is an important part of consultant practice. Achievement of supervision level IV indicates that a trainee is able to work at this level, with advice from their trainer at this level being equivalent to a consultant receiving advice from senior colleagues within an MDT. It is recognised that within the context of a training system that trainees are always under the educational and clinical governance structures of the Health Service.

b Where the PBA level required by the syllabus is less than level 4 for an operative procedure, it would be expected that mentorship is sought for such procedures and this would fall within the scope of being able to carry out this activity without supervision (level IV), i.e. be a level commensurate with that of a day-one consultant.

c Achievement of this level across the entirety of an activity would be rare, although free text could describe aspects of an activity where this level has been reached.

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. If, after taking all this into account, the CSs feel the trainee is able to carry out the activity without supervision (level IV) then no further detail of this assessment is required, unless any points of excellence are noted. If the trainee requires a degree of supervision to carry out the activity then 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). Similarly, 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

1. Professional values and behaviours

Appropriate for phase | Area for development | Your comments... | Descriptors

2. Professional skills

Appropriate for phase | Area for development | Your comments... | Descriptors

3. Professional knowledge

Appropriate for phase | Area for development | Your comments... | Descriptors

4. Capabilities in health promotion and illness prevention

Appropriate for phase | Area for development | Your comments... | Descriptors

5. Capabilities in leadership and team working

Appropriate for phase | Area for development | Your comments, including your development plan for certification... | Descriptors

6. Capabilities in patient safety and quality improvement

Appropriate for phase | Area for development | Your comments, including your development plan for certification... | Descriptors

7. Capabilities in safeguarding vulnerable groups

Appropriate for phase | Area for development | Your comments... | Descriptors

8. Capabilities in education and training

Appropriate for phase | Area for development | Your comments, including your development plan for certification... | Descriptors

9. Capabilities in research and scholarship

Appropriate for phase | Area for development | Your comments, including your development plan for certification... | Descriptors

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 there 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.

Multiple Consultant Report – assessment of the CiPs

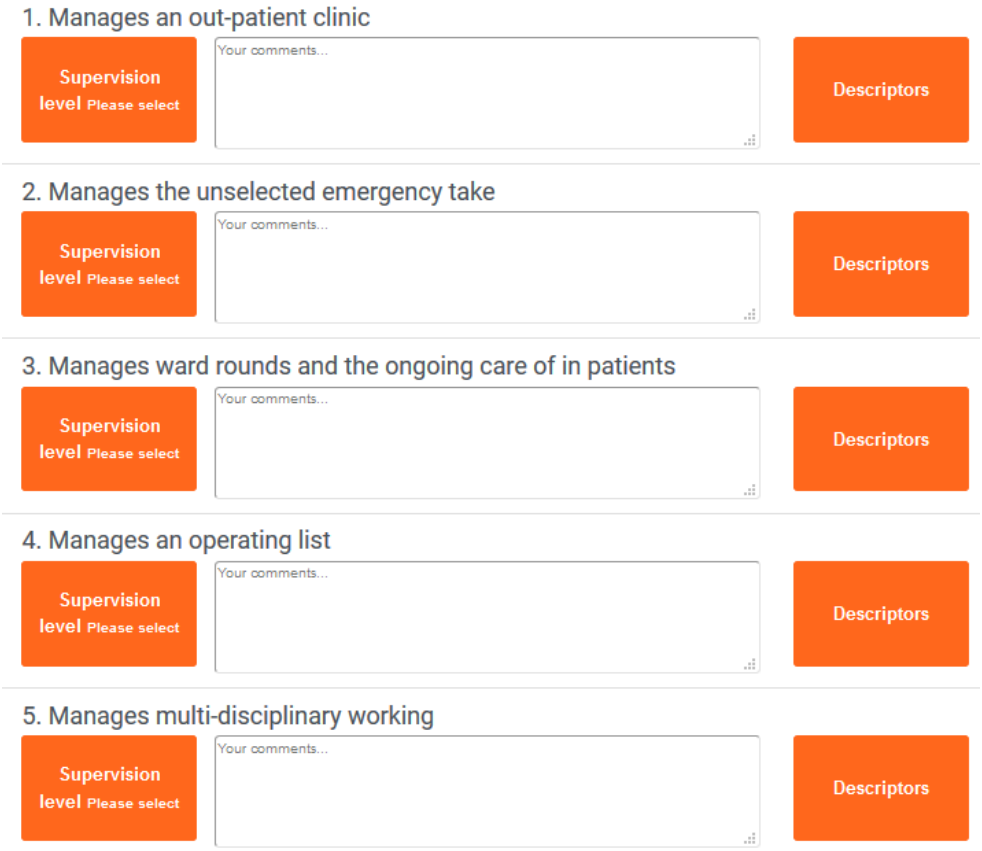

Figure 6: An example of how the CiPs are assessed through the MCR. Trainers would decide what supervision level to recommend for each of the CiPs and record this for each through the Supervision Level box. If the level recommended is IV or V then no further comment need be recorded, unless trainers wish to capture areas of particular excellence for feedback. If levels I to III are recommended, then trainers 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 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 of CiPs 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.

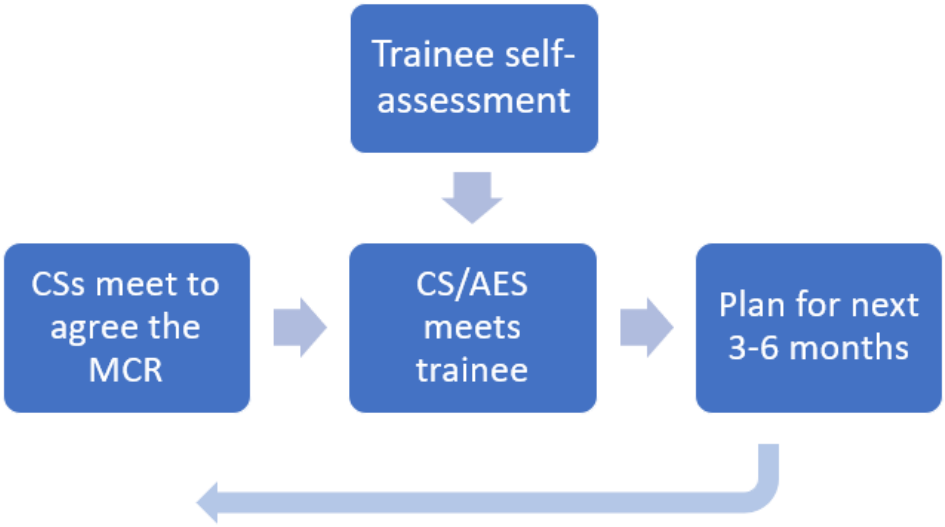

Figure 7: The iterative process of the MCR, showing the involvement of CSs, self-assessment by trainees, face to face meetings between trainees and supervisors and the development of an action plan focused on identified learning needs over the next three to six months of training. Progress against these action plans is reviewed by the 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 the speciality i.e. the critical conditions and index procedures, 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 and MCR includes the trainee's and assessor's individual 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 underperformance. As they accumulate, the WBAs for the critical conditions and index procedures 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 conditions and index procedures (see appendices 3 and 4). They may also be useful to evidence progress in targeted training where this is required e.g. for any areas of concern.

WBAs for index procedures and critical conditions 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 conditions and index procedures 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. The CBD is important for assessing the critical conditions (appendix 3). Trainees are assessed against the standard for the completion of their phase of 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 or CEX(C) is important for assessing the critical conditions (appendix 3). Trainees are assessed against the standard for the completion of their phase of training.

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, outpatient clinics and operating theatres. The procedures reflect the common and important procedures. Trainees are assessed against the standard for the completion of core surgical training.

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 procedures reflect the routine or index procedures relevant to the specialty. The PBA is used particularly to assess the index procedures (appendix 4). Trainees are assessed against the standard for certification.

Surgical logbook

The logbook is tailored to each specialty and allows the trainee's competence as assessed by the 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 with the index procedures and indicative number of PBAs defined in the curriculum.
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 (see section 7).

5.3.6 Intercollegiate Specialty Board Examination

The ISB examination is governed by the Joint Committee on Intercollegiate Examinations (JCIE, www.jcie.org.uk) on behalf of the four surgical Royal Colleges. The JCIE is served by an Intercollegiate Specialty Board in each specialty. The examination is a powerful driver for knowledge and clinical skill acquisition. It has been in existence for over twenty years and is accepted as an important, necessary and proportionate test of knowledge, clinical skill and the ability to demonstrate the behaviours required by the curriculum. The examination is taken after successful completion of phase 2 and the standard is set at having the knowledge, clinical and professional skills at the level of a day-one consultant in the generality of the specialty and must be passed in order to complete the curriculum. 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) and feeds into the same process as WBA for review by the AES and ARCP.

There are two sections to the exam:

- Section 1 is a computer-based assessment comprising two papers taken on the same day. These are both Single Best Answer (SBA) papers designed to test the application of knowledge and clinical reasoning.
- Section 2 comprises the oral examination. It consists of eight 20 minute structured clinical scenario sessions covering urological oncology, paediatric urology, emergency urology, calculi and urinary tract infections, urological imaging and principles of urological technology, bladder dysfunction and gynaecological aspects of urology, BPH and andrology.

Standard setting:

- Section 1 is standard set by the modified Angoff method with one set being added to the Angoff cut score to generate the eligibility to proceed mark. Section 1 is computer marked. Any questions identified as anomalous (possible wrong answers, negative discriminators etc.) are discussed at the standard setting meeting prior to the Angoff and, if necessary, removed.
- The Section 2 oral component is calibrated prior to the start of each diet. It is independently marked by examiners working in pairs but with reference to the marking descriptors and the standard agreed at the calibration meeting.

Feedback:

Following section 1, candidates will receive a formal letter from the Board Chair confirming the result and a Final Performance Report which shows:

Paper 1 (Single Best Answer) Score %
Paper 2 (Single Best Answer) Score %
Combined Score %

Following section 2, candidates will receive a formal letter from the Board Chair confirming the result. Unsuccessful candidates will also receive a Final Performance Report showing the mark achieved by a candidate in each of the oral sessions.

