The Intercollegiate Surgical Curriculum

Educating the surgeons of the future

Oral & Maxillofacial Surgery

From 2010
(Updated 2013 and 2015)

ISCP INTERCOLLEGIATE SURGICAL CURRICULUM PROGRAMME

Approved 22 July 2015, for implementation August 2016

Contents page

This document is the Oral and Maxillofacial Surgery curriculum, approved by the GMC in 2010. It was subsequently updated in 2013 to incorporate simulation, and again in 2015 to include changes to the Core modules and amended text to reflect the adoption of the ISCP by the Royal College of Surgeons in Ireland.

Introduction

The intercollegiate surgical curriculum provides the approved UK framework for surgical training from completion of the foundation years through to consultant level. In the Republic of Ireland it applies from the completion of Core Surgical Training through to consultant level. It achieves this through a syllabus that lays down the standards of specialty-based knowledge, clinical judgement, technical and operative skills and professional skills and behaviour, which must be acquired at each stage in order to progress. The curriculum is web based and is accessed through www.iscp.ac.uk.

The website contains the most up to date version of the curriculum for each of the ten surgical specialties, namely: Cardiothoracic Surgery; General Surgery; Neurosurgery; Oral and Maxillofacial Surgery (OMFS); Otolaryngology (ENT); Paediatric Surgery; Plastic Surgery; Trauma and Orthopaedic Surgery (T&O); Urology and Vascular Surgery. They all share many aspects of the early years of surgical training, but naturally diverge further as training in each discipline becomes more advanced. Each syllabus will emphasise the commonalities and elucidate in detail the discrete requirements for training in the different specialties.

Doctors who will become surgical trainees

After graduating from medical school doctors move onto a mandatory two-year foundation programme in clinical practice (in the UK) or a one year Internship (in the Republic of Ireland). During their final year of medical school students are encouraged to identify the area of medicine they wish to pursue into specialty training. During the Foundation programme or Internship, recently qualified doctors are under close supervision whilst gaining a wide range of clinical experience and attaining a range of defined competences. Entry into surgery is by open competition and requires applicants to understand, and provide evidence for their suitability to become members of the surgical profession.

Selection into a surgical discipline

The responsibility for setting the curriculum standards for surgery rests with the Royal Colleges of Surgeons which operate through the Joint Committee on Surgical Training (JCST) and its ten Specialty Advisory Committees (SACs) and Core Surgical Training Committee (CSTC). In the UK, each SAC has developed the person specifications for selection into its specialty and the person specification for entry to ST1/CT1 in any discipline. Postgraduate Medical Deaneries and/or Local Education and Training Boards (LETBs) and their Schools of Surgery are responsible for running training programmes, which are approved by the UK's General Medical Council (GMC), and for aiding the SACs in the recruitment and selection to all levels of pre-Certification training. In the Republic of Ireland, these roles are undertaken by the Royal College of Surgeons in Ireland (RCSI) and by Ireland's Medical Council of Ireland (MCoI).

The critical selection points for surgical training are at initial entry either directly into specialty training in the chosen discipline (ST1) or into a generic training period referred to as core training (CT1). Those who enter core training are then selected into the discipline of their choice after two core years and join the specialty programme at a key competency point (ST3) after which transfer from one discipline to another would be relatively unusual. Selection at both core and higher surgical training takes place via a national selection process overseen by the Deaneries/LETBs and JCST and, in the Republic of Ireland, by the RCSI.

Those who are selected into training programmes will then have to achieve agreed milestones in terms of College examinations and the Annual Review of Competence Progression (ARCP) requirements.

Guidance about the UK recruitment process, application dates and deadlines and links to national person specifications by specialty are available from the Specialty Training website here. The RCSI provides this information for Ireland.

Educational Principles of the Curriculum

The provision of excellent care for the surgical patient, delivered safely, is at the heart of the curriculum.

The aims of the curriculum are to ensure the highest standards of surgical practice in the UK and the Republic of Ireland by delivering high quality surgical training and to provide a programme of training from the completion of the foundation years through to the completion of specialty surgical training, culminating in the award of a CCT/CESR-CP[1]/CCST. The curriculum was founded on the following key principles which support the achievement of these aims:

- A common format and similar framework across all the specialties within surgery.
- Systematic progression from the end of the foundation years through to completion of surgical specialty training.
- Curriculum standards that are underpinned by robust assessment processes, both of which conform to the standards specified by the GMC/RCSI.
- Regulation of progression through training by the achievement of outcomes that are specified within the specialty curricula. These outcomes are competence-based rather than time-based.
- Delivery of the curriculum by surgeons who are appropriately qualified to deliver surgical training.
- Formulation and delivery of surgical care by surgeons working in a multidisciplinary environment.
- Collaboration with those charged with delivering health services and training at all levels.

The curriculum is broad based and blueprinted to the GMC's Good Medical Practice and RCS England's (on behalf of all four Royal Colleges in the UK and the Republic of Ireland) Good Surgical Practice frameworks to ensure that surgeons completing the training programme are more than just technical experts.

Equality and diversity are integral to the rationale of the curriculum and underpin the professional behaviour and leadership skills syllabus. The ISCP encourages a diverse surgical workforce and therefore encourages policies and practices that:

- ensure that every individual is treated with dignity and respect irrespective of their age, disability, race, religion, sex, sexual orientation or marital status, or whether they have undergone gender reassignment or are pregnant.
- promote equal opportunities and diversity in training and the development of a workplace environment in which colleagues, patients and their carers are treated fairly and are free from harassment and discrimination.

It is expected that these values will be realised through each individual hospital trust's equality and diversity management policies and procedures. This principle also underlies the Professional Behaviour and Leadership syllabus.

Who Should Use the Curriculum?

The ISCP comprises the curricula for the ten surgical specialties which are GMC-approved in the UK and MCoI-approved in the Republic of Ireland. It reflects the most up to date requirements for trainees who are working towards a UK Certificate of Completion of Training (CCT), a UK Certificate of Eligibility for Specialist Registration via the Combined Programme (CESR-CP) or, in the Republic of Ireland, a Certificate of Completion of Specialist Training (CCST). Where an older version of the curriculum is superseded, trainees will be expected to transfer to the most recent version in the interests of patient safety and educational quality.

The GMC's position statement on moving to the most up to date curriculum is here.

The curriculum is appropriate for trainees preparing to practice as consultant surgeons in the UK and the Republic of Ireland. It guides and supports training for a UK Certificate of Completion of Training (CCT), a UK Certificate of Eligibility for Specialist Registration via the Combined Programme (CESR-CP) or, in the Republic of Ireland, Certificate of Completion of Specialist Training (CCST) in a surgical specialty. The

curriculum enables trainees to develop as generalists within their chosen surgical specialty, to be able to deliver an on-call emergency service and to deliver more specialised services to a defined level.

A CCT/CESR-CP/CCST can only be awarded to trainees who have completed a fully- or part-approved specialty training programme. Doctors applying for a full Certificate of Eligibility for Specialist Registration (CESR) will be required to demonstrate that they meet the standards required for a CCT/CESR-CP/CCST as set out in the most up to date curriculum at the time of application.

Components of the Curriculum

The surgical curriculum has been designed around four broad areas, which are common to all the surgical specialties:

- **Syllabus** - what trainees are expected to know, and be able to do, in the various stages of their training
- **Teaching and learning** - how the content is communicated and developed, including the methods by which trainees are supervised
- **Assessment and feedback** - how the attainment of outcomes are measured/judged with formative feedback to support learning
- **Training systems and resources** - how the educational programme is organised, recorded and quality assured

In order to promote high quality and safe care of surgical patients, the curriculum specifies the parameters of knowledge, clinical skills, technical skills, professional behaviour and leadership skills that are considered necessary to ensure patient safety throughout the training process and specifically at the end of training. The curriculum therefore provides the framework for surgeons to develop their skills and judgement and a commitment to lifelong learning in line with the service they provide.

Length of training

A similar framework of stages and levels is used by all the specialties. Trainees progress through the curriculum by demonstrating competence to the required standard for the stage of training. Within this framework each specialty has defined its structure and indicative length of training. Each individual specialty syllabus provides details of how the curriculum is shaped to the stages of training.

In general terms, by the end of training, surgeons have to demonstrate:

- Theoretical and practical knowledge related to surgery in general and to their specialty practice;
- Technical and operative skills;
- Clinical skills and judgement;
- Generic professional and leadership skills;
- An understanding of the values that underpin the profession of surgery and the responsibilities that come with being a member of the profession;
- The special attributes needed to be a surgeon;
- A commitment to their on-going personal and professional development and practice using reflective practice and other educational processes;
- An understanding and respect for the multi-professional nature of healthcare and their role in it; and
- An understanding of the responsibilities of being an employee in the UK and/or Republic of Ireland health systems and/or a private practitioner.

In the final stage of training, when the trainee has attained the knowledge and skills required for the essential aspects of the curriculum in their chosen specialty, there will be the opportunity to extend his/her skills and competences in one or two specific fields. The final stage of the syllabus covers the major areas of specialised practice. The syllabuses are intended to allow the future CCT/CESR-CP/CCST holder to develop a particular area of clinical interest and expertise prior to appointment to a consultant post. Some will require further post-certification training in order to achieve the competences necessary for some of the rarer

complex procedures. In some specialties, interface posts provide this training in complex areas pre-certification.

Acting up as a consultant (AUC)

'Acting up' under supervision provides final year trainees with experience to help them make the transition from trainee to consultant. A period of acting up offers trainees an opportunity to get a feel for the consultant role while still being under a level of supervision.

The post must be defined as acting up for an absent consultant, and cannot be used to fill a new locum consultant post or to fill service needs.

The trainee acting up will be carrying out a consultant's tasks but with the understanding that they will have a named supervisor at the hosting hospital and that the designated supervisor will always be available for support, including out of hours or during on-call work.

Specialty Advisory Committee (SAC) support is required and must be sought prospectively through an application to the JCST. Further GMC prospective approval is not required unless the acting up post is outside the home Deanery/LETB. If accepted the AUC will be able to count towards the award of a CCT/CESR-CP/CSD. Trainees will need to follow the JCST guidance which can be found on the JCST website.

Educational Framework

The educational framework is built on three key foundations that are interlinked:

- Stages in the development of competent practice
- Standards in the areas of specialty-based knowledge, clinical judgement, technical and operative skills, and professional behaviour and leadership
- Framework for Appraisal, Feedback and Assessment

Stages of training

The modular surgical curriculum framework has been designed to define stages in the development of competent surgical practice, with each stage underpinned by explicit outcome standards. This provides a means of charting progress through the various stages of surgical training in the domains of specialty-based knowledge, clinical and technical skills and professional behaviour and leadership (including judgement).

Each surgical specialty has adapted this approach to reflect their training pathway. Therefore, although the educational concept is the same for all specialties the composition of the stages will differ.

UK Only

The core (or initial stage for run-through training) reflects the early years of surgical training and the need for surgeons to gain competence in a range of knowledge and skills many of which will not be specialty-specific. A syllabus, which is common to all the surgical specialties (the common component of the syllabus, which is founded in the applied surgical sciences) has been written for this stage. This is supplemented by the topics from the appropriate surgical specialty syllabus as defined in each training programme (the specialty-specific component of the syllabus).

UK and Republic of Ireland

During the intermediate and final stages the scope of specialty practice increases with the expansion in case mix and case load and this is accompanied by the need for greater depth of knowledge and increasing skills and judgement. The content is therefore based on progression, increasing in both depth and complexity through to the completion of training.

Standards of training

Surgeons need to be able to perform in differing conditions and circumstances, respond to the unpredictable, and make decisions under pressure, frequently in the absence of all the desirable data. They use professional judgement, insight and leadership in everyday practice, working within multi-professional teams. Their conduct is guided by professional values and standards against which they are judged. These values and standards are laid down in the General Medical Council's Good Medical Practice in the UK and the Republic of Ireland Medical Council's Guide to Professional Conduct and Ethics.

The Professional Behaviour and Leadership Skills syllabus is mapped to the Leadership framework as laid out by the Academy of Medical Royal Colleges and derived from Good Medical Practice. The Professional Behaviour and Leadership skills section of the syllabus is common to all surgical specialties and is based on Good Medical Practice.

The syllabus lays down the standards of specialty-based knowledge, clinical judgement, technical and operative skills and professional skills and behaviour that must be acquired at each stage in order to progress. The syllabus comprises the following components:

- A specialty overview which describes the following:
    - Details of the specialty as it practised in the UK and the Republic of Ireland
    - The scope of practice within the specialty
    - The key topics that a trainee will cover by the end of training
    - An overview of how, in general terms, training is shaped
- Key topics that all trainees will cover by certification and will be able to manage independently, including complications. These are also referred to as essential topics.
- Index 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.
- The stages of training, which comprise a number of topics to be completed during a notional period of training. Within each stage there is the syllabus content which contains the specialty topics that must be covered. Each of these topics includes one or more learning objectives and the level of performance / competence to be achieved at completion in the domains of:
    - Specialty-based knowledge
    - Clinical skills and judgement
    - Technical and operative skills

Standards for depth of knowledge during early years surgical training (UK only)

In the early years of training, the appropriate depth and level of knowledge required can be found in exemplar texts tabulated below. We expect trainees to gain knowledge from these texts in the context of surgical practice defined in the core surgical component of the curriculum above.