Attempts:

Trainees have a maximum of four attempts at each 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 time limit for completion of the entire examination process is seven years. Pro-rata adjustments are permissible to these timescales for LTFT trainees. Trainees in Urology become eligible to sit section 1 following an ARCP outcome 1 at the end of phase 2 of specialty training. Further details can be found at
https://www.jcie.org.uk/content/content.aspx?ID=12

5.3.7 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 training in Urology

The following requirements are applied to all trainees completing the curriculum and applying for certification and entry to the specialist register.

All seeking certification in Urology must:

a) be fully registered with the GMC and have a licence to practise (UK trainees) or be registered with the Medical Council in Ireland (Republic of Ireland trainees)
b) have successfully passed the ISB examination
c) have achieved level IV or V in all the CiPs
d) have achieved the competencies described in the nine domains of the GPC framework
e) have been awarded an outcome 6 at a final ARCP (if applying for specialist registration through certification).

In order to be awarded an outcome 6 at the final ARCP, trainees must be able satisfy the following specialty specific certification requirements:

a) Generic requirements shared between surgical specialities

Research - Trainees must provide evidence of having met the relevant requirements for research and scholarship. For UK trainees, this can be found in the GMC's GPC framework. Broadly, this includes capabilities in 4 areas: 1. The demonstration of evidence-based practice. 2. Understanding how to critically appraise literature and conduct literature searches and reviews. 3. Understanding and applying basic research principles. 4. Understanding the basic principles of research governance and how to apply relevant ethical guidelines to research activities.	
Quality Improvement - evidence of an understanding of, and participation in, audit or service improvement as defined in the curriculum	Trainees must complete or supervise an indicative number of three audit or quality improvement projects during specialty training. In one or more of these, the cycle should be completed.
Medical Education and Training - evidence of an understanding of, and participation in, medical education and training as defined in the curriculum	Trainees must provide evidence of being trained in the training of others and present written structured feedback on their teaching uploaded to the ISCP portfolio.
Management and Leadership - evidence of an understanding of management structures and challenges of the health service across relevant health services and the variations between nations	Trainees must provide evidence of training in health service management and leadership and having taken part in a management related activity e.g. rota administration, trainee representative, membership of working party etc. or of having shadowed a management role within the hospital.

b) Requirements specific to Urology

Additional courses / qualifications - evidence of having attended specific courses/gained specific qualifications as defined in the curriculum	
Clinical experience - evidence of the breadth of clinical experience defined in the specialty syllabus, and experience in one specialty interest.	To ensure opportunities to acquire the breadth of curricular competencies in a variety of learning environments and cultures, trainees should, where geographically possible, complete a training programme that includes rotation through multiple units or sites. This recognises the importance of an ability to constructively compare different approaches to delivering surgical patient care and work-based cultures. Specialty training posts should be compliant with the JCST/SAC Urology Qis. Clinic templates should usually conform to Urology UK guidelines as detailed in BAUS job planning guidance. Trainees must have participated in on-call rotas and managed emergency cases during their training. Trainees should have experience in and have rotated through placements in areas of interest across the range of Female, functional and reconstructive urology, andrology and infertility, endurology, oncology and paediatric urology. Trainees should demonstrate competence in one area of special interest as defined in this curriculum.
Operative experience - consolidated logbook with evidence of the breadth of operative experience defined in the urology syllabus	Trainees must be competent in the management of, and procedures allied to, emergency care.
Index Procedures - Index procedures are of significant importance for patient safety and to demonstrate a safe breadth of practice.	By certification there should be documented evidence of performance at the level of a day-one consultant as shown

	in appendix 4 by means of the PBA to level 4.
Critical Conditions - To ensure that trainees have the necessary skills to manage the defined critical conditions	By certification there should be documented evidence of performance at the level of a day-one consultant as shown in appendix 3 by means of the CEX or CBD to level 4.

Table 3: Requirements for completion of training in Urology: a) generic requirements shared between all surgical specialties and b) requirements specific to Urology. Attainment of these requirements contribute to evidence that outcomes of training have been met.
Once these requirements have been met, the ARCP panel may consider the award of outcome 6 having reviewed the portfolio and AES report. Award of outcome 6 allows the trainee to seek recommendation for certification and entry onto the specialist register.

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

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 for definitive treatment. Trainees are expected to apply syllabus defined knowledge and skills in straightforward and unusual cases across the breadth of the specialty across all CiPs.

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

Specialty specific requirements:

See critical conditions (appendix 3 of the curriculum)

Supervision levels:

Level I: Able to observe only

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

a) Supervisor present throughout
b) Supervisor present for part

Level III:	Able and trusted to act with indirect supervision
Level IV:	Able and trusted to act at the level expected of a day-one consultant
Level V:	Able and trusted to act at a level beyond that expected of a day-one consultant

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

Specialty specific requirements:

- See critical conditions (appendix 3 of the curriculum)

Supervision levels:

Level I: Able to observe only

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

a) Supervisor present throughout

	b) Supervisor present for part
Level III:	Able and trusted to act with indirect supervision
Level IV:	Able and trusted to act at the level expected of a day-one consultant
Level V:	Able and trusted to act at a level beyond that expected of a day-one consultant

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

Specialty specific requirements:

See critical conditions (appendix 3 of the curriculum)
Supervision levels: Level I: Able to observe only Level II: Able and trusted to act with direct supervision: a) Supervisor present throughout b) Supervisor present for part Level III: Able and trusted to act with indirect supervision Level IV: Able and trusted to act at the level expected of a day-one consultant Level V: Able and trusted to act at a level beyond that expected of a day-one consultant

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

Specialty specific requirements:

- Trainees must be competent in the management of, and procedures allied to, emergency care.
- Trainees should have at least the breadth of operative experience described in the index procedures (appendix 4 of the curriculum).

Supervision levels:

Level I: Able to observe only

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

a) Supervisor present throughout
b) Supervisor present for part

Level III: Able and trusted to act with indirect supervision

Level IV: Able and trusted to act at the level expected of a day-one consultant

Level V: Able and trusted to act at a level beyond that expected of a day-one consultant

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
Specialty specific requirements: None
Supervision levels: Level I: Able to observe only Level II: Able and trusted to act with direct supervision: a) Supervisor present throughout b) Supervisor present for part Level III: Able and trusted to act with indirect supervision Level IV: Able and trusted to act at the level expected of a day-one consultant Level V: Able and trusted to act at a level beyond that expected of a day-one consultant

WBA
Formative WBAs may be used to assess and provide feedback on any areas of clinical activity. However, other than for the critical conditions, index procedures 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 depth of knowledge during intermediate and final years surgical training
In the two phases of specialty training the following methodology is used to define the relevant depth of knowledge required of the surgical trainee. Each topic within a stage has a competence level assigned to it for knowledge ranging from 1 to 4 which indicates the depth of knowledge required:

1 - knows of
2 - knows basic concepts
3 - knows generally
4 - knows specifically and broadly

Standards for clinical and technical skills
The practical application of knowledge is evidenced through clinical and technical skills.
Each topic within a stage has a competence level ascribed to it in the area of technical skills ranging from 1 to 4:

1. Has observed
Exit descriptor; at this level the trainee:
- Has adequate knowledge of the steps through direct observation
- Demonstrates that he/she 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
Exit descriptor; 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
Exit descriptor; 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 he/she needs help
- Requires advice rather than help that requires the trainer to scrub

4. Competent to do without assistance, including complications

Exit descriptor, 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 day-one UK consultant surgeon to function
- Is capable of supervising trainees

At certification, all Urologists will be able to:

Manage the patient presenting with stone disease

- Be familiar with the presentation of stone disease
- Recognise the patient presenting with acute ureteric colic, urinary obstruction and sepsis and manage appropriately
- Manage appropriate investigation (CT, MRI and ultrasound) in such situations, involving other specialists as appropriate
- Treat straightforward ureteric stones safely and appropriately, referring more complicated cases to specialist colleagues as appropriate
- Treat straightforward bladder stones safely and effectively referring more complicated cases to specialist colleagues as appropriate
- Treat straightforward renal stones, by means of extracorporeal shock wave lithotripsy referring more complicated cases to specialist colleagues as appropriate
- Undertake appropriate metabolic assessment and treatment of straightforward urinary tract calculi

Manage the patient presenting with acute or chronic abdominal pain referable to the urinary tract

- Diagnose the underlying cause of renal pain
- Manage the patient presenting with acute or chronic loin pain
- Refer onwards to other specialists if appropriate
- Manage the patient presenting with upper urinary tract obstruction
- Be familiar with the modes of presentation of upper tract obstruction (retroperitoneal fibrosis, ureteric stricture) and manage appropriately, involving other specialists as appropriate
- Undertake cystoscopy and stenting when appropriate

Manage patients presenting with lower urinary tract symptoms (LUTS)

- Manage the patient presenting with LUTS from presentation to completion
- Manage the patient presenting with acute or chronic retention from presentation to completion
- Competently perform diagnostic cystoscopy, urodynamics, bladder neck incision and TURP using various energy sources in patients with bladder outflow obstruction
- Competently insert a suprapubic catheter, with ultrasound guidance as appropriate

Manage the patient presenting with haematuria

- Diagnose and manage the common causes of haematuria using appropriate radiological and endoscopic techniques and supervise effective resuscitation
- Competently perform diagnostic cystoscopy, bladder biopsy and TURBT in patients with bladder lesions.
- Competently evaluate and manage of patients with ureteric obstruction
- Be familiar with the indications for referral to specialist units and other colleagues for patients with muscle invasive bladder cancer

Manage the patient presenting with urethral stricture

- Evaluate and manage patients with urethral stricture and refer onwards to other specialists as appropriate
- Competently perform urethral dilatation and optical urethrotomy in patients with urethral stricture where indicated
- Competently insert a suprapubic catheter, with ultrasound guidance as appropriate

Manage urinary tract infections

- Manage pyelonephritis, renal and peri-renal abscess from presentation to completion
- Manage patients presenting with recurrent UTI from presentation to completion
- Competently diagnose, assess and manage patients with different forms of cystitis (interstitial cystitis etc) and refer onward where appropriate
- Competently diagnose, assess and manage men with different forms of prostatitis and epididymitis
- Competently diagnose, assess and manage men with different forms of gonococcal and non-gonococcal urethritis and other STDs seeking advice and onward referral as and when appropriate