The curriculum requires a professional approach from surgical trainees who will be expected to have a deep understanding of the subjects, to the minimum standard laid out below. It is expected that trainees will read beyond the texts below and will be able to make critical use, where appropriate of original literature and peer scrutinised review articles in the related scientific and clinical literature such that they can aspire to an excellent standard in surgical practice.

The texts are not recommended as the sole source within their subject matter and there are alternative textbooks and web information that may better suit an individual's learning style. Over time it will be important for associated curriculum management systems to provide an expanded and critically reviewed list of supporting educational material.

Topic	Possible textbooks or other educational sources
Anatomy	Last's Anatomy: Regional and Applied (MRCS Study Guides) by R.J. Last and Chummy Sinnatamby Netter's Atlas of Human Anatomy 4th Edition Saunders-Elsevier ISBN-13-978-1-4160-3385-1
Physiology	Ganong's Review of Medical Physiology, 23rd Edition (Lange Basic Science)
Pathology	Robbins Basic Pathology by Vinay Kumar MBBS MD FRCPath, Abul K. Abbas MBBS, Nelson Fausto MD, and Richard Mitchell MD PhD
Pharmacology	Principles and Practice of Surgery by O. James Garden MB ChB MD FRCS(Glasgow) FRCS(Edinburgh) FRCP (Edinburgh) FRACS(Hon) FRCSC(Hon) Professor, Andrew W. Bradbury BSc MBChB MD MBA FRCSEd Professor, John L. R. Forsythe MD FRCS(Ed) FRCS, and Rowan W Parks Bailey and Love's Short Practice of Surgery 25th Edition by Norman S. Williams (Editor), Christopher J.K. Bulstrode (Editor), P. Ronan O'Connell (Editor)
Microbiology	Principles and Practice of Surgery by O. James Garden MB ChB MD FRCS(Glasgow) FRCS(Edinburgh) FRCP (Edinburgh) FRACS(Hon) FRCSC(Hon) Professor Bailey and Love's Short Practice of Surgery 25th Edition by Norman S. Williams (Editor), Christopher J.K. Bulstrode (Editor), P. Ronan O'Connell (Editor)
Radiology	Principles and Practice of Surgery by O. James Garden MB ChB MD FRCS(Glasgow) FRCS(Edinburgh) FRCP (Edinburgh) FRACS(Hon) FRCSC(Hon) Professor, Andrew W. Bradbury BSc MBChB MD MBA FRCSEd Professor, John L. R. Forsythe MD FRCS(Ed) FRCS, and Rowan W Parks Grainger & Allison's Diagnostic Radiology, 5th Edition. Andy Adam (Editor), Adrian Dixon (Editor), Ronald Grainger (Editor), David Allison (Editor) Bailey and Love's Short Practice of Surgery 25th Edition by Norman S. Williams (Editor), Christopher J.K. Bulstrode (Editor), P. Ronan O'Connell (Editor)
Common surgical conditions	Principles and Practice of Surgery by O. James Garden MB ChB MD FRCS(Glasgow) FRCS(Edinburgh) FRCP (Edinburgh) FRACS(Hon) FRCSC(Hon) Professor, Andrew W. Bradbury BSc MBChB MD MBA FRCSEd Professor, John L. R. Forsythe MD FRCS(Ed) FRCS, and Rowan W Parks Bailey and Love's Short Practice of Surgery 25th Edition by Norman S. Williams (Editor), Christopher J.K. Bulstrode (Editor), P. Ronan O'Connell (Editor)
Surgical skills	Basic surgical skills course and curriculum
Peri-operative care including critical care	ATLS® course CCrISP course Principles and Practice of Surgery by O. James Garden MB ChB MD FRCS(Glasgow) FRCS(Edinburgh) FRCP (Edinburgh) FRACS(Hon) FRCSC(Hon) Professor, Andrew W. Bradbury BSc MBChB MD MBA FRCSEd Professor, John L. R. Forsythe MD FRCS(Ed) FRCS, and Rowan W Parks

	Bailey and Love's Short Practice of Surgery 25th Edition by Norman S. Williams (Editor), Christopher J.K. Bulstrode (Editor), P. Ronan O'Connell (Editor)
Surgical care of children	Principles and Practice of Surgery by O. James Garden MB ChB MD FRCS(Glasgow) FRCS(Edinburgh) FRCP (Edinburgh) FRACS(Hon) FRCSC(Hon) Professor, Andrew W. Bradbury BSc MBChB MD MBA FRCSEd Professor, John L. R. Forsythe MD FRCS(Ed) FRCS, and Rowan W Parks Bailey and Love's Short Practice of Surgery 25th Edition by Norman S. Williams (Editor), Christopher J.K. Bulstrode (Editor), P. Ronan O'Connell (Editor) Jones Clinical Paediatric Surgery Diagnosis and Management Editors JM Hutson, M O'Brien, AA Woodward, SW Beasley 6th Edition 2008 Melbourne Blackwell Paediatric Surgery: Essentials of Paediatric urology by D Thomas, A Rickwood, P Duffy
Care of the dying	Principles and Practice of Surgery by O. James Garden MB ChB MD FRCS(Glasgow) FRCS(Edinburgh) FRCP (Edinburgh) FRACS(Hon) FRCSC(Hon) Professor, Andrew W. Bradbury BSc MBChB MD MBA FRCSEd Professor, John L. R. Forsythe MD FRCS(Ed) FRCS, and Rowan W Parks Bailey and Love's Short Practice of Surgery 25th Edition by Norman S. Williams (Editor), Christopher J.K. Bulstrode (Editor), P. Ronan O'Connell (Editor)
Organ transplantation	Principles and Practice of Surgery by O. James Garden MB ChB MD FRCS(Glasgow) FRCS(Edinburgh) FRCP (Edinburgh) FRACS(Hon) FRCSC(Hon) Professor, Andrew W. Bradbury BSc MBChB MD MBA FRCSEd Professor, John L. R. Forsythe MD FRCS(Ed) FRCS, and Rowan W Parks Bailey and Love's Short Practice of Surgery 25th Edition by Norman S. Williams (Editor), Christopher J.K. Bulstrode (Editor), P. Ronan O'Connell (Editor)

In addition to these standard texts, sample MRCS MCQ examination questions are also available at www.intercollegiatemrcs.org.uk, which will demonstrate the level of knowledge required to be able to successfully pass the MRCS examination.

Standards for depth of knowledge during intermediate and final years surgical training

In the intermediate and final stages of surgical 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 ascribed 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 areas of clinical and 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.
- 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 UK consultant surgeon to function.
- Is capable of supervising trainees.

The explicit standards form the basis for:

- Specifying the syllabus content;
- Organising workplace (on-the-job) training in terms of appropriate case mix and case load;
- Providing the basis for identifying relevant teaching and learning opportunities that are needed to support trainees' development at each particular stage of progress; and
- Informing competence-based assessment to provide evidence of what trainees know and can do.

Standards for the professional skills and leadership syllabus

The methodology used to define the standards for this component of the syllabus is through a series of descriptors that indicate the sorts of activities that trainees should be able to successfully undertake at two specific time points, namely the end of "early years" training (i.e. entry into ST3, or ST4 in Neurosurgery) and the end of surgical training (i.e. certification).

The Framework for Appraisal, Feedback and Assessment

The curriculum is consistent with the four domains of Good Medical Practice:

- Knowledge, skills and performance
- Safety and quality
- Communication, partnership and team-working
- Maintaining trust

The knowledge, skills and performance aspects are primarily found within the specialty-specific syllabus. All domains are reflected within the professional behaviour and leadership syllabus, which also reflect the Academy's common competence and leadership competence frameworks.

The purpose and structure of the training programme

The curriculum is competence-based. It focuses on the trainee's ability to demonstrate the knowledge, skills and professional behaviours that they have acquired in their training (specified in the syllabus) through observable behaviours. Since it is competence-based, it is not time-defined and accordingly it allows these competences to be acquired in different time frames according to variables such as the structure of the programme and the ability of the trainee. Any time points used are therefore merely indicative.

There are certain milestones or competence points which allow trainees to benchmark their progress:

- Entry to surgical training - CT1 (or ST1 for those specialties or localities with run-through programmes)
- Entry to entirely specialised training - ST3*
- Exit at certification

*** A critical competence point is ST3 at which point, in practice, trainees will make a clear commitment to one of the ten SAC-defined disciplines of surgery.**

UK Only

Within the early years of training (defined as the period prior to entry into ST3), much of the content is common across all the surgical specialties. During this period, trainees will acquire the competences that are common to all surgical trainees (defined as common competences) together with a limited range of competences that are relevant to their chosen surgical specialty (defined as specialty-specific competences).

- Those who have made a definitive choice of their desired surgical specialty, and who have been able to enter a "run-through" training programme, will be able to focus upon achieving the common competences and the specialty-specific competences for their chosen specialty.
- Those who have not yet made a definitive choice of their desired surgical specialty will obtain a range of extra competences in a variety of surgical specialties, while at the same time sampling those specialties, before focussing on the chosen specialty prior to entry into ST3.

For those not in run-through programmes, within the early years, training is not committed to a specific surgical specialty and trainees can enter any of the relevant specialties at ST3 level provided they a) meet their educational milestones in the common surgical component of the curriculum and b) satisfy all the specialty requirements for entry in the specialty of their choice. The different training schemes offered by the Postgraduate Deaneries and Local Education and Training Boards (LETBs) meet different educational needs and permit trainees to make earlier or later final career choices based on ability and preference.

It is essential that trainees achieve both common and specialty-specific competence to be eligible to compete at the ST3 specialty entry competence level. In the early years (initial stage), the common core component reflects the level of competence that all surgeons must demonstrate, while specialty-specific competence reflects the early competences relevant to an individual specialty.

From August 2013, the MRCS examination became a formal exit requirement from Core Surgical Training. It is also a mandatory requirement to enter higher specialty training in any discipline, irrespective of candidates reaching all other educational requirements. Otolaryngology trainees are required to pass the MRCS(ENT) examination or the MRCS and the DO-HNS examination.

UK and Republic of Ireland

Following entry into higher specialty training (which for those who have undergone training in core programmes will follow on from a second selection process), the trainee will typically undergo a period of training in the broad specialty and at the higher levels begin to develop an area of special interest, to allow some degree of specialisation in his or her subsequent career.

Early Years Surgical Training – UK Only

The purposes of early years (i.e. the initial stage) training are:-

1. To provide a broad based initial training in surgery with attainment of knowledge, skills and professional behaviours relevant to the practice of surgery in any specialist surgical discipline. This is defined within the common component of the syllabus (which is also the syllabus of the MRCS).
2. In addition it will provide early specialty training such that trainees can demonstrate that they have the knowledge, skills and professional behaviours to enter higher specialty training in a surgical specialty. The specialty element in the early years is not tested in the MRCS but through workplace-based assessments (WBAs) in the first instance.

Additionally trainees will be continuously assessed on the contents of the common component and their specialty specific slots through WBAs and structured reports from Assigned Educational Supervisors (AES) which in turn contribute to the Annual Review of Competence Progression (ARCP); this includes the level of competence expected of all doctors including surgeons to meet their obligations under Good Medical Practice (GMP) in order to remain licensed to practise.

Trainees who gain entry to higher specialty training despite some remediable and identified gaps in their specialty specific curriculum competences must ensure that these are dealt with expeditiously during ST3. All these gaps must be addressed by the time of a ST3 ARCP as part of their overall permission to progress to ST4. They must be specifically addressed through local learning agreements with educational supervisors. Trainees with identified gaps must be accountable to the Training Programme Directors (TPDs) whom in turn must address this as part of their report to the ARCP process.

Intermediate and Final Years Specialty Training – UK and Republic of Ireland

The purposes of the intermediate and final years training are:

1. To provide higher specialty training in the specialty with attainment of knowledge, skills and professional behaviours relevant to the practice in the specialty. This is defined within the specialty-specific component of the early years syllabus and the intermediate and final stages of the syllabus (and is also the syllabus of the FRCS).
2. To develop competence to manage patients presenting either acutely or electively with a range of symptoms and conditions as specified in the syllabus (and the syllabus of the FRCS).
3. To develop competence to manage an additional range of elective and emergency conditions by virtue of appropriate training and assessment opportunities obtained during training as specified by special interest or sub-specialty components of the final stage syllabus. This is tested either by the FRCS and/or by WBAs.
4. To acquire professional competences as specified in the syllabus and in the General Medical Council's Guide to Professional Conduct and Ethics.

The Training Pathway

From the trainee's perspective, he or she will be able to undertake surgical training via differing routes depending on which training scheme they choose or are selected for.

1. Run-through training (UK only)

For those trainees who are certain of their specialty choice, and who choose to enter "run-through" training, competitive entry into ST1 will be possible in their chosen specialty to certification, where this is offered by the specialty. As well as specialty-specific competences, those on this route will still need to attain the level of competence common to all surgeons before entering ST3 (ST4 in Neurosurgery) and this will be assessed through the MRCS, WBAs and the ARCP. This route is currently available in Neurosurgery (and in some Deaneries/LETBs Cardiothoracic Surgery, Oral and Maxillofacial Surgery and Trauma and Orthopaedic Surgery).

2. Uncoupled training

This route is currently available in General Surgery, Cardiothoracic Surgery, Oral and Maxillofacial Surgery, Otolaryngology, Paediatric Surgery, Plastic Surgery, Trauma and Orthopaedic Surgery, Urology and Vascular Surgery.