Manage benign & malignant lesions of male genitalia skin

- Recognise the common benign, malignant and potentially malignant conditions of the penis, including phimosis, paraphimosis, viral lesions, squamous carcinoma and be familiar with current management protocols and their implications for early management
- Diagnose and excise, biopsy or treat conservatively common swellings of the skin and subcutaneous tissues of the penis and genitalia
- Apply straightforward plastic surgical techniques for primary wound closure
- Recognise the indications for and be able to perform a circumcision

Manage patients presenting with a scrotal swelling

- Diagnose and manage patients presenting with scrotal symptoms such as hydrocele, epididymal cyst, varicocele, post vasectomy pain, testicular torsion, abscess etc, involving other specialist colleagues appropriately
- Diagnose and initially manage neoplastic conditions of the testis and refer onwards to other specialists as appropriate
- Diagnose, assess and manage serious infections such as acute necrotising fasciitis, seeking advice and onward referral as and when appropriate
- Competently undertake surgery for benign and malignant scrotal conditions including hydrocele repair, excision of an epididymal cyst, ligation of a varicocele, treatment of testicular torsion, and to perform orchidectomy for benign and malignant indications

Manage the patient presenting with urinary incontinence

- Competently diagnose investigate and manage patients presenting with urinary incontinence
- Be able to undertake urodynamic studies, where needed, to investigate patients with urinary incontinence
- Treat straightforward patients with urinary incontinence including the provision of operative intervention including Botulinum toxin and mid-urethral tape insertion while referring more complex cases onward as and when appropriate
- Be familiar with the presentation of voiding dysfunction and incontinence in patients with neurological disease

Manage the patient with prostate cancer

- Be competent to diagnose and manage patients presenting with an elevated PSA including the provision of trans-rectal ultrasound, biopsy and MRI
- Be competent in the evaluation and management of patients with organ confined, locally advanced and metastatic prostate cancer
- Be familiar with the indications for referral to specialist units and other colleagues for patients with prostate cancer
- Be competent in performing diagnostic cystoscopy, urodynamics and TURP in patients with prostate cancer

Manage the patient with bladder cancer

- Competently diagnose, investigate and manage patients presenting with bladder cancer including the provision of cystoscopy, TURBT, intra-vesical chemotherapy etc.
- Be familiar with the indications for referral to specialist units and other colleagues for patients with locally advanced and metastatic bladder cancer

Manage the patient with renal cancer

- Competently diagnose and initially manage patients presenting with renal cancer
- Manage appropriate investigation (CT, MRI etc.) in such situations, involving other specialists as appropriate
- Be familiar with the indications for referral to specialist units and other colleagues for such patients

Manage the patient presenting with infertility, ejaculatory disorders etc.

- Competently diagnose, assess and manage couples with infertility appropriately and refer on to other specialist colleagues as necessary

Manage the patient presenting with erectile dysfunction

- Competently diagnose, assess and manage men with erectile dysfunction appropriately and refer on to other specialist colleagues as appropriate

Manage the patient presenting with penile deformity, priapism, penile fracture

- Competently diagnose, assess and manage benign penile problems (including priapism and fracture) appropriately and refer on to other specialist colleagues as required

Manage the common urological conditions of childhood

- Competently diagnose, assess and manage appropriately children presenting with urinary tract infections involving other specialist colleagues as the situation requires
- Competently diagnose, assess and manage appropriately patients presenting with the common inguinoscrotal conditions of childhood (torsion of the testis, hernia, undescended testis), phimosis, involving other specialist colleagues as the situation requires
- Be aware of the important surgical conditions of childhood, their presentation as elective and emergency cases and the indications for urgent assessment and diagnosis by specialist colleagues (e.g. acute appendicitis, intussusception, volvulus)

Manage the patient presenting with renal failure

- Competently diagnose, assess and initially manage appropriately patients presenting with renal failure / anuria, involving other specialist colleagues as the situation requires
- Understand the indications for treatment with haemodialysis or peritoneal dialysis
- Competently assess bladder function in those patients under consideration for renal transplantation

Manage the patient with multiple injuries

- Assess and resuscitate the patient with multiple injuries
- Work appropriately as part of the trauma team, participating at a level appropriate to the situation either as member or leader
- Conduct the initial management of gun-shot and other penetrating wounds involving the urinary tract, calling in other expertise as necessary
- Participate as an effective member of the major incident team as required

Manage trauma of the renal tract according to accepted protocols.

- Diagnose and manage the patient with possible injury to the urogenital tract including from blunt and penetrating renal trauma
- Diagnose, resuscitate and transfer to specialist units patients suffering from renal and other trauma calling in other expertise as necessary
- Manage ureteric injury when called upon by general surgical and gynecological colleagues

Knowledge

The syllabus for urology includes a comprehensive knowledge of all aspects of urological practice. It is expected that all trainees have a comprehensive knowledge of all subspecialty areas, irrespective of which subspecialty they choose to specialise in or which specialist modules they choose to follow in "phase 3". It is anticipated that trainees following specific specialist modules will have opportunity to develop a more in-depth appreciation of the application of this knowledge, but the knowledge component of the curriculum, as assessed by FRCS(Urol.) UK, will apply equally to all trainees irrespective of their training path.

It is anticipated that it will not be possible to provide adequate evidence of knowledge without successful completion of the FRCS(Urol) examination and other examinations will not be accepted as evidence for UK registration. Although knowledge will be assessed primarily by the FRCS(Urol.) examination, clinical supervisors and assigned education supervisors may also highlight areas of concern via the multiple consultant report.

The following is provided as a guide to the areas of knowledge that might be assessed but should not be treated as an exhaustive list. As new data and evidence emerge, these will be included in the examinations as appropriate.

Basic Science	**Level**
Anatomy	
- Detailed knowledge of abdomino-pelvic anatomy especially bony pelvis, all pelvic viscera including vascular systems, pelvic floor, pelvic side wall and the endopelvic fasciae	4
- Embryology of the genitourinary tract including development of the cloaca, intestinal tract and omentum.	4
- Neuro-anatomy of the central and peripheral nervous system as it relates to normal and abnormal bladder, urethral, bowel, pelvic floor and erectile function	4
Physiology	
- Physiology and neuro-physiology of the bladder including the basis of micturition and continence	4
- Physiology of gastrointestinal function	3
Pharmacology	
- Pharmacology of the urogenital organs	4
- Pharmacology of drugs used in the management of lower urinary tract dysfunction including adverse reactions and interactions	4
Pathology	
- Patho-physiology of urinary incontinence in women and men	4
- Patho-physiology of micturition	4
- Aetiology and patho-physiology of central and peripheral nerve conditions (congenital and acquired) and their consequence on urinary, genital, sexual l and gastrointestinal tract function	4
- Aetiology and patho-physiology of conditions which may require urinary tract reconstruction including but not limited to congenital abnormalities, genitourinary tumours, inflammatory conditions, iatrogenic injury and trauma	4
- Holistic management of neuropathic patients	4
- Patho-physiology of renal dysfunction secondary to neurogenic bladder dysfunction	4
- Patho-physiology of urinary infection in women and men including CAUTI	4
- Patho-physiology of autonomic dysreflexia	4

Urinary frequency/urgency syndrome and urinary urge incontinence	
- Clinical assessment techniques compliant with International Continence society (ICS) standards	4
- A detailed understanding of diagnosis and management of Overactive Bladder Syndrome (OAB)	4
- The role of investigative techniques including but not limited to urodynamics, imaging and endoscopy	4
- Knowledge of conservative management	
- Knowledge of pharmacological management	4
- Knowledge of invasive treatment techniques including indications, results and complications	4 4
- Knowledge of bladder management in relation to neurogenic bladder dysfunction	4
Bladder and pelvic pain syndromes	
- Classification, aetiology, pathophysiology, current terminology and differential diagnosis of bladder pain syndrome	4
- Clinical assessment techniques compliant with ICS standards.	4
- The role of investigative techniques including but not limited to urodynamics, radiological imaging and endoscopy.	4
- Knowledge of conservative management	4
- Medical and pharmacological intervention for bladder pain syndrome	4
- Knowledge of surgical management including indications, results and complications	4
Stress urinary incontinence in men and women	
- Clinical assessment techniques compliant with ICS standards.	4
- The role of investigative techniques including but not limited to urodynamics, radiological imaging and endoscopy	4
- Instigate and advise regarding conservative management techniques	4
- Surgical management including indications, results and complications	4
- Recognition and maintenance of bladder safety with regard to treatment of stress urinary incontinence in patients with neurogenic dysfunction	4
Female Urinary retention	
- Aetiology and patho-physiology of urinary retention in women	4
- Management of voiding dysfunction in women	4
- Role of Sacral Neuromodulation	4
Genito-urinary prolapse (primary and recurrent)	
- Understanding of aetiology, patho-physiology and classification of pelvic organ prolapse	4
- Understand the relationship between pelvic organ prolapse and lower urinary tract dysfunction	4
- Understanding of the relevance of neurological dysfunction in relation to pelvic floor dysfunction	4
- Understanding of indications, methods, results and complications of non-surgical management of pelvic organ prolapse	4
- Understanding of indications, results and complications of surgery for pelvic organ prolapse	4
- Surgical interventions for pelvic organ prolapse	3