For those trainees who are either uncertain of their chosen specialty, who are unable to gain entry to run-through training, or who choose a specialty that does not offer the run-through route, a period of "Core" surgical training will be necessary. This period of training is designated CT1 and CT2 in the UK. During this period trainees will attain the common surgical knowledge and skills and generic professional behaviours, while sampling a number of surgical specialties. In addition to attaining common competences, trainees will need to complete their speciality specific competences to be eligible to enter ST3 in their chosen specialty. They will then seek to enter specialty training at the ST3 level by competitive entry. Open competition will test trainees against SAC defined competences for ST3 entry.

This model has a number of possible variants. Core training might sample several specialties, without any particular specialty focus. In such cases some specialty top up training may be needed later on in order to reach specialty entry at ST3 level. Another variant would organise core training along a theme that supports progression to a specific specialty. In these situations many trainees may pass straight from CT2 to ST3 in their chosen discipline if selected. In practice, core surgical training will run over an indicative timescale of 2 years (CT1-2).

3. Academic training

In the UK some early years' trainees may wish to pursue an academic surgical career and will devote a significant proportion of their time to additional academic pursuits including research and teaching. For the majority this will lead (later in specialised training) to a period of time in dedicated research, resulting in the award of a higher degree in a scientific area related to their chosen specialty. For others who wish to revert to full time clinical training, this will also be possible, providing that the relevant clinical competences are achieved.

General information on UK academic pathways can be found using the following link:
http://specialtytraining.hee.nhs.uk/news/the-gold-guide/

The JCST is keen to support academic careers within surgery and has ensured that the surgical curriculum is flexible enough to accommodate an academic pathway. The curriculum specifies that each individual trainee's training is planned and recorded through the learning agreement.

In England, Academic Clinical Fellows (ACFs) are generally expected to achieve the same level of clinical competence as other surgical trainees within the same timeframe. In order to progress through training pathways the ACF, in addition to demonstrating competence in clinical aspects, will generally be required to have obtained a funded Research Training Fellowship in order to undertake a PhD or MD, which they will complete during an out of programme period. Some trainees during their period of full-time research may

want to carry out some clinics or on call, if they and their academic supervisor feel that it is in their best interests. On successful completion of a PhD or MD the ACF will either return to their clinical programme, apply for an Academic Clinical Lecturer (ACL) or Clinician Scientist post.

Arrangements for academic training differ in detail in the devolved nations of the UK and in the Republic of Ireland. For Wales, further information can be obtained from http://www.walesdeanery.org/index.php/en/wcat.html. For Scotland, information can be obtained at http://www.nes.scot.nhs.uk/, and for Northern Ireland at http://www.nimdta.gov.uk/.

In the Republic of Ireland trainees with an interest in academic surgery may choose to spend time out of training in a dedicated research post.

Academic trainees will need to complete all the essential elements of their specialty syllabus satisfactorily in order to be awarded a CCT, CESR-CP or CCST. It is acknowledged that Clinical Academics may take somewhat longer in training to achieve competence at CCT/CESR-CP level than trainees taking a clinical pathway; however they will be supported fully and treated as individuals with their personal progress being matched to their learning agreement.

Moving from one discipline of surgery to another

In the early years it is possible that a trainee who has started to develop a portfolio consistent with a particular specialist discipline might wish to move to another. One of the strengths of the flexible early years programme is that it will be possible, depending on the local circumstances, to make such changes with an identification of suitable educational competences that may be transferred. This is strictly conditional on a trainee achieving the educational milestones so far agreed for them. Moving from one discipline to another because of the need to remediate in the original discipline would not normally be permitted. All common requirements, for example, possession of the MRCS, would be transferable. Those leaving ENT however could not use the DO-HNS examination as equivalent to the MRCS examination and those wishing to enter ENT (and already having the MRCS) would be required to sit the Part 2 DO-HNS examination.

In order to be eligible to move from one discipline to another the following conditions therefore apply:

1. Achieve a satisfactory outcome in ARCPs up to that point including all relevant WBAs.
2. Fulfil the minimum period in the new specialty of choice in order to progress to ST3 in that discipline (ST4 in Neurosurgery).
3. Obtain the new position through open competition in the annual selection round.
4. Pass the MRCS, MRCS(ENT) (or DO-HNS in addition to the MRCS) examination

The process in practice would be subject to local negotiations between the Postgraduate Dean or appointed nominee in the Republic of Ireland, designated training supervisors and the trainee making the request. If the decision to change theme in core programmes occurs early the effective increase in training time may be minimal. If the decision occurs later or during run-through, more time spent in the early years is almost inevitable. The progression to ST3 is in essence competence rather than time dependent. Those spending longer having made a change may be subject to limitations on any subsequent period required for remediation, although this ultimately would be a Deanery/LETB decision.

Completion of training

Successful completion of the programme in the UK will result in a Certificate of Completion of Training (CCT) or a Certificate of Eligibility for Specialist Registration via the Combined Programme (CESR-CP) and, in Ireland, a Certificate of Completion of Specialist Training (CCST), and placement on the Specialist Register of the GMC or the Medical Council of Ireland (MCoI). This will indicate that the surgeon has reached the curriculum standards of competence to practice as a consultant surgeon in the UK or the Republic of Ireland. These requirements are set by the SACs and the Royal Colleges of Surgeons, are approved by the GMC in the UK or MCoI in Ireland, and translate into the ability to manage a significant proportion of the elective work within the specialty and to undertake the primary management of emergencies. It is anticipated that where additional, well-recognised specialist skills are required by the service, these will be gained by the completion of additional modules before the completion of training and the award of the specialty certificate.

Doctors who wish to join the GMC's Specialist Register and have not followed a full or part of a training programme approved by the GMC in the UK leading to a CCT/CESR-CP but who may have gained the same level of skills and knowledge as CCT/CESR-CP holders can apply for a Certificate of Eligibility for Specialist Registration (CESR).

Once on the Specialist Register, all surgeons will be expected to maintain their professional development in line with Good Medical Practice for the purpose of revalidation in the UK, and in accordance with the Professional Competence Scheme (PCS) in the Republic of Ireland.

The Syllabus

Each syllabus details the learning content and outcomes to be achieved at each stage of training.

Which syllabus should I choose?

If you are a trainee in a generic or themed core programme **(CT1-2):** Click on the ***Core Surgical Training syllabus***

If you are a trainee in the early years of a run-through programme **(ST1-2):** Click on the relevant ***specialty syllabus*** and then on the ***Initial Stage*** of training. Run-through programmes include:

- Cardiothoracic Surgery (in some deaneries)
- Neurosurgery

If you are a trainee in Higher Surgical Training **(ST3 or above):** Click on the relevant ***specialty syllabus*** and then on the stage of training

Which version?

The syllabuses are from time to time updated in line with changes in the practice or structure of training. They indicate the date of GMC approval and all trainees should use the most up to date version. When an older version of the curriculum is superseded, trainees will be expected to transfer to the most recent version in the interests of patient safety and educational quality. All but the latest version of the curriculum will be decommissioned by 1st January 2016. Trainees will be able to view documents that map new versions to previous ones.

Related downloads

- Quick Guide to the early years syllabus [PDF:190Kb]
- GMC position statement - Moving to the Current Curriculum November 2012

The Syllabus

Overview and objectives of the OMFS curriculum

Oral and maxillofacial surgery is the surgical specialty concerned with the diagnosis and treatment of diseases affecting the mouth, jaws, face and neck.

Specialists working in this area are known as oral and maxillofacial surgeons. (In some areas oral and maxillofacial surgeons may be referred to as oral and facial surgeons, maxillofacial surgeons or craniomaxillofacial surgeons). The specialty is unique in that it requires dual qualification in medicine and dentistry and is a recognised international specialty that, within Europe, is defined under the Medical Directives.

It is a separate specialty from Oral Surgery, which is defined under Dental Directives, and is confined to minor surgical procedures carried out within the oral cavity, and which is generally regarded as an ambulatory care specialty.

The scope of the specialty of oral and maxillofacial surgery is extensive and includes, but is not necessarily confined to:

- craniomaxillofacial trauma,
- cancers of the head and neck,
- diseases of the salivary glands,
- surgical treatment of facial disproportion – both congenital and acquired,
- cleft lip and palate,
- aesthetic facial surgery,
- facial pain,
- disorders of the temporomandibular joint (TMJ),
- surgical removal of impacted and buried teeth, cysts and benign tumours of the jaws,
- pre-prosthetic surgery including the placement of osseointegrated implants,
- management of infections of the head and neck including life-threatening fascial space infection
- conditions of the oral mucosa such as mouth ulcers and dentoalveolar infection.

Oral and maxillofacial surgeons generally work in teams and frequently work alongside other specialists including ENT surgeons, neurosurgeons, orthodontists, restorative dentists, clinical oncologists and plastic surgeons.

EDITORS

Andrew Carton
Bob Woodwards
Andrew E Brown
David Mitchell

Revised curriculum – Bob Woodwards

The Specialty of Oral and Maxillofacial Surgery

Standards and evidence for the practice of oral and maxillofacial surgery within the United Kingdom have been defined by the British Association of Oral and Maxillofacial Surgeons – BAOMS, the specialty association.

The majority of oral and maxillofacial surgeons currently working within the United Kingdom qualified in dentistry before qualifying in medicine. The specialty is, however, open to trainees qualifying first in medicine and then obtaining a qualification in dentistry. It is noted that the number of trainees following this route has increased with the introduction of the Modernising Medical Careers (MMC) model of specialty training.

The majority of dental graduates will obtain an MFDS from one of the surgical royal colleges prior to or during their medical undergraduate training. It is, however, important to note that an MFDS is not a requirement for entry into specialist training.

Trainees entering the specialty from a primary medical degree, may already have obtained their MRCS or may have entered undergraduate dental training straight from Foundation medical training

A review by PMETB (now merged with the GMC) of the specialty of OMFS recognised the commitment that trainees are making by taking on the second degree course to enable them to train in OMFS. This effectively means that a trainee intent on a career in OMFS who having already obtained a dental or medical degree and commencing the second undergraduate degree, can be considered at that point to have committed to a path of training leading to a CCT in OMFS.

There are a number of areas of specialist interest within Oral and Maxillofacial Surgery:

- Cleft lip and palate
- Head and Neck Surgical Oncology
- Cosmetic Surgery
- Surgery of Craniofacial abnormality – congenital and acquired.

Training Interface Groups (TIGs) have been established for the specific training requirements in the first three of these areas.

Training in the Specialty of Oral and Maxillofacial Surgery

Cleft Lip and Palate

Cleft lip and palate are birth defects that affect the upper lip and the roof of the mouth. They occur when the tissue that forms the roof of the mouth and upper lip fail to fuse before birth. The problem can range from a simple notch in the lip to a cleft that runs into the roof of the mouth and floor of nose. It can affect the way a child's face looks and develops. It can also lead to problems with eating, speaking and recurrent ear infections.

Treatment usually takes the form of surgery to close the defect in the lip and/or palate. Doctors will do this surgery in several stages. Usually the initial surgery is during the baby's first year.

Under the auspices of the Joint Committee on Surgical Training (JCST) the SACs in oral and maxillofacial surgery, ORL and plastic surgery have formed a Training Interface Group (TIG) to oversee fellowship training in surgery for cleft lip and palate. For further information, including how to apply for these fellowships, please see the JCHST website.

There are currently three approved fellowships within the United Kingdom. Following a recent workforce review it is intended to apply to the Department of Health for at least a further three such fellowships.

Head and Neck Surgical Oncology

Cancer can arise in any of the tissues or organs in the head and neck. There are over thirty different sites that cancer can develop in the head and neck area. These include:

Cancers of the oral cavity

The oral cavity includes the lips and the mouth. Cancer can occur on the tongue, the hard palate (the roof of the mouth), the gums, the floor of the mouth (under the tongue) and the inner lining of the lips and cheeks (sometimes referred to as the buccal mucosa).

Oropharyngeal cancer

This develops in the oropharynx which is the part of the throat directly behind the mouth. It includes the soft palate, (the soft part of the roof of the mouth), the base of the tongue, the side walls of the throat (including the pharyngeal tonsils) and the back wall of the throat, (also called the posterior pharyngeal wall).

Cancer of the nose

Cancers can develop in the skin of the nostril and the lining of the nose. The highest part of the throat, which lies directly behind the nose, is called the nasopharynx. Cancer that occurs here is known as nasopharyngeal cancer. Alongside the nose, within the bones of the face, lie airspaces which are known as the paranasal sinuses. Cancers can develop in the linings of these areas.

Cancer of the ear

Cancers of the ear are rare with most developing in the skin of the ear. They can also develop in structures deep inside the ear. These cancers are extremely rare.

Cancer of the eye

Cancers can develop in the skin of the eyelids. Cancers are very unusual within the eye itself. When they do occur, they are frequently a type called ocular melanoma. Occasionally a cancer of the white blood cells, called a lymphoma, may develop behind the eye. In very rare cases cancer may spread into the eye from a cancer elsewhere in the body: for example the breast.

Cancer of the larynx

Cancers may also develop in the voicebox or larynx. These are particularly common in smokers and may present initially as a change in voice, particularly hoarseness.

Types of Head and Neck Cancer

Head and Neck cancers are rare with approximately 8,000 people in the United Kingdom diagnosed each year. The majority of cancers of the head and neck are of a type called carcinoma (in particular squamous cell carcinoma). Carcinomas in the head and neck originate in the cells that form the lining of the mouth, nose, throat or ear, or the surface layer covering the tongue.