Urinary fistulae	
- Aetiology, pathophysiology, presentation and complications of urinary fistulae - Knowledge of diagnostic technique - Knowledge of appropriate management including indications, results and complications - Surgical treatment of urinary fistula	4 4 4 4
Urethral diverticulum	
- Aetiology, pathophysiology, presentation and complications of urethral diverticula - Knowledge of appropriate imaging and diagnostic techniques - Knowledge of appropriate management options including indications, results and complications	4 4 4
Defaecatory disorders and other lower gastrointestinal disorders	
- Understand the techniques of assessment and treatment of anorectal disorders including: - Anorectal physiology tests (manometry, proctography and endoanal US) - Pelvic floor electromyography - Nerve conduction studies	2 2 2 2
Reconstruction of the bladder and ureter	
- Anatomy of gastrointestinal tract including vascular supply - Aetiology and pathophysiology of conditions requiring bladder and ureteric reconstruction - Techniques of assessment for bladder and ureteric reconstruction including but not limited to urodynamics, radiology and nuclear medicine techniques - Metabolic effects of urinary tract reconstruction and interposition of intestine within the urinary tract - Complications of urinary tract reconstruction including interposition of intestine within the urinary tract - Knowledge of endourological techniques relevant to urinary tract reconstruction - Knowledge of open surgical techniques applied to reconstruction of the bladder and ureter	4 4 4 4 4 4 4
Urethral reconstruction	
- Pathophysiology of congenital abnormalities including but not limited to hypospadias and epispadias - Embryology of urethra as applied to hypospadias and epispadias - Aetiology, pathophysiology and complications of urethral strictures - Pathophysiology of traumatic urethral injury - Techniques of assessment for bladder and urinary tract reconstruction including urodynamics, radiology and nuclear medicine techniques - Techniques and complications of urethral reconstruction - Knowledge of endourological techniques relevant to urethral - Knowledge of open surgery for urethral reconstruction	4 4 4 4 4 4 4 4

Management of patients with neurogenic bladder	
- Understand the effects of neurological diseases on bladder and sexual function	4
- An understanding of the investigation, diagnosis and management of patients with neurogenic bladder or sexual dysfunction	4
- Complications of neurogenic bladder dysfunction including but not limited to renal dysfunction, urosepsis and calculus formation	4
- Clinical assessment techniques according to ICS standards	4
- The role of investigations in the assessment of neurogenic bladder including but not limited to urodynamic studies, radiological imaging and endoscopy	4
- Knowledge of conservative management techniques	4
- Knowledge of surgical management techniques including indications, results and complications	4
Diagnosis and Assessment of Upper Urinary Tract Stone Disease	
- Anatomy of the renal tract, including surface anatomy	4
- Mechanisms of calcium stone formation	4
- Urinary tract infections and stones	4
- Metabolic stone disease (hypercalcaemia, uric acid, cystinuria)	4
- Pathophysiology of upper tract obstruction	4
- Symptoms and signs of acute ureteric colic	4
- Symptoms and signs of renal urolithiasis	4
- Principles of imaging modalities for urolithiasis (ultrasound/plain radiograph/computed tomography)	4
- Causes , clinical features, pathophysiology and management of upper urinary tract obstruction	4
- Investigation and management of upper urinary tract obstruction, including retroperitoneal fibrosis, malignancy and strictures	4
Acute management of ureteric colic	
- Pathophysiology of upper tract obstruction	4
- Physiology of the ureter	4
- Pharmacotherapy for ureteric colic (NSAIDs, opiates, evidence for medical expulsive therapy)	4
- Pathophysiology of sepsis	4
- Symptoms and signs of acute ureteric colic	4
- Indications for emergency renal drainage	4
Management of Renal Stones	
- Biochemical mechanisms of renal stone formation	4
- Types of renal calculi	4
- Systemic conditions predisposing to stone formation	4
- Anatomical abnormalities predisposing to stone formation	4
- Natural history of renal stones	4
- Pharmacotherapy for renal stones (uric acid and cystinuria)	4
- Principles of shockwave lithotripsy (types of generators, contra-indications, complications, basic shockwave physics)	4
- Principles of laser operation and safety	4
- Mechanisms of stone destruction by shockwave/laser	4
- Principles of percutaneous renal access	4

Assessment and Management of Bladder Stones	
- Pathophysiology of bladder stone formation (bladder outflow obstruction, neuropathic bladders, other anatomical abnormalities) - Bladder stones and UTIs - Complications of bladder stones - Urodynamic assessment of neuropathic bladder - Assessment of bladder outflow obstruction - Management of bladder outflow obstruction	4 4 4 4 4 4
Assessment and Management of lower urinary tract obstruction	
- Pathophysiology of lower urinary tract obstruction - Pathophysiology of Benign Prostatic Hyperplasia (BPH) - Assessment and management of BPH - Complications of BPH and lower urinary tract obstruction - Surgical treatment options for BPH - Classification, assessment and management of chronic prostatitis and chronic pelvic pain syndrome	4 4 4 4 4 4
Andrology and Infertility	
- Detailed anatomy and embryology of the internal and external male genitalia - Endocrine physiology, pharmacology of hormones and drugs that regulate testicular function, - Physiology of penile erection and ejaculation and ejaculatory disorders and their management - The physiology of conception - The ability to interpret semen analysis - Gross and microscopic pathology related to the genital system - Pharmacology and toxicity of commonly used drugs in andrology - The diagnosis of endocrine disorders effecting the male reproductive system (e.g. hypogonadotropic hypogonadism), azoospermia and oligozoospermia - An understanding of the common causes and treatment of male infertility - An understanding of the molecular and neurobiological mechanism of erectile function and dysfunction - Varicocele – anatomy, physiology and management - Male contraception - methods, results and complications of different forms of contraception	4 4 4 4 4 4 4 4 4 4 4 4 4

Gender-Affirming Genital Surgery	
• Relevant terminology including sex, gender, gender identity, gender incongruence and gender dysphoria and appropriate use of pronouns. • Pharmacology and effects of Gender-Affirming Hormone Therapy (GAHT) • Criteria for Gender-Affirming Genital Surgery in the UK, including the Gender Identity Clinic • Understanding of which Gender-Affirming Surgeries are available to patients seeking treatment on the NHS • Knowledge of the different surgical options available to trans gender women and associated anatomical changes	4 3 3 3 4 4 4

• Knowledge of the different surgical options available to trans gender men and associated anatomical changes • Understanding of the complications that may arise from Gender-Affirming Genital Surgery	

Urological disorders in trans gender and non-binary patients	
• Understand relevant terminology including sex, gender, gender pronouns, gender identity, gender incongruence and gender dysphoria and its impact on urological conditions • Understand investigation and management of some urological conditions may differ to the cis gender population, including UTIs, investigations for prostate cancer and endourological procedures. • Recognise urological conditions in transgender and non-binary patients which may impact future Gender-Affirming Genital Surgery, including phimosis, urological malignancy of the pelvis & external genitalia and conditions requiring orchidectomy, and to liaise with specialists in Gender Affirming Surgery regarding management regarding such conditions • Be familiar with key urological aspects of feminising Gender-Affirming Genital Surgery, including bilateral orchidectomy, vulvoplasty and vaginoplasty • Be familiar with key urological aspects of masculinising Gender-Affirming Genital Surgery, including metoidioplasty, phalloplasty, colpocleisis, scrotoplasty, testicular implants and hysterectomy & bilateral salpingoopherectomy. • Recognise urological post-operative complications of Gender-Affirming Genital Surgery, be able to implement early management where appropriate and refer onwards to specialists in Gender Affirming Surgery	4 4 4 4 4 4

Paediatric Urology	
- Embryology and anatomy of common congenital abnormalities, e.g. undescended testis, duplex systems, reflux and hydronephrosis	4
- Investigations and management of perinatal hydronephrosis	4
- Investigation and management of PUJ obstruction	4
- Investigation and management of ureteric reflux	4
- Principles of functional assessment of the genitourinary tract	4
- Basic embryology, anatomy of abnormality and natural history of intersex, spina bifida and posterior urethral valves	4
- Concise knowledge of inguino-scrotal anatomy	4
- Bacteriology of UTI in childhood	4
- Investigation and management of recurrent urinary tract infections	4
- Natural history and normal patterns of continence	4
- Assessment and management of phimosis	4
- Assessment and management of scrotal swellings in childhood	4
- Assessment and management of the acute scrotum in childhood	4
- Assessment and management of incontinence	4
- Assessment and management of voiding dysfunction	4

Transplant surgery	
- Anatomy of the retroperitoneum and the great vessels	4
- Embryology of the genitourinary tract including development of the kidney and the common variations in vascular supply to the kidney	4
- Anatomy and blood supply of the kidney, ureter and bladder	4
- Neuroanatomy as it relates to normal and abnormal bladder, urethra & pelvic floor function	4
- Arterial supply and venous drainage of the upper and lower limbs	4
- Physiology of the kidney	4
- Physiology of fluid balance	4
- Physiology of the lower urinary tract	4
- Pharmacology of drugs used in immunosuppression	4
- Pharmacology of perfusion fluids and use of diuretics	4
- Pharmacology of inotropes and blood pressure control and effects of drugs on renal blood flow	4
- HLA matching	4
- Cytotoxic cross match	4
- Rejection	4
- Immunosuppression	4
- Renal failure-causes and classification	4
- Pathophysiology of renal failure	4
- Treatment options for renal failure	4
- Indications and contraindications for kidney transplantation	4
- Indications and types of dialysis	4
- Access for dialysis	4
- Complications of dialysis	4
- Organ donation	4
- Criteria for brainstem death and circulatory death	4
- Pathophysiology of brainstem death	4
- Principles of donor management and organ preservation	4
Trauma	
- Causes, pathophysiology classification and management of renal trauma	4
- Causes, pathophysiology classification and management of ureteric trauma	4
- Causes, pathophysiology classification and management of bladder trauma	4
- Causes, pathophysiology classification and management of urethral trauma	4
- Causes, pathophysiology classification and management of genital trauma, including penile fracture	4
- Causes, pathophysiology classification and management of testicular trauma	4