The Joint Committee on Surgical Training (JCST) has recognised that treatment of patients with cancer of the head and neck represents an area of particular expertise.

The SACs in oral and maxillofacial surgery, ORL and plastic surgery have formed a Training Interface Group (TIG) in head and neck surgical oncology. The purpose of this group is to oversee and supervise specialist training in head and neck surgical oncology for trainees of the three specialties at a fellowship level. Full details of these fellowships, including how to apply for them, are contained in the JC(ST website.

Cosmetic Surgery

Aesthetic facial surgery is also gaining increasing importance as an area of special interest. A Training Interface Group involving oral and maxillofacial surgeons, ORL surgeons and plastic surgeons together with oculoplastic and breast surgeons has recently been established. Training fellowships have just been introduced and the first trainees appointed in January 2009.

The Purpose of Training

The purpose of training in the specialty of oral and maxillofacial surgery is to produce surgeons competent to work as specialists/consultants within the United Kingdom. This includes:

- Competence to manage patients presenting with trauma affecting the craniomaxillofacial region.
- Competence to manage patients presenting with acute conditions which affect the head and neck. This includes assessment, diagnosis and treatment or referral to an appropriate specialist as appropriate.
- Competence in the management of patients presenting with the symptoms and conditions as specified in the essential parts of the syllabus with the specialty of oral and maxillofacial surgery.
- Competence in the management of an additional range of both elective and emergency conditions by virtue of appropriate and assessment opportunities obtained during training.

Professional competencies are specified in the GMC-approved syllabus and derived from Good Medical Practice of the General Medical Council of the United Kingdom.

The Training Pathway

The Training Pathway is illustrated below. Trainees entering the specialty of oral and maxillofacial surgery will undertake a period of initial core surgical training (CT1+2) equivalent to the previous basic surgical training (BST). Surgical specialties across the board are moving towards uniformity in training, and in the next 2 years it is likely that 3 years of Core Training will be the norm. It is accepted that the length and complexity of Oral and Maxillofacial training with two undergraduate degrees will make it unlikely that any trainee in this specialty will require 3 years of core training. If 3 years core training becomes the norm, then Oral and Maxillofacial trainees will spend the 3rd year of core training in specialty prior to competitive entry to Specialty Training at ST3.

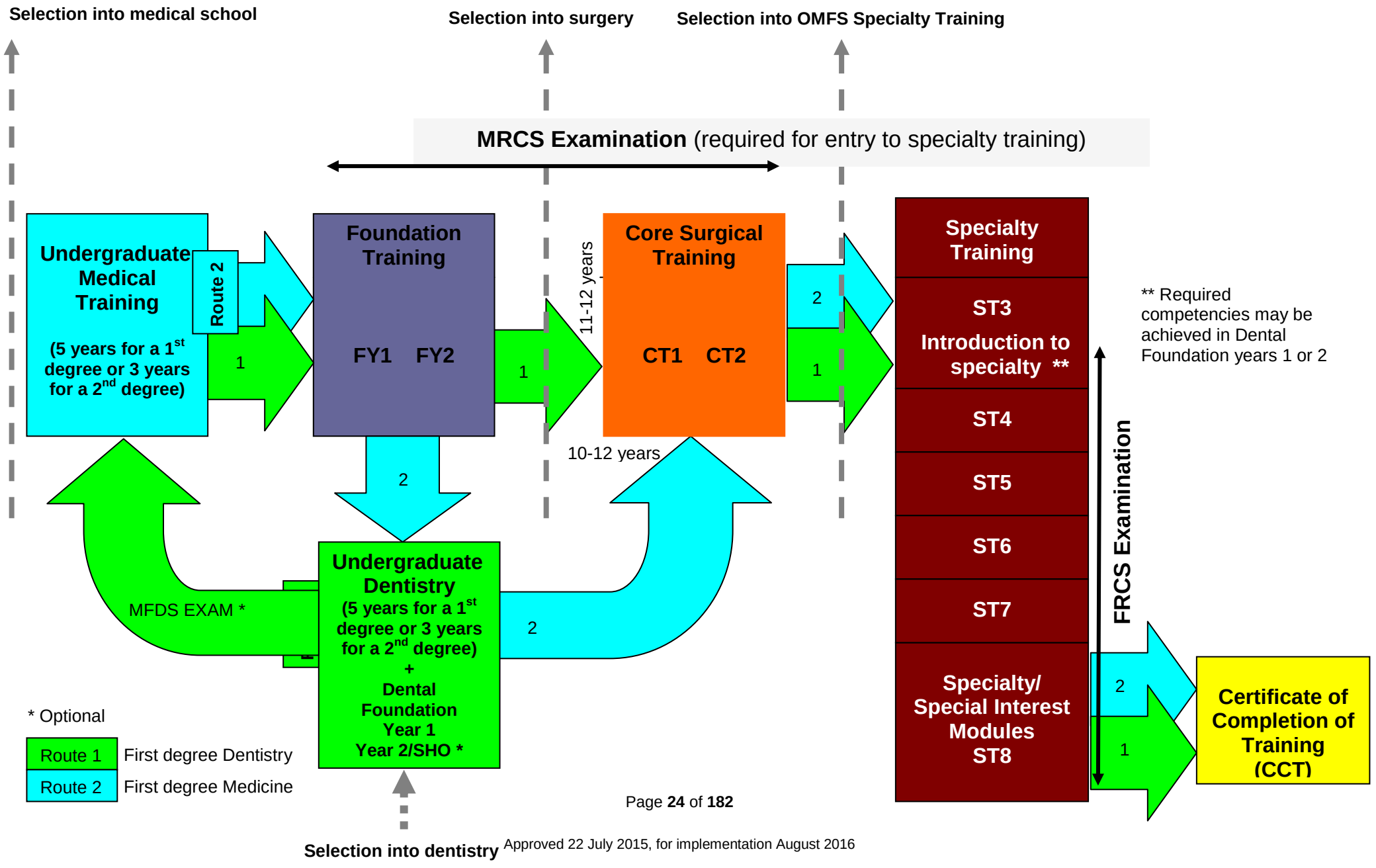
It is expected that the MRCS examination of the surgical royal colleges will be taken in the early years of training. Trainees will be expected to have acquired this prior to entry to ST3.

An exit Intercollegiate FRCS examination is taken towards the end of specialist training.

Success in this examination, together with completion of an approved training programme, will result in the award of a Certificate of Completion of Training (CCT) in oral and maxillofacial surgery. This allows entry to the Specialist Register held by the General Medical Council. Consultants in the specialty are required to have their names entered on this register.

Specialty training in oral and maxillofacial surgery will be competency based however it is expected that it will take approximately five years post core training (ST3-ST7) to acquire these competencies

Oral and Maxillofacial Surgery Training Pathways



Approved 22 July 2015, for implementation August 2016

The Scope and Standards Of Oral And Maxillofacial Practice At CCT

This section defines, in general terms, the essential skills and levels of clinical expertise expected of an oral and maxillofacial surgeon emerging from training having attained a standard equivalent to the oral and maxillofacial CCT.

It is unlikely that this expertise will be confined to the descriptions that follow as most surgeons will develop additional interests and competencies by the time they emerge from training. There is some flexibility within the curriculum to accommodate this.

In addition, within the specialty of oral and maxillofacial surgery, there are four areas of special interest that may have their own syllabus requirements. These are expressed in syllabus lists that build on the essential requirements of the basic CCT holder. These are:

- Head and Neck Surgical Oncology
- Cleft Lip and Palate
- Craniofacial Surgery
- Cosmetic surgery

It should be understood that as a surgical career develops following an award of the CCT, the range and levels of expertise will change in response to the demands of the service, personal aspirations, the needs of patients and developments within the specialty.

Taking into account the present and future requirements of the service, the oral and maxillofacial surgeon emerging from training at CCT level will expect to see patients who may present with a range of problems. As it is used here, the term “manage” equates to diagnosis, assessment and treatment or referral as appropriate. The levels of expertise expected are further expressed within the detail of the syllabus.

At CCT, the oral and maxillofacial surgeon will be able to:

1. Manage patients presenting with craniomaxillofacial trauma.
2. Manage patients presenting with cancer of the head and neck, in particular oral, oropharyngeal and cutaneous malignancy.
3. Be familiar with basic reconstructive techniques, including free tissue transfer, as these apply to the head and neck.
4. Manage the patient presenting with facial deformity, both congenital and acquired. This will include the treatment of patients with post-traumatic defects, syndromes of the head and neck and cleft lip and palate.
5. Manage patients requiring pre-prosthetic surgery including the placement of osseointegrated implants.
6. Manage patients presenting with diseases of the salivary glands.
7. Manage patients with diseases of the temporomandibular joints.
8. Manage patients presenting with problems relating to the teeth and their supporting structures (minor oral surgery).
9. Manage the patient presenting with facial pain.
10. Manage patients presenting with infection of the head and neck, both acute and chronic. This will include infection of the fascial spaces of the head and neck.
11. Manage patients presenting with non surgical problems which may affect the cranio-maxillofacial region

Academic Oral and Maxillofacial Surgery

Research plays a central role in the development of any industry and healthcare is no exception to this. Health economists are now particularly aware of the need to identify the most cost effective, evidenced-based methods of providing treatment and to refine the application of past discoveries through service research.

Oral and maxillofacial surgery is well placed to meet these needs as the discipline already has an academic base within universities in the United Kingdom. Close links within university departments provide access to laboratories and the interaction with complimentary disciplines (oral pathology, virology, molecular biology, material sciences etc) that is a fundamental requirement for effective research. The future developments and potential of oral and maxillofacial surgery are readily found in its extensive research portfolio.

There are active research projects currently underway in most areas of oral and maxillofacial surgery.

Academic oral and maxillofacial surgeons must be trained in the essential components of the oral and maxillofacial surgery curriculum in addition to the particular demands imposed by academic training.

Relationships with Other Specialties

- Oral & maxillofacial (OMF) surgeons are experts on diseases affecting the mouth, face, jaw and neck. They diagnose and treat symptoms, pathology, deformity and trauma affecting the mouth, face, jaws and neck.
- As a result of their experience in managing a wide range of conditions affecting this well-defined anatomical region, OMF Surgeons can provide advice on multi-system pathology, particularly where this affects the head and neck.
- OMF surgeons frequently provide specialist advice for other disciplines treating head and neck conditions, including trauma, cancer and deformity. Thus a broad spectrum of medical and dental specialties may interact with oral and maxillofacial surgery as follows:

Accident & Emergency

OMF surgeons provide major support to all hospital A & E Departments, for both soft and hard tissue injuries to the face, scalp and neck and for infections in this region. Sport injuries - Clinicians specialising in sports injuries may seek OMFS advice in *relation to facial injuries sustained during sporting activities.* OMF surgeons are core members of the trauma teams at hospitals which receive major trauma cases.

Neurosurgery & Neurosciences

OMF surgeons and neurosurgeons collaborate on surgery for trauma, deformity and oncology, which involve the face and head and are involved in the diagnosis of facial symptoms indicative of neural pathology. This is particularly important in the diagnosis and treatment of cervicofacial pain. OMF surgeons conduct facial disassembly procedures for intra-cranial and spinal access surgery and provide skull base reconstruction for neurosurgeons, fulfilling an important role in craniofacial surgical units.

Ophthalmology

OMF surgeons and ophthalmologists collaborate in the treatment of orbital trauma, oncology and deformity, and carry out orbital decompression in thyroid eye disease. Oculoplastic procedures are undertaken by both specialties.

Dental Specialties

OMF surgeons have a close relationship with orthodontists, restorative dental surgeons in relation to prosthetics, periodontal disease and advanced restorative procedures for dental implants. There is an important collaborative role in the preparation of oral oncology patients before, during and after radiotherapy. OMF surgeons work closely with oral medicine consultants in the diagnosis and management of oral mucosal disease. OMF surgeons rely heavily on their colleagues in Oral Pathology for assistance with histopathological diagnosis of oral lesions. Dental hygienists have an important role in maxillofacial units.

Dermatology

OMF surgeons consult with dermatologists in the treatment of patients with vesiculobullous disease, oral mucosal disease and connective tissue disorders, such as systemic sclerosis, and provide an important surgical service for facial skin cancer.

Clinical Genetics

OMF surgeons seek advice from geneticists for the families of children with severe facial deformity and other head and neck syndromes.

Clinical Oncology

OMF surgeons have a leading role in the management of head and neck neoplasia. They work as part of multi-disciplinary teams and have a special relationship with clinical oncology and radiotherapy. The specialty provides a surgical service in the diagnosis and management of these conditions and can advise on and manage problems arising in the oral cavity in patients with other neoplasms, who become immunosuppressed.

OMF surgeons also play a major role in the reconstruction of patients following major ablative surgery for head and neck malignancy as well as for post traumatic deformity. Frequently this will include free tissue transfer and microsurgical vascular anastomotic techniques.

Anaesthetics

OMF surgeons liaise closely with anaesthetists in patients with upper airway problems. Anaesthetists are vital members of the team treating surgical disease in the orofacial region frequently developing special expertise in this field.

Endocrinology

OMF surgeons can provide a surgical service to reduce the size of prominent jaws in patients with acromegaly and Paget's disease and have the technical expertise to provide a surgical service for thyroid and parathyroid disease.

Cardiology and Cardiothoracic Surgery

OMF surgeons advise on the oral and dental status of patients with valvular heart and coronary artery disease. This is particularly important prior to valve replacement and cardiac transplantation.