Emergency urology	
- Investigation and management of acute urinary retention	4
- Investigation and management of high pressure urinary retention	4
- Investigation and management of acute renal colic	4
- Investigation and management of upper urinary tract obstruction	4
- Investigation and management of acute kidney injury	4
- Investigation and management of upper urinary tract infections, including renal abscess and pyonephrosis	4
- Investigation and management of acute scrotal swellings including scrotal infections, abscess and torsion	4
- Investigation and management of lower urinary tract infections	4
- Investigation and management of acute prostatitis and prostate abscess	4
- Investigation and management of haematuria and clot retention	4
- Investigation and management of post-operative emergencies	4
- Investigation and management of surgical injuries to the urinary tract, including accidental bladder and ureteric injury	4
- Appropriate follow-up and long-term management of urological emergencies	4
- Activation and deactivation of artificial urinary sphincter in the acute setting	4
- Identification and management of autonomic dysreflexia	4
Technology	
- Comprehensive understanding of lasers and their use in urological practice	4
- Comprehensive understanding of energy sources in urology, including those used for haemostasis	4
- Techniques of haemostasis including understanding of the physiology of haemostasis and wound healing	4
- Comprehensive understanding of radiological techniques and imaging	4
- Interpretation of radiology investigations	4
- Interpretation of laboratory investigations	4
- Surgical instruments in urology (including laparoscopy, robotic surgery, endourology)	4
- Scientific basis of optics and the application in urology	4
- Scientific basis of shock-wave technology and the application in urology	4

General principles in the management of Urological Malignancy	
- Anatomy of the urogenital tract, including surface anatomy	4
- Understand past and current systems for staging and grading cancers	4
- Understanding of tumour biology and the principles of carcinogenesis	4
- Understanding of epidemiology as applied to urological malignancy	4
- Understanding of the occupational, environmental and drug factors in tumour formation	4
- Understanding of basic immunology, tumour immunology and the principles of immunotherapy	4
- Understand the principle of cancer therapy including surgery, radiotherapy, chemotherapy, immunotherapy and hormone therapy.	4
-Understand the relevance of risk stratification as it applies to surveillance of cancer	4
- Understand the effect of ageing on the ability of patients to tolerate surgical and medical treatments	4
- Understand the effects of impaired renal function on the ability to tolerate surgical and medical treatments	4
- Understanding the post-operative complications of sepsis, thrombo-embolism, stroke and other cardiovascular events associated with prolonged complex procedures	4
- Understanding the role and importance of each member of the multi-disciplinary team	4
- Understanding of the psycho-social aspects of cancer care	4
- Understand the sexual effects of cancer and its treatment	4
- Understanding of the hospice movement and the principles and indications for end of life care	4
-Ability to competently evaluate and manage patients with ureteric obstruction	4
-Expertise in counselling patients with cancer and the management of the bereaved relative	4
- Understanding of the availability / inclusion criteria of clinical trials both those open and those recently completed	
Management of Prostate Cancer	
- Understand the principle of screening and problems of screening for prostate cancer	4
- Understand the management of patients presenting with an elevated PSA including the provision of mpMRI and biopsy	4
- Understanding the biology of prostate cancer	4
- Understand the indications for Active Surveillance and radical intervention in patients with localised cancer	4
-Knowledge of the rationale and use of hormonal agents in the treatment of prostate cancer	4
- Principles of chemotherapeutics agents used in the treatment of prostate cancer; their indications, common side effects and outcomes of treatment	4
- Understand the management of patients presenting with painful bone metastasis and the protocol for the urgent treatment of suspected spinal cord compression	4
Management of Bladder Cancer	
- Diagnose and manage the common causes of haematuria using appropriate radiological and endoscopic techniques	4
- Understanding of the use of urinary biomarkers for the diagnosis and surveillance of bladder cancer	4
- understanding of the criteria defining optimal TURBT	4
- understanding the role of intravesical therapy in the treatment of superficial bladder cancer	4
-Understand the indications for referral to specialist units for patients with muscle invasive bladder cancer	4

Management of Renal Cancer	
- Understanding the role of renal biopsy in the diagnosis of kidney cancer	4
- Understanding the role of Active Surveillance, ablation, partial and radical nephrectomy for localised disease	4
- Knowledge of hereditary kidney cancer syndromes including the role of genetic testing	4
- Understand the significance of ischaemic injury to the kidney	4
- Understand the significance of complex cystic disease of the kidney	4
- Understand paraneoplastic syndromes related to renal cancer	4
- Understand the role of lymph node dissection, caval thrombectomy, cytoreductive nephrectomy and metastectomy for advanced disease	3
- Understand the role of systemic therapy for metastatic disease	3
- Understand the role of endoscopic ablation, distal ureterectomy and nephroureterectomy for upper tract urothelial carcinoma (UTUC)	4
- Understand the role of adjuvant chemotherapy / immunotherapy in upper tract TCC	4
Management of Testicular Cancer	
- Understand the embryology and anatomy of male genitalia including lymphatic drainage	4
- Understand the pathology of the differing types of testis cancer and pre-malignant conditions	4
- Understand the role of environmental factors in testis cancer	4
- Understand the rationale for, indications, results and complications of surgery, chemotherapy and radiotherapy in the treatment of metastatic testicular cancer	4
Management of Penile Cancer	
- Understand the embryology and anatomy of the male genitalia including lymphatic drainage	4
- Understand the anatomy of the femoral triangle and upper thigh	4
- Understand the physiology of erection	4
- Recognise the common malignant and potentially malignant conditions of the penis, including phimosis, paraphimosis, viral lesions, squamous carcinoma and be familiar with current management protocols and their implications for early management	4
- Understand the use of chemotherapy for men with penile cancer	4
- Understand management of penile cancer (local, regional and metastatic)	4

Special interest modules - clinical and technical skills

During phase 3, trainees will develop expertise in their chosen Special Interest modules but will also continue to develop and refine general urology skills. Therefore, there is an expectation that competency levels will increase during Phase 3 even in specialty areas not chosen as the trainee's Special Interest.

At the end of Phase 3, trainees will be expected to reach the competencies listed under "SI" for their chosen Special Interest Module(s). They will also be expected to reach the competencies listed under "P3" for all the other modules to CCT. In the case of technical skills, it is anticipated that attaining operative skills in all procedure may not be possible. It is expected that at least 80% of the procedural competencies would be achieved by CCT in their special interest module(s). Trainees who are unable to provide evidence to the ARCP of completion of all competencies at the required level will be given targeted training with extra training time if needed but will not progress to CCT.

Modular Curriculum in General Urology

Topic	Assessment of lower urinary tract symptoms	P2	P3	SI
Objective	- Assessment and treatment of men and women with lower urinary tract symptoms			
Clinical Skills	- Clinical assessment of women and men with lower urinary tract dysfunction, including characterisation of symptoms, clinical examination and simple outpatient tests	4	4	4
	- Ability to develop logical management plan encompassing appropriate use of conservative, pharmacological and surgical options	4	4	4
Technical Skills and Procedures	- Standard urodynamic studies to investigate lower urinary tract dysfunction	2	4	4
	- Video urodynamic studies to investigate urinary tract dysfunction	1	2	3

Topic	Management of urological infections	P2	P3	SI
Objective	- Assessment and treatment of men and women with urological infections			
Clinical Skills	- Management of complex urinary tract infections (eg in the context of abnormal urinary tract, bladder outflow obstruction, chronic retention) and infections in men	3	4	4
	- Management of recurrent UTI in women (investigation and treatment)	3	4	4

Topic	Upper Urinary Tract Obstruction and stones	P2	P3	SI
Objective	- Assessment and treatment of men and women with upper urinary tract obstruction and stones			
Clinical Skills	- Assessment and diagnosis of renal obstruction - Determine the optimum management of upper urinary tract stones - Medical management of urinary tract stones (including metabolic evaluation)	4 3 2	4 3 3	4 4 4

Topic	Management of Benign Prostatic Hyperplasia	P2	P3	SI
Objective	- Assessment and treatment of men and women with lower urinary tract symptoms			
Clinical Skills	- Assessment of male lower urinary tract symptoms - Advise on the suitability of alternative interventional procedures for the management of BPH	4 3	4 3	4 4
Technical Skills and Procedures	- TURP - Complex catheterisation techniques - At least one other surgical treatment for BPH (eg laser enucleation, vaporisation treatments, prostate implant systems, prostate injections, other energy systems)	3 3 1	4 4 2	4 4 4 *

* SI trainees will develop at least one treatment for BPH (in addition to TURP) to level 4

Topic	Erectile dysfunction and hypogonadism	P2	P3	SI
Objective	- Assessment and treatment of men with erectile dysfunction and hypogonadism			
Clinical Skills	- Evaluation and simple medical management of erectile dysfunction - Advise on the management of refractory erectile dysfunction (including Vacuum Therapy Devices VTDs, injection therapy and penile implant)	4 3	4 3	4 4
Technical Skills and Procedures	- Perform and teach injection treatments for ED - Counsel and instruct patients on the use of VTDs	1 2	3 2	4 4

Topic	Female, Functional and Reconstructive Urology	P2	P3	SI
Objective	- Assessment and treatment of men and women with lower urinary tract symptoms, including neuropathic bladder			
Clinical Skills	- Advise on the management of women with incontinence - Optimum management of the neuropathic bladder	4 3	4 3	4 4
Technical Skills and Procedures	- Standard multichannel urodynamics - Video urodynamics - Cystoscopic injections of botulinum toxin - Operations for stress incontinence	2 1 2 1	4 2 3 2	4 2 4 3*

* SI trainees will develop at least one treatment for stress incontinence to level 3

Topic	Emergency Urology	P2	P3	SI
Objective	- Assessment and treatment of urological emergencies in men and women			
Clinical Skills	- Manage the acute urology on-call including assessment of patients and initial management	4	4	4
	- Definitive management of urological emergencies	3	4	4
Technical Skills and Procedures	- Cystoscopic bladder washout	4	4	4
	- Orchidopexy and/or orchiectomy for testicular torsion	4	4	4
	- Reduction of paraphimosis, including dorsal slit	4	4	4
	- Debridement of Fournier's gangrene	3	4	4
	- Repair of bladder injury *	2	3	3
	- Repair of ureteric injury *	2	3	3
	- Reimplantation of ureter *	2	3	3
	- Complex catheterisation	3	4	4
	- Insertion of suprapubic catheter	3	4	4

*Competency in emergency reconstructive procedures may be demonstrated by experience of the specified procedures, or by simulation courses, or by other procedures with transferable skills (eg ileal conduit competency at level 3 is regarded as a surrogate for ureteric repair / reimplantation)

Modular curriculum in Female, Functional and Reconstructive Urology

Topic	Assessment of lower urinary tract symptoms	P2	P3	SI
Objective	- To develop advanced skills in the assessment and treatment of men and women with urinary and genital tract dysfunction including that arising as a consequence of neurological disease. - To develop advanced skills in lower urinary tract reconstruction			
Clinical Skills	- Clinical assessment of women and men with lower urinary tract dysfunction, including characterisation of symptoms, clinical examination and simple outpatient tests	4	4	4
	- Understanding the place of invasive investigations such as cystoscopy and invasive urodynamics in the assessment of such patients.	3	4	4
	- Ability to develop logical management plan encompassing appropriate use of conservative, pharmacological and surgical options.	3	4	4
	- Ability to counsel patients regarding treatment options	4	4	4
	- Appropriate use of pharmacological agents, knowledge of common side effects, interactions and contra-indications	4	4	4
	- Determine appropriate management of patient with unsafe high pressure bladder	4	4	4
	- Liaison with the multidisciplinary team	3	4	4
	- Can run the specialist female urology MDT			4
Technical Skills and Procedures	- Standard urodynamic studies to investigate lower urinary tract dysfunction	3	4	4
	- Video urodynamic studies to investigate urinary tract dysfunction.	1	2	4

Topic	Management of overactive bladder and urge incontinence	P2	P3	SI
Objective	- To develop advanced skills in the assessment and treatment of men and women with urinary and genital tract dysfunction including that arising as a consequence of neurological disease. - To develop advanced skills in lower urinary tract reconstruction			
Clinical Skills	- Determine appropriate management of patients with resistant overactive bladder	4	4	4
Technical Skills and Procedures	- Cystoscopy and injection Botulinum toxin	2	3	4
	- Augmentation and substitution cystoplasty		1	2
	- Sacral neuromodulation		2	3
	- Ileal conduit formation *	1	2	3
	- Simple cystectomy	1	1	2

* ileal conduit may not always be deliverable in programs. If not available, then adequate competency in reconstructive techniques such as ureteric repair and/or reimplantation must be demonstrated through either work-based assessments in these procedures, or by an appropriate simulation course.

Topic	Bladder and pelvic pain syndromes	P2	P3	SI
Objective	- To develop advanced skills in the assessment and treatment of men and women with urinary and genital tract dysfunction including that arising as a consequence of neurological disease. - To develop advanced skills in lower urinary tract reconstruction			
Clinical Skills	- Determine appropriate management of patients with bladder and pelvic pain	3	4	4
Technical Skills and Procedures	- Cystoscopic assessment painful bladder - Augmentation and substitution cystoplasty - Simple cystectomy - Ileal conduit diversion*	3 1 1	4 1 2 3	4 2 2 3

* ileal conduit may not always be deliverable in programs. If not available, then adequate competency in reconstructive techniques such as ureteric repair and/or reimplantation must be demonstrated through either work-based assessments in these procedures, or by an appropriate simulation course.

Topic	Neuropathic bladder	P2	P3	SI
Objective	- To develop advanced skills in the assessment and treatment of men and women with urinary and genital tract dysfunction including that arising as a consequence of neurological disease. - To develop advanced skills in lower urinary tract reconstruction			
Clinical Skills	- Determine appropriate safe management of patients with neuropathic bladder - Determine optimum long-term management of patients with neuropathic bladder, including management of incontinence, emptying, infections, renal function and bowel management	4 2	4 3	4 4
Technical Skills and Procedures	- Cystoscopy and injection Botulinum toxin - Augmentation and substitution cystoplasty - Sacral neuromodulation - Ileal conduit formation* - Simple cystectomy - suprapubic catheterisation - artificial urinary sphincter	2 1 1 1 4 1	3 1 2 2 1 4 1	4 2 3 3 2 4 3

* ileal conduit may not always be deliverable in programs. If not available, then adequate competency in reconstructive techniques such as ureteric repair and/or reimplantation

must be demonstrated through either work-based assessments in these procedures, or by an appropriate simulation course.

Topic	Stress urinary incontinence in men and women	P2	P3	SI
Objective	- To develop advanced skills in the assessment and treatment of men and women with urinary and genital tract dysfunction including that arising as a consequence of neurological disease. - To develop advanced skills in lower urinary tract reconstruction			
Clinical Skills	- Determine appropriate management of patients with stress urinary incontinence	4	4	4
Technical Skills and Procedures	- Midurethral sling insertion - Injection of bulking agents - Colposuspension or Autologous fascial sling - Artificial urinary sphincter	2 2 1 1	2 2 1 1	3 4 3 2

Topic	Female Urinary retention	P2	P3	SI
Objective	- To develop advanced skills in the assessment and treatment of men and women with urinary and genital tract dysfunction including that arising as a consequence of neurological disease. - To develop advanced skills in lower urinary tract reconstruction			
Clinical Skills	- Determine appropriate management of women with voiding dysfunction and urinary retention	4	4	4
Technical Skills and Procedures	- suprapubic catheterisation - sacral neuromodulation - Mitrofanoff formation	4 1	4 2	4 3 1

Topic	Genito-urinary prolapse (primary and recurrent)	P2	P3	SI
Objective	- To develop advanced skills in the assessment and treatment of men and women with urinary and genital tract dysfunction including that arising as a consequence of neurological disease. - To develop advanced skills in lower urinary tract reconstruction			
Clinical Skills	- Detailed assessment of pelvic organ prolapse including staging - Ability to select and advise suitable conservative treatments - Ability to select and advise regarding surgical treatment options	3 3 2	3 3 2	4 4 3
Technical Skills and Procedures	- Insertion and removal of pessaries - Anterior and posterior repair - Vaginal hysterectomy	1 1	1 1	3 2 1
Topic	Urinary fistulae	P2	P3	SI

Objective	- To develop advanced skills in the assessment and treatment of men and women with urinary and genital tract dysfunction including that arising as a consequence of neurological disease. - To develop advanced skills in lower urinary tract reconstruction			
Clinical Skills	- Appropriate assessment of urinary fistulae - Ability to advise regarding the suitability of surgery - Ability to determine appropriate management of patient with urinary fistula	2 2 2	3 2 3	4 4 4
Technical Skills and Procedures	- Repair vesicovaginal fistula - Martius flap	1 1	1 1	2 2

Topic	Urethral diverticulum	P2	P3	SI
Objective	- To develop advanced skills in the assessment and treatment of men and women with urinary and genital tract dysfunction including that arising as a consequence of neurological disease. - To develop advanced skills in lower urinary tract reconstruction			
Clinical Skills	- Appropriate clinical assessment and investigation of urethral diverticulum	2	3	4
Technical Skills and Procedures	- Surgical excision urethral diverticulum - Martius flap	1 1	1 1	2 2

Topic	Reconstruction of the bladder and ureter	P2	P3	SI
Objective	- To develop advanced skills in the assessment and treatment of men and women with urinary and genital tract dysfunction including that arising as a consequence of injury to the urinary tract. - To develop advanced skills in lower urinary tract reconstruction			
Clinical Skills	- Appropriate assessment of patients requiring urinary tract reconstruction - Be able to advise on the surgical and non-surgical options and the appropriateness of surgery - Management of post-operative consequences of urinary tract reconstruction and interposition of intestine within the urinary tract	3 3 3	3 3 3	4 4 4
Technical Skills and Procedures	- Ureteric anastomosis - Ureteric reimplantation - Psoas hitch - Boari flap	1 1 1 1	3 3 3 3	3 3 3 3

Topic	Urethral reconstruction	P2	P3	SI
Objective	- To develop advanced skills in the assessment and treatment of men and women with urinary and genital tract dysfunction including that arising as a consequence of neurological disease. - To develop advanced skills in lower urinary tract reconstruction			
Clinical Skills	- Appropriate clinical assessment of men with urethral strictures including investigative selection and interpretation - Be able to advise on the surgical options and the appropriateness of surgery	3 3	4 4	4 4
Technical Skills and Procedures	- Optical urethrotomy - Harvesting buccal mucosa graft - Bulbar anastomotic urethroplasty - Single stage substitution urethroplasty using flaps and grafts - Two stage buccal graft urethroplasty - Pelvic fracture urethral reconstruction	3 1 1	4 1 1	4 2 2 1 1 1

Modular Curriculum in Endourology

Topic	Diagnosis and Assessment of Upper Urinary Tract Stone Disease and obstruction (Renal and Ureteric stones)	P2	P3	SI
Objective	- To develop advanced skills in the management of patients with urinary tract stone disease - To develop advanced skills in the management of upper urinary tract obstruction and other conditions of the upper urinary tract			
Clinical Skills	- Clinical assessment of patients with suspected urolithiasis, including history, clinical examination and simple outpatient tests - Interpretation of urinary biochemistry - Knowledge of usage & interpretation of imaging including plain films (KUB), ultrasonography, CT scans, Mag3/DMSA renography - Administration of appropriate analgesia to a patient presenting with renal colic - Selection of initial imaging modality - Assessment of the recurrent stone former - Assessment of upper urinary tract obstruction not caused by stones, including PUJ obstruction, retroperitoneal fibrosis, malignancy, stricture disease	4 3 3 4 4 3 4	4 3 4 4 4 3 4	4 4 4 4 4 4 4
Technical Skills and Procedures	- retrograde pyelogram	4	4	4

Topic	Acute management of ureteric colic and upper urinary tract obstruction	P2	P3	SI
Objective	- To develop advanced skills in the management of patients with urinary tract stone disease - To develop advanced skills in the management of upper urinary tract obstruction and other conditions of the upper urinary tract			
Clinical Skills	- Analgaesia and fluid resuscitation of the patient with acute ureteric colic - Recognition of the patient requiring immediate treatment including obstructed infected kidney, solitary kidney or bilateral stones, declining renal function, intractable pain - Conservative management and follow-up of a patient with a small ureteric stone - Treatment of a patient with a ureteric stone >10mm, including decisions regarding timing of treatment. - Formulate treatment plan for upper urinary tract obstruction not caused by stones, including PUJ	4 4 4 3 4	4 4 4 4 4	4 4 4 4 4

	obstruction, retroperitoneal fibrosis, malignancy, stricture disease			
Technical Skills and Procedures	- Cystoscopy, retrograde pyelography and insertion of ureteric stent - Semi-rigid ureteroscopy (lower 1/3) and lasertripsy - Semi-rigid ureteroscopy (upper 2/3) and lasertripsy - Flexible ureterorenoscopy - Shockwave lithotripsy - Endopyelotomy - Ureteric dilatation	4 3 3 2 2 2	4 4 3 3 2 1 3	4 4 4 4 4 2 4