Paediatrics

OMF surgeons collaborate with paediatricians in the diagnosis and treatment of cervical and orofacial infections and paediatric neoplasia. They provide treatment for neonates with craniofacial deformity. They also form an important part of the multi-disciplinary team approach in cleft lip and palate and craniofacial units.

Orthopaedics

OMF surgeons provide vital expertise in the multidisciplinary treatment of polytrauma patients.

Otolaryngology

There is often a very close relationship between OMF surgeons and their ORL colleagues, with significant anatomical overlap in their respective areas of practice.

Plastic Surgery

OMF surgeons work alongside plastic surgeons - particularly in multi-disciplinary teams treating patients with cleft lip and palate and head and neck malignancy.

Psychiatry

OMF surgeons request the psychiatric assessment of some patients, prior to facial deformity surgery, and collaborate with psychiatric colleagues in the management of patients with facial pain.

Rheumatology

OMF surgeons collaborate in the management of patients with joint and connective tissue diseases, particularly where they affect the temporomandibular joint, face and mouth. They also provide a surgical service for those patients with Sjögren's disease, who have clinical problems or develop lymphoma in their salivary glands. They provide a diagnostic surgical service in suspected giant cell arteritis.

Intensive Care

OMF surgeons are trained to provide a surgical tracheotomy service for those patients requiring prolonged endotracheal intubation. Patients who have undergone major surgical procedures for malignancy, craniomaxillofacial trauma or craniofacial disease may spend the immediate post-operative period in an Intensive Care Unit.

Respiratory Medicine

OMF surgeons liaise with respiratory physicians and orthodontists for the provision of intra-oral devices to control obstructive sleep apnoea and surgically enlarge micrognathic mandibles by conducting jaw osteotomies in a select group of these patients. They also provide a surgical service for neck node biopsy in suspected cases of tuberculosis sarcoidosis, and other conditions. Advice may be sought from these specialties in patients with compromised respiratory efficiency prior to surgery.

Gastroenterology

OMF surgeons frequently see patients whose first manifestation of a systemic gastroenterological disease is in the mouth. They liaise with gastroenterologists regarding the management of these patients. The specialties have a close relationship in the provision of percutaneous endoscopic gastrostomies (PEGs) in patients undergoing major head and neck surgical procedures.

Renal Medicine

As a result of immunosuppression, renal transplant patients are at particular risk of skin and oral cancer. OMF surgeons are involved in the management of these patients where the disease affects the face and mouth.

Allied Health Professions (AHPs)

OMF surgeons have close relationships with speech and language therapists, dieticians, physiotherapists, occupational therapists, audiologists and other specialties allied to medicine in the management of a large range of patients requiring support and rehabilitation during and after treatment of conditions affecting the mouth, face, jaws and neck.

Medical Staff Delivering OMFS Services within the United Kingdom

Oral and maxillofacial surgery (OMFS) units are increasingly being organised on a regional basis with specialists based in a central (hub) unit which also provides treatment at a number of peripheral (spoke) units). As the effects of the European working time directive (EWTD) and the New Deal for Junior Doctors become clear oral and maxillofacial surgery services are becoming increasingly consultant-provided.

A typical oral and maxillofacial unit will comprise consultants in this specialty. Many will have particular areas of special interest which may include:

- Head and Neck Surgical Oncology
- Acquired and Congenital Facial Deformity
- Cleft Lip and Palate
- Craniofacial Deformity
- Craniomaxillofacial Trauma

Many oral and maxillofacial units are also staffed by staff and associate specialist grade doctors and dentists (SAS grades). These are non-training grades and may be filled by dually or singly-qualified clinicians. Many of the dentally-qualified SAS grades are on the Specialist List in Oral Surgery. This is overseen by the General Dental Council (GDC).

It has been calculated that, in order to provide a comprehensive service to the population of the United Kingdom, there should be one consultant in oral and maxillofacial surgery for every 150,000 members of the population. Current numbers fall well short of this ratio, but surgical workforce reviews take place every year with new posts being made available in response to clinical need and available funding.

Key Topics

Key Topics Oral and Maxillofacial Surgery

Key topics are those that are considered essential to the specialty. The topics have associated key procedures. All trainees should have been routinely exposed to them, and have acquired the relevant clinical competencies, prior to the award of a CCT. Trainers should ensure that trainees are fully assessed in the management of these topics/procedures in particular:

Important note: Competence in these topics/procedures will be taken to denote competence in the management of closely related pathology or less complex procedures in the same anatomical area.

Key Topics and Associated Essential Procedures

- Management of a patient with dento-alveolar pathology
    - Surgical extraction of unerupted/impacted teeth and roots
    - Apical surgery / excision of jaw cyst
- Management of infections of the head and neck
    - Drainage of tissue space infection
- Management of patient with compromised airway
    - Surgical access to airway (tracheostomy / cricothyroidotomy)
- Management of maxillofacial trauma
    - Repair of facial lacerations
    - Reduction and fixation of fracture of mandible
    - Fracture of mandibular condyle - open reduction and fixation
    - Elevation and fixation of fractured zygoma
    - Fracture of orbital floor – repair and graft
- Management of salivary gland swellings
    - Submandibular gland excision
    - Parotidectomy
- Management of oro-facial pain / temporomandibular joint dysfunction
    - Temporomandibular joint arthrocentesis
- Management of a patient with benign jaw tumour
    - Resection of odontogenic tumour / fibro-osseous lesion
    - Harvest of bone graft
- Potentially malignant and malignant epithelial tumours of the mucosa and skin
    - Local skin flaps
    - Excision of malignant skin tumour
- Management of patient with a neck lump / swelling
    - Neck dissection(s)
- Management of a patient with developmental/acquired deformity of facial skeleton
    - Mandibular ramus osteotomy
    - Maxillary osteotomy
    - Rhinoplasty
- Cancer of the head and neck region
    - Excision of oral / oropharyngeal or jaw malignancy
- Reconstructive surgery
    - Pedicled flaps
    - Free tissue transfer
- Patient requiring osseointegrated implants
    - Insertion of intra-oral implants and abutment connection

Core Overview

The purpose of the initial stage (early years) (CT1 - 2) is to allow the trainee to develop the basic and fundamental surgical skills common to all surgical specialties, together with a few surgical skills relevant to Oral and Maxillofacial Surgery. With the introduction of CT3 across the surgical specialties, for OMFS surgical trainees CT3 will be spent in specialty (ST3) and will provide an introduction to the spectrum of OMFS.

The outcome of early years training is to achieve the competences required of surgeons entering ST3. These competences include:

- Competence in the management of patients presenting with a range of symptoms and elective and emergency conditions as specified in the core syllabus for surgery.
- Competence in the management of patients presenting with an additional range of elective and emergency conditions, as specified by the Oral and Maxillofacial Surgery specialty component of the early years syllabus.
- Professional competences as specified in the syllabus and derived from Good Medical Practice documents of General Medical Council of the UK

By the end of CT2, trainees, including those following an academic pathway, will have acquired to the defined level:

- Generic skills to allow team working, and management of oral and maxillofacial patients
- perform as a member of the team caring for surgical patients
- receive patients as emergencies and review patients in clinics and initiate management and diagnostic processes based on a reasonable differential diagnosis
- manage the perioperative care of their patients and recognise common complications and either be able to deal with them or know to whom to refer
- be safe and useful assistant in the operating room
- perform some simple procedures under minimal supervision and perform more complex procedures under direct supervision

In addition they will have attained the knowledge, skills and behaviour as defined in the following (common) modules of the syllabus:

Module 1: Basic Science Knowledge relevant to surgical practice (These can all be contextualised within the list of presenting symptoms and conditions outlined in module 2)

- Anatomy
- Physiology
- Pharmacology - in particular safe prescribing
- Pathological principles underlying system specific pathology
- Microbiology
- Diagnostic and interventional radiology

Module 2: Common surgical conditions

- To assess and initiate investigation and management of common surgical conditions which may confront any patient whilst under the care of surgeons, irrespective of their speciality.
- To have sufficient understanding of these conditions so as to know what and to whom to refer in a way that an insightful discussion may take place with colleagues whom will be involved in the definitive management of these conditions.
- This defines the scope and depth of the topics in the generality of clinical surgery required of any surgeon irrespective of their ST3 defined speciality

Module 3 Basic surgical skills

- To prepare oneself for surgery
- To safely administer appropriate local anaesthetic agents
- To handle surgical instruments safely
- To handle tissues safely
- To incise and close superficial tissues accurately
- To tie secure knots
- To safely use surgical diathermy
- To achieve haemostasis of superficial vessels.
- To use a suitable surgical drain appropriately.
- To assist helpfully, even when the operation is not familiar.
- To understand the principles of anastomosis
- To understand the principles of endoscopy

Module 4: The principles of assessment and management of the surgical patient

- To assess the surgical patient
- To elicit a history that is relevant, concise, accurate and appropriate to the patient's problem
- To produce timely, complete and legible clinical records.
- To assess the patient adequately prior to operation and manage any pre-operative problems appropriately.
- To propose and initiate surgical or non-surgical management as appropriate.
- To take informed consent for straightforward cases.

Module 5: Peri-operative care of the surgical patient

- To manage patient care in the peri-operative period.
- To assess and manage preoperative risk.
- To take part in the conduct of safe surgery in the operating theatre environment.
- To assess and manage bleeding including the use of blood products.
- To care for the patient in the post-operative period including the assessment of common complications.
- To assess, plan and manage post-operative fluid balance
- To assess and plan perioperative nutritional management.

Module 6: Assessment and early treatment of the patient with trauma

- To safely assess the multiply injured patient.
- To safely assess and initiate management of patients with
- traumatic skin and soft tissue injury
- chest trauma
- a head injury
- a spinal cord injury
- abdominal and urogenital trauma
- vascular trauma
- a single or multiple fractures or dislocations
- burns

Module 7: Surgical care of the paediatric patient

- To assess and manage children with surgical problems, understanding the similarities and differences from adult surgical patients.
- To understand common issues of child protection and to take action as appropriate.

Module 8: Management of the dying patient

- To manage the dying patient appropriately.
- To understand consent and ethical issues in patients certified DNAR (do not attempt resuscitation)
- To manage the dying patient in consultation with the palliative care team.

Module 9: Organ and tissue transplantation

- To understand the principles of organ and tissue transplantation.
- To assess brain stem death and understand its relevance to continued life support and organ donation.

Module 10: Health Promotion

- To promote good health.

In addition they will have attained the knowledge, skills and behaviour as defined in the following (OMFS specific) modules of the syllabus:

1. Trauma
To be able to provide the early care of the injured including the management of simple fractures and soft tissue injuries.

2. Dento-alveolar surgery
To be able to identify manage a range of dento-alveolar conditions

3. Oncology
To understand the pathology and provide assessment of patients with suspected head and neck cancer.

4. Dentofacial Sepsis
To be able to recognise and manage dentofacial sepsis, appropriately investigate and be particularly aware of the assessment of the airway.

CORE SURGICAL TRAINING MODULES

Module 1	**Basic sciences**	**Assessment technique**	**Areas in which simulation should be used to develop relevant skills**
Objective	• To acquire and demonstrate underpinning basic science knowledge appropriate for the practice of surgery, including:- • Applied anatomy: Knowledge of anatomy appropriate for surgery • Physiology: Knowledge of physiology relevant to surgical practice • Pharmacology: Knowledge of pharmacology relevant to surgical practice centred around safe prescribing of common drugs • Pathology: Knowledge of pathological principles underlying system specific pathology • Microbiology: Knowledge of microbiology relevant to surgical practice Imaging: • Knowledge of the principles, strengths and weaknesses of various diagnostic and interventional imaging methods	Course completion certificate MRCS	
Knowledge	Applied anatomy: • Development and embryology • Gross and microscopic anatomy of the organs and other structures • Surface anatomy • Imaging anatomy This will include anatomy of thorax, abdomen, pelvis, perineum, limbs, spine, head and neck as appropriate for surgical operations that the trainee will be involved with during core training (see Module 2). Physiology: General physiological principles including: • Homeostasis • Thermoregulation • Metabolic pathways and abnormalities • Blood loss and hypovolaemic shock • Sepsis and septic shock • Fluid balance and fluid replacement therapy • Acid base balance • Bleeding and coagulation • Nutrition This will include the physiology of specific organ systems relevant to surgical care including the cardiovascular, respiratory, gastrointestinal, urinary, endocrine and neurological systems. Pharmacology:		Strongly recommended: Life support Critical care Desirable Anatomy Team-Based Human Factors