Topic	Management of Renal Stones	P2	P3	SI
Objective	To develop advanced skills in the management of patients with urinary tract stone disease			
Clinical Skills	- Conservative management and follow-up of patients with renal stones (case selection, mechanisms of follow-up) - Medical management of patients with cystinuria - Medical therapy for uric acid stones - Counselling of patients requiring surgical treatment of renal stones (SWL vs ureteroscopy vs PCNL) - Treatment planning in stone MDT	4 3 3 3 3	4 3 3 4 3	4 4 4 4 4
Technical Skills and Procedures	- Cystoscopy, retrograde pyelography and insertion of ureteric stent - Flexible ureterorenoscopy - Shockwave lithotripsy - Percutaneous nephrolithotomy (with or without access)	4 2 2 2	4 3 2 2	4 4 3 4

Topic	Assessment and Management of Bladder Stones	P2	P3	SI
Objective	To develop advanced skills in the management of patients with urinary tract stone disease			
Clinical Skills	- Assessment of patients with bladder outflow obstruction including flow rate, post void residual assessment, urodynamics - Use of urodynamic assessment of patients with neuropathic bladder - Counselling of patients requiring surgical treatment of bladder stones - Management of concurrent bladder outflow obstruction	4 4 4 4 4	4 4 4 4 4	4 4 4 4 4

	- Treatment planning, particularly those with anatomical abnormalities/ neuropathic bladder			
Technical Skills and Procedures	Endoscopic fragmentation of bladder calculus Percutaneous cystolithotomy (PCCL) Open cystolithotomy Bladder outflow procedures (BNI,TURP etc)	3 2 2 3	4 2 3 4	4 3 3 4

Modular Curriculum in Andrology and Infertility

Topic	Male Infertility	P2	P3	SI
Objective	- To develop advanced skills in the assessment and treatment of patients with male factor infertility			
Clinical Skills	- The diagnosis of endocrine disorders (e.g. hypogonadotrophic hypogonadism), azoospermia and oligozoospermia - Ability to diagnose and discuss treatment options available for varicocoele - Ability to advise on fertility control and family planning - The ability to interpret endocrine laboratory diagnostic procedures - The management of endocrine disorders - The management of azoospermia and oligozoospermia	4 4 4 3 3 3	4 4 4 3 3 3	4 4 4 4 4 4
Technical Skills and Procedures	- Vasectomy - Exposure and experience in varicocoele ligation - Surgical sperm retrieval (PESA, TESA, TESE, Micro-TESE)	4 1 1	4 3 2	4 3 3

Topic	Erectile Dysfunction (ED)	P2	P3	SI
Objective	- To develop advanced skills in the assessment and treatment of patients with benign disease of male sexual dysfunction			
Clinical Skills	- Medical management of ED	4	4	4
	- Expertise in the recognition and diagnosis of psychological disorders in ED	4	4	4
	- Assessment and management of cardiovascular risk in erectile dysfunction	4	4	4
	- The diagnosis of pituitary, central nervous system disease relating to erectile dysfunction	4	4	4
	- The diagnosis and management of testicular disease relating to erectile dysfunction	4	4	4
	- The management of endocrine disorders relating to erectile dysfunction, including testosterone therapy and late onset hypogonadism	3	4	4
	- Management and treatment of erectile dysfunction using intracavernosal therapy, intraurethral therapy, topical and vacuum devices	4	4	4
	- Ability to counsel patients about the use of penile prostheses for the management and treatment of erectile dysfunction	2	2	4
	- Penile fracture – assessment and emergency management	4	4	4
	- Techniques and ability to interpret Nocturnal penile tumescence and penile doppler studies, MRI, cavernosography/cavernosometry and arteriography of the penis.	2	2	4
Technical Skills and Procedures	- Surgical treatment of penile fracture	2	3	4
	- Perform and teach injection therapy for ED	1	3	4
	- Counsel and instruct patients on the use of VED	2	2	4
	- Insertion of penile prosthesis	1	2	3

Topic	Ejaculatory Dysfunction	P2	P3	SI
Objective	- To develop advanced skills in the assessment and treatment of patients with benign disease of male sexual dysfunction			
Clinical Skills	- Understanding of the common causes of ejaculatory disorders	4	4	4
	- Competence in the diagnosis and management of disorders of ejaculation and orgasm	4	4	4

Topic	Peyronie's Disease (PD)	P2	P3	SI
Objective	- To develop advanced skills in the assessment and treatment of patients with benign disease of male sexual dysfunction			
Clinical Skills	- Understanding of the presenting features, clinical findings and natural history of Peyronie's disease	4	4	4
	- Make a reliable assessment of penile curvature and other features of PD	4	4	4
	- An understanding of the available medical, mechanical, injectable and surgical treatment options for PD	4	4	4
	- Competency in the counselling and use of mechanical devices for PD	4	4	4
	- An ability to appropriately dose and perform intra-cavernosal injections as part of the assessment of PD	1	3	4
	- The ability to select and counsel patients for the various treatment options for PD listed above including penile prosthesis	3	3	4
Technical Skills and Procedures	- To perform a simple penile straightening procedure) for dorso-lateral penile curvatures	2	2	4

Topic	Penile Enlargement, reconstruction and Phalloplasty	P2	P3	SI
Objective	- To develop advanced skills in the assessment and treatment of patients with benign disease of male sexual dysfunction			
Clinical Skills	- To assess the patient complaining of a small/micropenis penis, make a full assessment, refer to normal reference ranges, and perform appropriate counselling	4	4	4
	- To counsel patients with micro-penis, penile loss or gender identity disorder as to the available management strategies and surgical procedures for reconstruction.	3	3	4
	- An awareness of penile reconstruction utilizing reconstructive techniques including phalloplasty, the techniques involved, and the typical outcomes and complication rates.	3	3	4

Topic	Priapism	P2	P3	SI
Objective	- To develop advanced skills in the assessment and treatment of patients with benign disease of male sexual dysfunction			
Clinical Skills	- To be able to undertake an appropriate and focused history and examination and arrange appropriate investigations and treatment. - To be able to discuss treatment options with patients suffering refractory ischaemic priapism and have an understanding of the optimum timing of treatment including medical treatments, shunts and the role of penile prosthesis insertion.	4 3	4 3	4 4
Technical Skills and Procedures	- To perform a distal (Winter) shunt	2	2	4

Modular Curriculum in Paediatric Urology

Topic	Paediatric urology	P2	P3	SI
Objective	- Assessment and treatment of urological conditions in childhood			
Clinical Skills	- Diagnosis and management of scrotal swellings	3	4	4
	- Diagnosis and management of phimosis	3	4	4
	- Diagnosis and management of enuresis	3	3	4
	- Diagnosis and management of UTI	3	3	4
	- Diagnosis and management Spina bifida and intersex	3	3	3
	- Appropriate assessment and management of children with hypospadias	3	3	4
	-Management of urinary tract obstruction in childhood including Pelvi- ureteric junction obstruction (PUJ) vesicoureteric junction (VUJ) obstruction and posterior urethral valves	3	3	4
	-Management of incontinence in childhood including neuropathic incontinence	3	3	4
	- Appropriate use of commonly used drugs recognising common side effects, interactions and contra-indications	3	3	4
Technical Skills and Procedures	- Paediatric circumcision	2	3	4
	- Orchidopexy (for undescended testis – palpable)	2	2	4
	- Orchidopexy (for undescended testis – impalpable)	2	2	3
	- Orchidopexy (for testicular torsion)	3	4	4
	- Surgical management of scrotal swellings	2	2	4
	- Patent Processus Vaginalis	2	2	4
	- Surgery for hypospadias	2	2	2
	- Suprapubic catheter insertion	2	2	4

Modular Curriculum in Urological Oncology

Topic	Urological Cancers	P2	P3	SI
Objective	- Assessment and treatment of urological cancers in men and women			
Clinical Skills	- Application of cancer guidelines for the diagnosis and surveillance of bladder cancer	3	4	4
	- Use of adjuvant treatments for superficial bladder cancer	3	4	4
	- Decision making in high-risk bladder cancer	3	3	4
	- Application of cancer guidelines for prostate cancer	3	3	4
	- Management of raised PSA, including in elderly patients	3	3	4
	- Management of metastatic prostate cancer	3	3	4
	- Management of active surveillance for prostate cancer	3	3	4
	- Application of cancer guidelines for renal cancer	3	3	4
	- Application of cancer guidelines for testicular cancer	3	3	4
	- Application of cancer guidelines penile cancer	3	3	4
	- Clinical demonstration of familiarity with one-stop clinics and pathways *	3	3	4

* can be evidenced by a relevant course, reflective writing, CBDs or AES reports

Topic	Management of Prostate Cancer	P2	P3	SI
Objectives	- To develop advanced skills in the assessment and treatment of men with prostate cancer			
Clinical Skills	- Clinical assessment of patients with suspected prostate cancer, including history, clinical examination and PSA	4	4	4
	- Knowledge of usage & interpretation of imaging including mpMRI, ultrasonography, CT scans, Bone scans and PET/CT scans	4	4	4
	- Formation of a management plan after discussion at an MDT	3	4	4
	- Formation of a relevant follow-up plan including location of follow-up	4	4	4
	- Assessment of the patient with recurrent / metastatic disease	4	4	4
Technical Skills and Procedures	- Transrectal ultrasound and biopsy	4	4	4
	- Transperineal ultrasound guided biopsy	2	4	4
	- Radical prostatectomy	1	2	3

Topic	Management of Bladder Cancer	P2	P3	SI
Objectives	- To develop advanced skills in the assessment and treatment of men with bladder cancer			
Clinical Skills	-Ability to be run a diagnostic haematuria clinic - Knowledge of usage & interpretation of imaging including mpMRI, ultrasonography, CT scans, Bone scans and PET/CT scans - Formation of a management plan after discussion at an MDT - Confidence in counselling complex patients • with HRNMIBC about treatment options including radical cystectomy • with MIBC about neoadjuvant chemotherapy, radical cystectomy and radical radiotherapy • with metastatic disease	3 3 3 2 2 2	4 4 4 3 3 3	4 4 4 4 4 4
Technical Skills and Procedures	- Treatment of small bladder tumour recurrences using LA flexible cystoscopy - TURBT - ileal Conduit - Radical cystectomy - Urethrectomy - Formation of neobladder	4 4 1 1 1 1	4 4 2 2 2 2	4 4 3 3 2 2

Topic	Management of Renal Cancer	P2	P3	SI
Objectives	- To develop advanced skills in the assessment and treatment of men with renal cancer			
Clinical Skills	- Assessment of patient presenting with a renal mass - Knowledge of usage & interpretation of imaging including mpMRI, ultrasonography, CT scans, Bone scans and PET/CT scans - Formation of a management plan after discussion at an MDT	4 4 3	4 4 4	4 4 4
Technical Skills and Procedures	-Diagnostic ureteroscopy and endoscopic ablation (UTUC) - Lap Nephrectomy - Open Radical Nephrectomy - Partial nephrectomy - Nephroureterectomy (UTUC) - Distal ureterectomy	3 1 1 1 1 1	4 2 2 2 2 2	4 3 3 3 3 3

Topic	Management of Testicular Cancer	P2	P3	SI
Objectives	- To develop advanced skills in the assessment and treatment of men with testicular cancer			
Clinical Skills	- Appropriate assessment of patients with testicular swelling including radiological assessment and the use of molecular markers - Appropriate regard for future fertility prospects	4 4	4 4	4 4

	- Appropriate management of testicular cancer and other scrotal tumours - Formation of a management plan after discussion at an MDT	4 3	4 4	4 4
Technical Skills and Procedures	- Radical orchidectomy - Insertion of testicular prosthesis - RPLND	4 4	4 4 1	4 4 2

Topic	Management of Penile Cancer	P2	P3	SI
Objectives	- To develop advanced skills in the assessment and treatment of men with penile cancer			
Clinical Skills	- Appropriate assessment of patients with penile cancer including radiological assessment - Formation of a management plan following discussion at an MDT meeting The recognition and classification of pre-malignant and malignant lesions of the penis including PeIN -The ability to manage common non-cancer penile lesions including PeIN - An understanding of the risk factors,aetiopathogenesis, signs and symptoms, natural history and treatment options for penile cancer - Understand the common preliminary investigations required for penile cancers - Be able to stage penile cancers using a combination of clinical and radiological assessment - Understand in detail the various treatment options available for each stage of penile cancer including penile conservation surgery, penectomy and lymphadenectomy - An understanding of the surgical procedures used for both penile and lymph node surgery including sentinel node biopsy. -An understanding of the role of adjuvant and neoadjuvant therapies in men with penile cancer	3 3 3 4 3 3 3 3	3 3 3 4 3 3 3 3	4 4 4 4 4 4 4 4
Technical Skills and Procedures	- Circumcision and penile biopsy - Partial penectomy - Glansectomy and skin grafting - Total penectomy - Inguinal lymph node block dissection - Sentinel lymph node biopsy - Pelvic lymph node dissection (incl. laparoscopic)	4 1 1 1 1 1	4 2 2 2 2 2 1	4 4 3 4 2 3 1

Critical Conditions – Urology

The list of critical conditions covers a range of conditions where misdiagnosis or mismanagement can result in devastating consequences for life or limb. These critical conditions can be assessed individually by means of the Case Based Discussion (CBD) and Clinical Evaluation Exercise (CEX), which both include an assessment of clinical judgement and decision-making.

Trainees are expected to complete CBDs or CEX in each of the critical conditions to level 4 by certification.

Critical Condition	Phase 2 Competency level (indicative)	Phase 3 Competency Level
Renal Trauma	3	4
Iatrogenic bladder injury	3	4
Iatrogenic ureteric injury	3	4
Septic or shocked patient including infected obstructed kidney	3	4
High Pressure Chronic Retention	3	4
Penile emergency – priapism or fracture	3	4
Acute scrotum/torsion	3	4
Ureteric obstruction	3	4
Pelvic fracture & urethral injury	3	4
Fournier's Gangrene	3	4
TUR syndrome	3	4
Post TURP Bleeding	3	4
Spinal cord compression/injury/cauda equina including autonomic dysreflexia	3	4
The Acute Abdomen (to include PID, appendicitis, AAA, obstructed hernia)	3	4

CEX/CBD levels:

- Level 3: Appropriate for central period of specialty training
- Level 4: Appropriate for certification

(see CBD/CEX forms for the full list of levels)

Appendix 4: Index Procedures

The index procedures are of significant importance for patient safety and to demonstrate a safe breadth of practice. Trainees are expected to demonstrate the experience and competencies as follows:

- Phase 2: An indicative number of 4 PBAs at the appropriate level from at least two assessors
- Phase 3 (by certification) : An indicative number of 9 PBAs at the appropriate level from at least three assessors
- Special Interest (by certification): An indicative number of 4 PBAs at the appropriate level from at least two assessors

Procedure	Phase 2 Indicative PBA competency level	Phase 3 PBA competency level for certification
Urodynamics	4	4
TRUS/transperineal Biopsy	3	4
LUTS Procedures inc TURP	3	4
TURBT	3	4
Peno-Scrotal Procedures including orchidopexy for torsion	3	4
Ureteroscopy and laserlithotrpsy	3	4

Special Interest Module	Procedure	PBA competency level
Female, functional & reconstructive urology	Video urodynamics	4
	(and) Autologous Fascial Sling	3
	(or) Artificial Urinary Sphincter	3
	(or) Sacral Neuromodulation)	3
Endourology	Flexible URS And PCNL	4
Oncology	Total Nephrectomy	4
	or Radical Prostatectomy	3
	or Radical Cystectomy	3
	Ileal conduit	4
Andrology	Any penile straightening procedure	4
Advanced General Urology	Additional BOO operation	4
Paediatric Urology	Paediatric PPV or hydrocele procedure	4
	Paediatric Circumcision	4

PBA levels:
Level 4a: *Procedure performed fluently without guidance or intervention*
Level 4b: As 4a *and was able to anticipate, avoid and/or deal with common problems/complications*.
(see the PBA form for the full list of levels)

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.

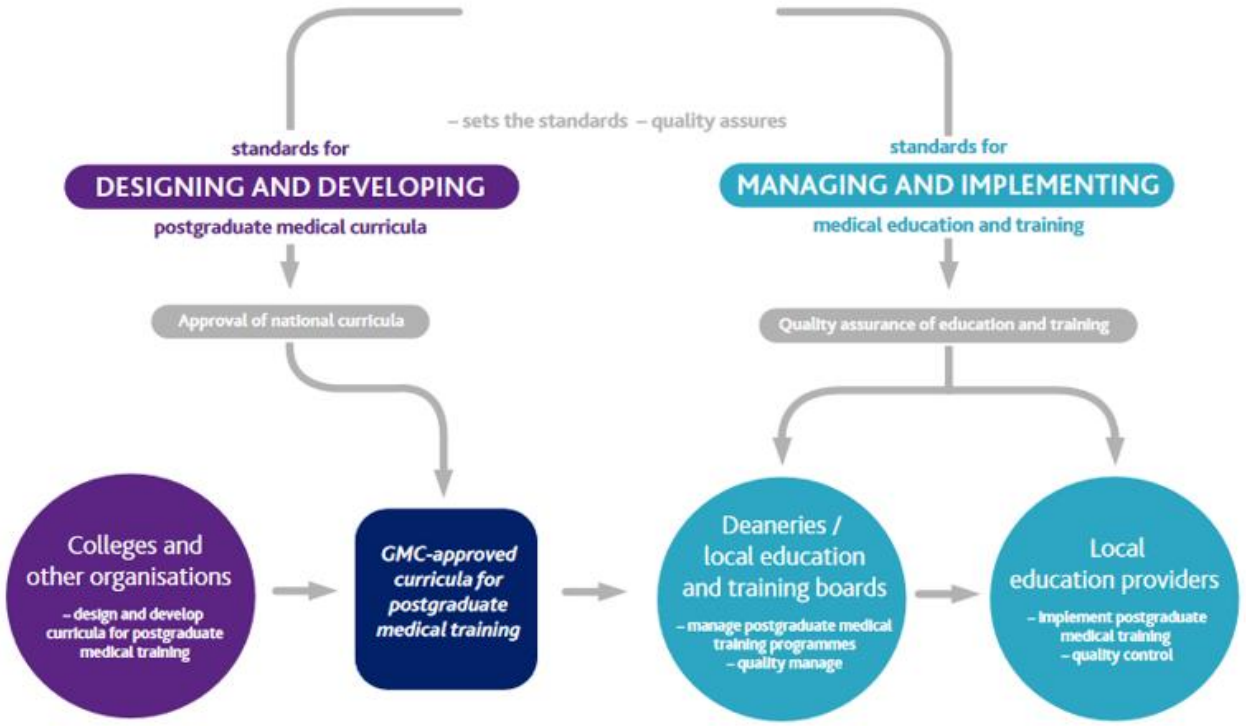

Figure 8: The quality assurance structure of the curriculum (adapted from Excellence by Design, GMC, 2017)

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[7]).
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. 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.

High-level outcomes	**Assessment Framework**											
		CiP/GPC self-assessment	MCR	MSF	CEX	CBD	PBA	DOPS	AoA	OoT	ISB Exam Section 1	ISB Exam Section 2
	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	ISB Exam Section 1	ISB Exam Section 2
	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	ISB Exam Section 1	ISB Exam Section 2
	Knowledge		*	*	*	*	*	*	*	*	*	*	*
	Clinical skills	Clinical skills (general)	*	*	*	*	*						*
		Critical conditions (mandated CEX/CBD)	*	*	*	*	*						*
	Technical skills	Technical skills (general)	*	*				*	*				
		Index procedures (mandated PBA/DOPS)	*	*				*	*				