	• The pharmacology and safe prescribing of drugs used in the treatment of surgical diseases including analgesics, antibiotics, cardiovascular drugs, antiepileptic, anticoagulants, respiratory drugs, renal drugs, drugs used for the management of endocrine disorders (including diabetes) and local anaesthetics. • The principles of general anaesthesia • The principles of drugs used in the treatment of common malignancies • Can describe the effects and potential for harm of alcohol and other drugs including common presentations, wide range of acute and long term presentations (e.g. trauma, depression, hypertension etc.), the range of interventions, treatments and prognoses for use of alcohol and other drugs. Pathology: General pathological principles including: • Inflammation • Wound healing • Cellular injury • Tissue death including necrosis and apoptosis • Vascular disorders • Disorders of growth, differentiation and morphogenesis • Surgical immunology • Surgical haematology • Surgical biochemistry • Pathology of neoplasia • Classification of tumours • Tumour development and growth including metastasis • Principles of staging and grading of cancers • Principles of cancer therapy including surgery, radiotherapy, chemotherapy, immunotherapy and hormone therapy • Principles of cancer registration • Principles of cancer screening • The pathology of specific organ systems relevant to surgical care including cardiovascular pathology, respiratory pathology, gastrointestinal pathology, genitourinary disease, breast, exocrine and endocrine pathology, central and peripheral, neurological systems, skin, lymphoreticular and musculoskeletal systems Microbiology: • Surgically important micro organisms including blood borne viruses • Soft tissue infections including cellulitis,		

	abscesses, necrotising fasciitis, gangrene • Sources of infection • Sepsis and septic shock • Asepsis and antisepsis • Principles of disinfection and sterilisation • Antibiotics including prophylaxis and resistance • Principles of high risk patient management • Hospital acquired infections Imaging: • Principles of diagnostic and interventional imaging including x-rays, ultrasound, CT, MRI. PET, radiounucleotide scanning		

Module 2	**Common Surgical Conditions**		**Assessment technique**	**Areas in which simulation should be used to develop relevant skills**
Objective	This section assumes that trainees have general medical competences consistent with a doctor leaving Foundation in the UK. It also assumes an ongoing commitment to keeping these skills and knowledge up to date as laid out in GMP. It is predicated on the value that surgeons are doctors who carry our surgery and require competence. To demonstrate understanding of the relevant basic scientific principles for each of these surgical conditions and to be able to provide the relevant clinical care as defined in modules assessment and management as defined in Modules 1 and 4.		Certificate of successful completion of course MRCS	
Topics	Presenting symptoms or syndromes • Abdominal pain • Abdominal swelling • Change in bowel habit • Gastrointestinal haemorrhage • Rectal bleeding • Dysphagia • Dyspepsia • Jaundice	To include the following conditions • Appendicitis • Gastrointestinal malignancy • Inflammatory bowel disease • Diverticular disease • Intestinal obstruction • Adhesions • Abdominal hernias • Peritonitis • Intestinal perforation • Benign oesophageal disease • Peptic ulcer disease • Benign and		Strongly recommended: Basic surgical skills Basic laparoscopic skills Fracture treatment Desirable Imaging interpretation Desirable (Cardiothoracic Surgery / Plastic Surgery): • Anastomosis • Angiography • Vascular ultrasound

		malignant hepatic, gall bladder and pancreatic disease • Haemorrhoids and perianal disease • Abdominal wall stomata		• Surgical approaches to fractures
	Breast disease • Breast lumps and nipple discharge • Acute Breast pain	To include the following conditions • Benign and malignant breast lumps • Mastitis and breast abscess		
	Peripheral vascular disease Presenting symptoms or syndrome • Chronic and acute limb ischaemia • Aneurismal disease • Transient ischaemic attacks • Varicose veins • Leg ulceration	To include the following conditions • Atherosclerotic arterial disease • Embolic and thrombotic arterial disease • Venous insufficiency • Diabetic ulceration		
	Cardiovascular and pulmonary disease	To include the following conditions • Coronary heart disease • Bronchial carcinoma • Obstructive airways disease • Space occupying lesions of the chest		
	Genitourinary disease Presenting symptoms or syndrome • Loin pain • Haematuria • Lower urinary tract symptoms • Urinary retention • Renal failure • Scrotal swellings • Testicular pain	To include the following conditions • Genitourinary malignancy • Urinary calculus disease • Urinary tract infection • Benign prostatic hyperplasia • Obstructive uropathy		
	Trauma and orthopaedics Presenting symptoms or syndrome • Traumatic limb and joint pain and deformity • Chronic limb and joint pain and deformity • Back pain	To include the following conditions • Simple fractures and joint dislocations • Fractures around the hip and ankle • Basic principles of Degenerative joint disease		

		• Basic principles of inflammatory joint disease including bone and joint infection • Compartment syndrome • Spinal nerve root entrapment and spinal cord compression • Metastatic bone cancer • Common peripheral neuropathies and nerve injuries		
	Disease of the Skin, Head and Neck Presenting symptoms or syndrome • Lumps in the neck • Epistaxis • Upper airway obstructions	To include the following conditions • Benign and malignant skin lesions • Benign and malignant lesions of the mouth and tongue		
	Neurology and Neurosurgery Presenting symptoms or syndrome • Headache • Facial pain • Coma	To include the following conditions • Space occupying lesions from bleeding and tumour		
	Endocrine Presenting symptoms or syndrome • Lumps in the neck • Acute endocrine crises	To include the following conditions • Thyroid and parathyroid disease • Adrenal gland disease • Diabetes		

Module 3	**Basic surgical skills**	**Assessment technique**	**Areas in which simulation should be used to develop relevant skills**
Objective	• Preparation of the surgeon for surgery • Safe administration of appropriate local anaesthetic agents • Acquisition of basic surgical skills in instrument and tissue handling. • Understanding of the formation and healing of surgical wounds • Incise superficial tissues accurately with suitable instruments.	WBA- PBA, CBD, DOPS	

	• Close superficial tissues accurately. • Tie secure knots. • Safely use surgical diathermy • Achieve haemostasis of superficial vessels. • Use suitable methods of retraction. • Knowledge of when to use a drain and which to choose. • Handle tissues gently with appropriate instruments. • Assist helpfully, even when the operation is not familiar. • Understand the principles of anastomosis • Understand the principles of endoscopy		
Knowledge	Principles of safe surgery • Preparation of the surgeon for surgery • Principles of hand washing, scrubbing and gowning • Immunisation protocols for surgeons and patients Administration of local anaesthesia • Choice of anaesthetic agent • Safe practise Surgical wounds • Classification of surgical wounds • Principles of wound management • Pathophysiology of wound healing • Scars and contractures • Incision of skin and subcutaneous tissue: o Langer's lines o Choice of instrument o Safe practice • Closure of skin and subcutaneous tissue: o Options for closure o Suture and needle choice • Safe practice • Knot tying o Range and choice of material for suture and ligation o Safe application of knots for surgical sutures and ligatures • Haemostasis: o Surgical techniques o Principles of diathermy • Tissue handling and retraction: o Choice of instruments • Biopsy techniques including fine needle aspiration cytology • Use of drains: o Indications o Types o Management/removal • Principles of anastomosis		Strongly recommended: Basic surgical skills Tissue handling/suturing Strongly recommended (Paediatric Surgery): • Basic suturing and wound management Desirable (Cardiothoracic Surgery / Plastic Surgery): • Anastomosis • Endoscopy

	• Principles of surgical endoscopy		
Clinical Skills	4 Preparation of the surgeon for surgery • Effective and safe hand washing, gloving and gowning • Administration of local anaesthesia • Accurate and safe administration of local anaesthetic agent 4 Preparation of a patient for surgery • Creation of a sterile field • Antisepsis • Draping		
Technical Skills and Procedures	4 Preparation of the surgeon for surgery • Effective and safe hand washing, gloving and gowning 4 Administration of local anaesthesia • Accurate and safe administration of local anaesthetic agent 4 Incision of skin and subcutaneous tissue: • Ability to use scalpel, diathermy and scissors 4 Closure of skin and subcutaneous tissue: • Accurate and tension free apposition of wound edges 4 Knot tying: • Single handed • Double handed • Instrument • Superficial • Deep 3 Haemostasis: • Control of bleeding vessel (superficial) • Diathermy • Suture ligation • Tie ligation • Clip application • Transfixion suture 4 Tissue retraction: • Tissue forceps • Placement of wound retractors		

	3 Use of drains: • Insertion • Fixation • Removal 3 Tissue handling: • Appropriate application of instruments and respect for tissues • Biopsy techniques 4 Skill as assistant: • Anticipation of needs of surgeon when assisting		

Module 4	**The assessment and management of the surgical patient**	**Assessment technique**	**Areas in which simulation should be used to develop relevant skills**
Objective	To demonstrate the relevant knowledge, skills and attitudes in assessing the patient and manage the patient, and propose surgical or non-surgical management.	Examinations- MRCS	
Knowledge	The knowledge relevant to this section will be variable from patient to patient and is covered within the rest of the syllabus – see common surgical conditions in particular (Module 2). As a trainee develops an interest in a particular speciality then the principles of history taking and examination may be increasingly applied in that context.		Strongly recommended: Life Support Critical Care ATLS / APLS Desirable: Team working Human Factors
Clinical Skills	4 Surgical history and examination (elective and emergency) 3 Construct a differential diagnosis 3 Plan investigations 3 Clinical decision making 3 Team working and planning 3 Case work up and evaluation; risk management 3 Active participation in clinical audit events 3 Appropriate prescribing 3 Taking consent for intermediate level intervention; emergency and elective 3 Written clinical communication skills 3 Interactive clinical communication skills: patients 3 Interactive clinical communication skills: colleagues		

Module 5	**Peri-operative care**	**Assessment technique**	**Areas in which simulation should be used to develop relevant skills**
Objective	To assess and manage preoperative risk To manage patient care in the peri-operative period To conduct safe surgery in the operating theatre environment To assess and manage bleeding including the use of blood products To care for the patient in the post-operative period including the assessment of common complications To assess, plan and manage post-operative fluid balance To assess and plan perioperative nutritional management To prevent, recognise and manage delirium in the surgical patient within the appropriate legal framework in place across the UK (see **footnote**). **Footnote** The relevant legislation includes: • Mental Capacity Act (2005) • Mental Health Act (1983 and 2007) • Adults with Incapacity (Scotland) Act (2000) • Mental Health (Care and Treatment) (Scotland) Act (2003) • Adult Support and Protection (Scotland) Act (2007)	WBA Course test completion certificate	
Knowledge	Pre-operative assessment and management: • Cardiorespiratory physiology • Diabetes mellitus and other relevant endocrine disorders • Fluid balance and homeostasis • Renal failure • Pathophysiology of sepsis – prevention and prophylaxis • Thromboprophylaxis • Laboratory testing and imaging • Risk factors for surgery and scoring systems • Pre-medication and other preoperative prescribing • Principles of day surgery Intraoperative care: • Safety in theatre including patient positioning and		Strongly recommended: Basic surgical skills Life Support Critical Care Strongly recommended (Paediatric Surgery): • Safe surgery Desirable Human Factors Team-working

	avoidance of nerve injuries • Sharps safety • Diathermy, laser use • Infection risks • Radiation use and risks • Tourniquet use including indications, effects and complications • Principles of local, regional and general anaesthesia • Principles of invasive and non-invasive monitoring • Prevention of venous thrombosis • Surgery in hepatitis and HIV carriers • Fluid balance and homeostasis Post-operative care: • Post-operative monitoring • Cardiorespiratory physiology • Fluid balance and homeostasis • Diabetes mellitus and other relevant endocrine disorders • Renal failure • Pathophysiology of blood loss • Pathophysiology of sepsis including SIRS and shock • Multi-organ dysfunction syndrome • Post-operative complications in general • Methods of postoperative analgesia To assess and plan nutritional management • Post-operative nutrition • Effects of malnutrition, both excess and depletion • Metabolic response to injury • Methods of screening and assessment of nutritional status • Methods of enteral and parenteral nutrition Haemostasis and Blood Products: • Mechanism of haemostasis including the clotting cascade • Pathology of impaired haemostasis e.g. haemophilia, liver disease, massive haemorrhage • Components of blood • Alternatives to use of blood products • Principles of administration of blood products • Patient safety with respect to		

	blood products Coagulation, deep vein thrombosis and embolism: • Clotting mechanism (Virchow Triad) • Effect of surgery and trauma on coagulation • Tests for thrombophilia and other disorders of coagulation • Methods of investigation for suspected thromboembolic disease • Principles of treatment of venous thrombosis and pulmonary embolism including anticoagulation • Role of V/Q scanning, CTpulmonary angiography, D-dimer and thrombolysis • Place of pulmonary embolectomy • Prophylaxis of thromboembolism: • Risk classification and management of DVT • Knowledge of methods of prevention of DVT, mechanical and pharmacological Antibiotics: • Common pathogens in surgical patients • Antibiotic sensitivities • Antibiotic side-effects • Principles of prophylaxis and treatment Metabolic and endocrine disorders in relation perioperative management • Pathophysiology of thyroid hormone excess and deficiency and associated risks from surgery • Causes and effects of hypercalcaemia and hypocalcaemia • Complications of corticosteroid therapy • Causes and consequences of Steroid insufficiency • Complications of diabetes mellitus • Causes and effects of hyponatraemia • Causes and effects of hyperkalaemia and hypokalaemia		

	Delirium • Epidemiology and prognosis of delirium • Causes and clinical features of delirium • The impact of delirium on patient, family and carers		
Clinical Skills	3 Pre-operative assessment and management: • History and examination of a patient from a medical and surgical standpoint • Interpretation of pre-operative investigations • Management of co morbidity • Resuscitation • Appropriate preoperative prescribing including premedication 3 Intra-operative care: • Safe conduct of intraoperative care • Correct patient positioning • Avoidance of nerve injuries • Management of sharps injuries • Prevention of diathermy injury • Prevention of venous thrombosis 3 Post-operative care: • Writing of operation records • Assessment and monitoring of patient's condition • Post-operative analgesia • Fluid and electrolyte management • Detection of impending organ failure • Initial management of organ failure • Principles and indications for Dialysis • Recognition, prevention and treatment of post-operative complications 3 Haemostasis and Blood Products: • Recognition of conditions likely to lead to the diathesis • Recognition of abnormal bleeding during surgery • Appropriate use of blood products • Management of the complications of blood product transfusion		

	3 Coagulation, deep vein thrombosis and embolism • Recognition of patients at risk • Awareness and diagnosis of pulmonary embolism and DVT • Role of duplex scanning, venography and d-dimer measurement • Initiate and monitor treatment of venous thrombosis and pulmonary embolism • Initiation of prophylaxis 3 Antibiotics: • Appropriate prescription of antibiotics 3 Assess and plan preoperative nutritional management • Arrange access to suitable artificial nutritional support, preferably via a nutrition team including Dietary supplements, Enteral nutrition and Parenteral nutrition 3 Metabolic and endocrine disorders • History and examination in patients with endocrine and electrolyte disorders • Investigation and management of thyrotoxicosis and hypothyroidism • Investigation and management of hypercalcaemia and hypocalcaemia • Peri-operative management of patients on steroid therapy • Peri-operative management of diabetic patients • Investigation and management of hyponatraemia • Investigation and management of hyperkalaemia and hypokalaemia Delirium 3 Assessment of cognitive impairment seeking to differentiate dementia from delirium, with the knowledge that delirium is common in people with dementia 3 Management of patients with delirium including addressing triggers and using non- pharmacological and pharmacological methods where appropriate 3 Explanation of delirium to patients and advocates		

Technical Skills and Procedures	2 Central venous line insertion 4 Urethral catheterisation		Strongly recommended (Paediatric Surgery) Desirable

Module 6	**Assessment and management of patients with trauma (including the multiply injured patient)**	**Assessment technique**	**Areas in which simulation should be used to develop relevant skills**
Objective	Assess and initiate management of patients with chest trauma • who have sustained a head injury • who have sustained a spinal cord injury • who have sustained abdominal and urogenital trauma • who have sustained vascular trauma • who have sustained a single or multiple fractures or dislocations • who have sustained traumatic skin and soft tissue injury • who have sustained burns • Safely assess the multiply injured patient. • Contextualise any combination of the above • Be able to prioritise management in such situation as defined by ATLS, APLS etc It is expected that trainees will be able to show evidence of competence in the management of trauma (ATLS / APLS certificate or equivalent).	WBA Course test and certificate	
Knowledge	General • Scoring systems for assessment of the injured patient • Major incident triage • Differences In children Shock • Pathogenesis of shock • Shock and cardiovascular physiology • Metabolic response to injury • Adult respiratory distress syndrome • Indications for using uncross matched blood Wounds and soft tissue injuries		Strongly recommended: Life Support Critical Care Wound management ATLS / APLS Desirable: Team-working Human Factors Trauma management

	• Gunshot and blast injuries • Stab wounds • Human and animal bites • Nature and mechanism of soft tissue injury • Principles of management of soft tissue injuries • Principles of management of traumatic wounds • Compartment syndrome Burns • Classification of burns • Principle of management of burns Fractures • Classification of fractures • Pathophysiology of fractures • Principles of management of fractures • Complications of fractures • Joint injuries Organ specific trauma • Pathophysiology of thoracic trauma • Pneumothorax • Head injuries including traumatic intracranial haemorrhage and brain injury • Spinal cord injury • Peripheral nerve injuries • Blunt and penetrating abdominal trauma • Including spleen • Vascular injury including iatrogenic injuries and intravascular drug abuse • Crush injury • Principles of management of skin loss including use of skin grafts and skin flaps		
Clinical Skills	General 4 History and examination 3 Investigation 3 Referral to appropriate surgical subspecialties 4 Resuscitation and early management of patient who has sustained thoracic, head, spinal, abdominal or limb injury according to ATLS and APLS guidelines 4 Resuscitation and early management of the multiply injured patient 3 Specific problems		

	• Management of the unconscious patient • Initial management of skin loss • Initial management of burns • Prevention and early management of the compartment syndrome		
Technical Skills and Procedures	2 Central venous line insertion 3 Chest drain insertion 2 Diagnostic peritoneal lavage 4 Urethral catheterisation 2 Suprapubic catheterisation		Desirable

Module 7	**Surgical care of the Paediatric patient**	**Assessment technique**	**Areas in which simulation should be used to develop relevant skills**
Objective	To assess and manage children with surgical problems, understanding the similarities and differences from adult surgical patients To understand the issues of child protection and to take action as appropriate	WBA MRCS	
Knowledge	• Physiological and metabolic response to injury and surgery • Fluid and electrolyte balance • Thermoregulation Safe prescribing in children • Principles of vascular access in children • Working knowledge of trust and Local Safeguarding Children Boards (LSCBs) and Child Protection Procedures • Basic understanding of child protection law • Understanding of Children's rights • Working knowledge of types and categories of child maltreatment, presentations, signs and other features (primarily physical, emotional, sexual, neglect, professional) • Understanding of one personal role, responsibilities and appropriate referral patterns in child protection • Understanding of the challenges of working in partnership with children and families • Recognise the possibility of abuse or maltreatment • Recognise limitations of own knowledge and experience and seek appropriate expert advice		Strongly recommended: Critical Care Child protection Desirable Team-working

	• Urgently consult immediate senior in surgery to enable referral to paediatricians • Keep appropriate written documentation relating to child protection matters • Communicate effectively with those involved with child protection, including children and their families		
Clinical Skills	3 History and examination of the neonatal surgical patient 3 History and examination of paediatric surgical patient 3 Assessment of respiratory and cardiovascular status 3 Undertake consent for surgical procedures (appropriate to the level of training) in paediatric patients		

Module 8	**Management of the dying patient**	**Assessment technique**	**Areas in which simulation should be used to develop relevant skills**
Objective	Ability to manage the dying patient appropriately. To understand consent and ethical issues in patients certified DNAR (do not attempt resuscitation) Palliative Care: Good management of the dying patient in consultation with the palliative care team.	MRCS	
Knowledge	Palliative Care: • Care of the terminally ill • Appropriate use of analgesia, antiemetics and laxatives Principles of organ donation: • Circumstances in which consideration of organ donation is appropriate • Principles of brain death Understanding the role of the coroner and the certification of death		Desirable Team-working Human Factors
Clinical Skills	3 Palliative Care: • Symptom control in the terminally ill patient 3 Principles of organ donation: • Assessment of brain stem death • Certification of death		Strongly recommended (Paediatric Surgery: • Ethical issues • Palliative care • Communication

Module 9	**Organ and Tissue transplantation**	**Assessment technique**	**Areas in which simulation should be used to develop relevant skills**
Objective	To understand the principles of organ and tissue transplantation	MRCS	
Knowledge	• Principles of transplant immunology including tissue typing, acute, hyperactute and chronic rejection • Principles of immunosuppression • Tissue donation and procurement • Indications for whole organ transplantation		

Module 10	**Health Promotion**
General Aspects	
Objective	This syllabus module aims to enable all surgical trainees to develop the competencies necessary to support patients in caring for themselves, to empower them to improve and maintain their own health.
Knowledge	• Damaging health and social issues such as excessive alcohol consumption, obesity, smoking and illicit drugs and the harmful effects they have on health • The connection between mental health and physical health • The importance of health education for promoting self-care for patients
Clinical Skills	3 Modification of explanations to match the intellectual, social and cultural background of individual patients 3 Patient centred care 4 Identification and utilisation of opportunities to promote health
Reference to other relevant syllabus items	• Nutrition (Module 5, Perioperative Care) • Drugs and alcohol (Module 1, Pharmacology) • Screening (Module 1, Pathology) • Child protection (Module 7, Surgical Care of the Paediatric Patient)
Obesity	
Objective	• Recognise the health risks posed by obesity including an increased incidence of coronary heart disease, type 2 diabetes, hypertension, stroke, and some major cancers. • Assess and explain the higher risks for obese individuals undergoing surgery.
Knowledge	• Classification of excess body mass • Social, psychological and environmental factors that underpin obesity • Physiological and metabolic effects of obesity on the surgical patient • Available treatments for obesity including diet, exercise, medication and surgery
Clinical Skills	4 The ability to treat patients who are obese in a supportive and sensitive manner 3 Management of cardiovascular, respiratory and metabolic complications in patients with obesity undergoing surgery 2 Provide advice and guidance about weight loss to overweight and obese patients within the context of a multidisciplinary team

Dementia	
Objective	• Adapt surgical treatment in order to deliver high quality and person-centred care for patients with dementia • Apply the appropriate legal framework to the treatment of patients with cognitive impairment
Knowledge	• Clinical features of dementia and the distinction between it and delirium • The impact of dementia on patient, family and carers • Principles and key provisions of the relevant legislation regarding the safeguarding of vulnerable adults across the UK (see **footnote**).
Clinical Skills	3 Recognises cognitive impairment and appropriately refers 2 Management of surgical patients in the context of their dementia 4 A range of techniques and strategies to communicate effectively with people with dementia and their carers/families 4 Assessment of capacity, involvement of advocates and documentation of consent and best interests in accordance with current legislation in place across the nations of the UK (see **footnote**). **Footnote** The relevant legislation includes: • Mental Capacity Act (2005) • Mental Health Act (1983 and 2007) • Adults with Incapacity (Scotland) Act (2000) • Mental Health (Care and Treatment) (Scotland) Act (2003) • Adult Support and Protection (Scotland) Act (2007).
Exercise and physical fitness	
Objective	• Promote the use of exercise in the prevention and management of long term chronic conditions such as coronary heart disease, diabetes, hypertension, obesity, cancer, osteoporosis, peripheral vascular disease and depression and the promotion of health and well being
Knowledge	• Physical inactivity as an independent risk factor for ill health and obesity • Relationship between physical exercise programmes and healthy eating and smoking cessation programmes • Government behaviour change programmes such as 'Let's Get Moving' and 'Shift into Sports'
Clinical Skills	4 Utilisation of all patient interactions as opportunities for health and fitness promotion 4 Modification of advice on physical exercise to the specific requirements of individual patients

Requirement to meet the ST3 in Oral and Maxillofacial Surgery

In order to meet the job specifications of an ST3 trainee an early years trainee must have had experience of working as a key member of the Oral & Maxillofacial Surgical (OMFS) team. Experience should be gained and competencies demonstrated (in addition to the generic competencies for all surgeons) in: Ward care, outpatient clinics, receiving and managing OMFS emergency patients, MDT meetings. Operative experience should include exposure to surgical airway management, surgical oncology, orthognathic surgery, maxillofacial trauma (hard & soft tissue) and dentofacial sepsis. Trainees should demonstrate competencies in dento-alveolar surgery the operative management of simple facial lacerations, the outpatient management of dento-facial sepsis.

Trainees must attend clinical meetings and ward rounds, prepare operating lists for trauma, attend trauma operating sessions and actually perform some surgery under appropriate supervision, and manage all patients in an OMFS ward environment, preoperatively and post operatively. This includes recognising and initiating the management of common OMFS complications and emergencies, over and above those already laid out in the generic curriculum, particularly module 2.

The range of conditions a trainee needs to manage are laid out below and in the depth demonstrated in a text book such as Maxillofacial Surgery: Editors Peter Ward, Stephen A Schendel, Jarg-Erich Hausamen Chruchill Livingstone ISBN – 13 978-0-443-10053-6

1. Trauma
To be able to provide the early care of the injured including the management of simple fractures and soft tissue injuries.

2. Dento-alveolar surgery
To be able to identify manage a range of dento-alveolar conditions

3. Oncology
To understand the pathology and provide assessment of patients with suspected head and neck cancer.

4. Dentofacial Sepsis
To be able to recognise and manage dentofacial sepsis, appropriately investigate and be particularly aware of the assessment of the airway.

Early Years training in OMFS training	
Objective	Provide experience in the early care of the injured, learn to manage simple facial fractures and soft tissue injuries.
Knowledge	Anatomy and physiology of the head and neck Understanding of imaging techniques (e.g. MRI, CT, bone scan, USS) as applied to head & neck Patho-physiology of bone healing. Principles of management of fractures. Principles of wound healing Principles of the management of dento-alveolar trauma
Clinical Skills	Examination of the head & neck Perform a neurological examination and assessment of head injury. Interpretation of plain radiographs Assessment and immediate management of dento-alveolar trauma
Technical Skills and Procedures	Closure of simple facial lacerations Placement plates for simple mandibular fracture

Early Years training in OMFS	
Category	Dento-Alveolar surgery/intra-oral soft tissue
Objective	Gain experience in the diagnosis and surgical management of common dento-alveolar problems and intra-oral soft tissue lesions
Knowledge	Anatomy, embryology and physiology teeth and supporting structures Understanding of intra-oral imaging techniques including plain radiology and cone beam ct scanning Principles of the management of odontogenic cysts, impacted teeth, periradicular surgery and implantology. Principles of incisional, excisional and needle biopsy techniques
Clinical Skills	Assessment of patients presenting with dento-alveolar and intra oral mucosal signs and symptoms.
Technical Skills and Procedures	Dental extractions, surgical removal of teeth and buried roots, surgical management of odontogenic cysts. Intra oral biopsies

Early years training in OMFS	
Category	Oncology
Objective	Gain experience in the diagnosis and surgical management of common dento-alveolar problems and intra-oral soft tissue lesions
Knowledge	Principles of the management of premalignant and malignant conditions affecting the head and neck. Principles of the use of radiotherapy and chemotherapy, and their complications. Principles in the use of symptom control medication and techniques in the care of the dying patient Understanding the importance of the nutritional state of oncology patients

Clinical Skills	Breaking bad news Assessment of oncology patients Understanding the legal moral and ethical considerations when making end of life decisions Assessment of the surgical airway and trachaeostomy care
Technical Skills and Procedures	Placement of naso- and oro- gastric feeding tubes Changing an established tracheostomy

Early Years training in OMFS	
Category	Denta-Facial Sepsis
Objective	Gain experience in the diagnosis and surgical management of dento-facial infections
Knowledge	Principles of the diagnosis management of dento-facial sepsis (bacterial, viral & fungal) Principles of the use of antimicrobial agents. Principles of the surgical management of dento-facial sepsis
Clinical Skills	Assessment of facial and dental pain Assessment of dento-facial sepsis with particular reference to the management of the airway
Technical Skills and Procedures	Intra-oral drainage of abscesses under local or topical anaesthesia Exposure to the surgical techniques of extra-oral drainage of collections Establishing drainage of an abscess via a tooth.

Assessment

The speciality elements of the early years will all be assessed primarily in the workplace and then scrutinised in the Annual Review of Competency Progression. All these documents would be included in a portfolio which would contribute as evidence in subsequent applications to enter ST3.

Specific evidence includes

Assessment type	**Subject**
DOPS a selection of types and numbers of each type according to learning agreements	Closure of simple facial laceration. Placement of plates for fractured mandible
Case Based Discussions	One per attachment
CEX	Examples of examination for : Facial trauma, head and neck oncology, dento-facial sepsis and dento-alveolar conditions
PBAs	Mandibular fracture plate placement Dento-facial sepsis case Intra oral drainage Oncology case Intraoral biopsy Dento-alveolar case removal impacted wisdom tooth
Training Supervisors report	Evidenced by the above WPBAs
ARCP for each specified training interval	As per local Deanery specifications
MRCS	Generic syllabus

Intermediate Stage Overview

Entry into ST3

Entry into ST3 will usually involve a competitive selection process. The current person specifications for entry into ST3 in Oral and Maxillofacial Surgery are shown on the Modernising Medical Careers website. The essential components here are completion of the common component of the core surgical training programme (as evidenced by successful ARCP, WPBA and completion of the MRCS examination) and completion of the oral and maxillofacial surgery specific components of the early years training as evidenced by a successful ARCP and completion of the appropriate WPBA.

The intermediate stage of training comprises three indicative years (ST3 to ST5). The purpose of the intermediate stage is to allow a trainee to acquire and develop the specialist skills, knowledge and attitude that will allow further progress towards a CCT in the specialty.

The intermediate stage of specialist training will provide increasing exposure to the core aspects of oral and maxillofacial surgery. The aim is to acquire the competencies and specialist surgical skills that will form the basis for safe clinical practice in the generality of the specialty. The logbook should record development of operative skills and any deficiency in experience or competency during ST3 and ST5 must be corrected during this period.

Instructional courses in various aspects of the specialty will probably be attended during this time. This will include a microsurgical skills course if not already attended. Attendances at regional study days, national and international conferences will be encouraged. Trainees should seek to develop their experience in audit, teaching, presentations and contributing to the specialty literature.

On completion of ST5 of specialist training the trainee will have acquired the following:

1. Increasing competence in the peri-operative care of the maxillofacial surgical patient
2. Competence in diagnosis and clinical management of most oral and maxillofacial conditions
3. Competence in the operative care of a greater range of oral and maxillofacial conditions (i.e. in addition to those listed for ST3 and ST4).

This section gives examples of some other areas of the curriculum that it is

The following problems are commonly encountered and should be managed competently by the end of ST4, up to and including operative intervention if appropriate.

In addition to the conditions identified in the initial phase, trainees in the intermediate stage would be expected to be able to deal with, whether encountered as a result of being ‘on-call’ or working in an out-patient clinic setting the following:

1. Diagnosis and management of patient with developmental deformity of the facial skeleton
2. Diagnosis and management of patient presenting with oro-facial malignancy

During this stage the trainee will gain competence to the level defined in the syllabus in a number of technical skills and procedures. A trainee would be expected to be able to perform all of the procedures listed below without the direct scrubbed assistance or supervision of a trainer in addition to those identified in the initial stage. The list is not exhaustive, although it covers most of the common procedures expected at this stage.

Maxillofacial trauma

- Open reduction and fixation of symphysis/body/angle of fractured mandible
- Elevation of fractured zygoma
- Open reduction and fixation of fractured zygoma
- Reduction and fixation fractured maxilla (Le Fort I)

Salivary gland surgery

- Removal of stone from submandibular duct
- Excision of neoplasm of minor salivary gland
- Sublingual gland excision
- Submandibular gland excision
- Partial/superficial parotidectomy
- Total conservative parotidectomy
- Radical parotidectomy

Orthognathic surgery

- Genioplasty
- Mandibular ramus osteotomy
- Le Fort I maxillary osteotomy

Temporomandibular joint surgery

- Arthrocentesis

Neck surgery

- Tracheostomy/cricothroidotomy
- Exploration/ligation of external carotid artery
- Cervical node biopsy

Reconstructive surgery

- Harvest of non-vascularised extra-oral bone graft

Aesthetic surgery

- Scar revision/Z-plasty etc.

Neural surgery

- Trigeminal nerve cryotherapy/neurectomy/chemolysis (peripheral)

Click on Workplace Based Assessments to view the assessment forms including DOPS and PBAs

Intermediate Stage Topics

Topic	**Intra-capsular TMJ and condylar head pathology**	**Areas in which simulation should be used to develop relevant skills**
Category	Temporomandibular Disorders	
Sub-category:	None	
Objective	*Can perform complete task without direct supervision of scrubbed trainer.*	
Knowledge	4 Applied anatomy of temporomandibular joint 4 Causes of TMJ/capsular/meniscal pathology 4 Procedures available 4 Indications for open surgery 4 Potential complications	Desirable: Anatomy
Clinical Skills	4 Identification of relevant instruments and support staff	
Technical Skills and Procedures	4 Approaches to the TMJ and mandibular condyle	Desirable : Surgical technique

Topic	**Nasal Fractures**	**Areas in which simulation should be used to develop relevant skills**
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*To be able to assess an injured patient presenting either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	4 Aetiology of facial trauma 4 Priorities of management 4 Assessment of airway and level of consciousness (Glasgow coma scale) 4 Signs and symptoms of fractures of facial skeleton 4 Eyes/ears assessment 4 Investigations and radiographic interpretation 4 Anatomy of mouth, jaws, teeth and supporting structures and relevance dental occlusion where appropriate 4 Anatomy of trigeminal nerve and infiltration / nerve block anaesthesia 4 Classification of dental trauma and dento-alveolar fractures 4 Assessment of head injury and cranial nerve function	Desirable: Anatomy

	4 Aetiology 4 Interpretation of radiographs 4 Potential complications 4 Pharmacology and therapeutics of post-operative analgesia 4 Anatomy of facial skeleton 4 Physiology of nasal cavity 4 Anatomy of scalp, facial skeleton, orbit and contents 4 Anatomy of eyelids 4 Classification of facial fractures 4 Physiology of sight and occulomotor function 4 Available techniques	
Clinical Skills	4 General assessment of the traumatised patient 3 Assessment and examination of patient with facial trauma 3 Airway management and emergency treatment of facial trauma 3 Ability to formulate a treatment plan and prioritise management 4 Pain control /prevention of infection 4 infiltration / nerve block anaesthesia	Strongly recommended ATLS
Technical Skills and Procedures	4 Clinical examination of facial skeleton and cranial nerves 4 Carry out of steps of procedure safely and correctly 3 Manipulation of nasal bones and septum 3 Management of epistaxis 4 Nasal packing and external splintage	Desirable: Surgical technique

Topic	**Lacrimal/Parotid duct injury**	**Areas in which simulation should be used to develop relevant skills**
Category	Cranio Maxillofacial Trauma	
Sub-category:	None	
Objective	*To be able to identify a patient who has sustained these injuries.* *To be alert for the potential for these injuries to occur.* *To be able to carry out these procedures safely and competently.*	
Knowledge	4 Anatomy and physiology of parotid / lacrimal glands 4 Appropriate investigations 4 Principles of stenting of duct	Desirable: Anatomy
Clinical Skills	4 Examination of cranial nerves / recognition of case at risk 4 Examination of eyelids and lacrimal apparatus 4 Identify relevant instruments 4 Identification of key structures	
Technical Skills and Procedures	3 Use of loupes / operating microscope 3 Surgical repair under magnification 3 Ability to stent duct	Strongly recommended

Topic	Fracture of mandibular condyle	**Areas in which simulation should be used to develop relevant skills**
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*To be able to identify a patient who has sustained this injury.* *To be alert for the potential for this injury to occur.* *To understand the principles of surgical management of this injury.* *To be able to carry out these procedures safely and competently*	
Knowledge	4 Anatomy of facial skeleton, TM joint, parotid gland, facial nerve 4 Classification of condylar fractures 4 Assessment of head injury and cranial nerve function 4 Dental occlusion 4 Selection and interpretation of relevant imaging 4 Understanding the benefits and indications of both open and closed treatments 4 Potential complications long and short term	Desirable: Anatomy Anatomy Cadaveric course
Clinical Skills	4 Ability to correctly interpret physical signs and relevant imaging 4 Clinical examination of teeth, oral cavity, facial skeleton and cranial nerves 4 Demonstrates clinical judgment appropriate to injury and patient needs	
Technical Skills and Procedures	Closed reduction: 4 Carry out steps of procedure safely and correctly 4 Techniques for removal of damaged teeth / retained roots 4 Techniques of intermaxillary fixation Open Reduction: 3 Carry out of steps of procedure safely and correctly 4 Techniques for removal of damaged teeth / retained roots 3 Techniques for exposure of fracture site and manipulation of condylar fragment 4 Plate handling skills 4 Techniques of intermaxillary fixation	Strongly recommended Surgical technique

Topic	Fracture of maxilla	Areas in which simulation should be used to develop relevant skills
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*To be able to identify a patient who has sustained this injury.* *To be alert for the potential for this injury to occur.* *To understand the principles of surgical management of this injury.* *To be able to carry out these procedures safely and competently*	
Knowledge	4 Anatomy of facial skeleton 4 Classification of mid -facial fractures 4 Bone healing 4 Head injury and cranial nerve function 4 Dental occlusion 4 Available techniques e.g. open fixation, closed fixation techniques 4 Potential complications 4 Awareness of possibility of other associated fractures 4 Understanding the role of the maxillofacial technician	Desirable: Anatomy
Clinical Skills	4 Systematic clinical examination of teeth, oral cavity, facial skeleton and cranial nerves 3 Interpretation of radiographs/scans 4 Assessment of head injury and cranial nerve function 4 Selection of treatment plan appropriate to the patients injury 3 An awareness of other factors affecting timing of surgery 4 Involving the maxillofacial technician in treatment planning	
Technical Skills and Procedures	4 Carry out of steps of procedure safely and correctly 4 Techniques for removal of damaged teeth / retained roots 3 Techniques for exposure of fracture sites and reduction of fragments 3 Plate handling skills 4 Techniques of intermaxillary fixation 3 Techniques of cranio-maxillary fixation	Saw bone courses Surgical technique cadaver course (Strongly recommended)

Topic	Fracture of orbital floor	Areas in which simulation should be used to develop relevant skills
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*To be able to identify a patient who has sustained this injury.* *To be alert for the potential for this injury to occur.* *To understand the principles of surgical management of this injury.* *To be able to carry out these procedures safely and competently*	
Knowledge	4 Anatomy and physiology of facial skeleton, orbit and contents 4 Awareness of head injury and cranial nerve function 3 Potential for complications involving sight and early involvement where appropriate of opthalmologists/orthoptists 3 Surgical approaches to the orbit 3 Available techniques for orbital wall reconstruction 4 Potential complications	Desirable: Anatomy
Clinical Skills	4 Clinical examination of eyes, facial skeleton and cranial nerves 3 Assessment of head injury and cranial nerve function 4 Choice of appropriate surgical technique 3 Interpretation of radiographs/scans	

Technical Skills and Procedures	3 Carry out of steps of procedure safely and correctly 3 Assessment of eye function 3 Techniques for approach to orbital floor 3 Safe exposure of fracture sites and reduction of fragments 3 Bone grafting and plating skills	Desirable

Topic	**Dental Trauma and dento-alveolar fractures**	**Areas in which simulation should be used to develop relevant skills**
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*To be able to assess an injured patient presenting either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	4 Aetiology of facial trauma 3 Priorities of management 3 Assessment of airway and level of consciousness (Glasgow coma scale) 3 Signs and symptoms of fractures of facial skeleton 3 Eyes/ears assessment 3 Investigations and radiographic interpretation 4 Anatomy of mouth, jaws, teeth and supporting structures 4 Anatomy of trigeminal nerve and infiltration / nerve block anaesthesia 4 Classification of dental trauma and dento-alveolar fractures 4 Assessment of head injury and cranial nerve function 4 Aetiology 3 Interpretation of radiographs 4 Potential complications 4 Pharmacology and therapeutics of post-operative analgesia 4 Anatomy of facial skeleton 4 Physiology of nasal cavity 4 Anatomy of scalp, facial skeleton, orbit and contents 4 Anatomy of eyelids 3 Classification of facial fractures 4 Physiology of sight and occulomotor function 3 Available techniques 4 Anatomy of facial skeleton, teeth and supporting structures 4 Dental occlusion	
Clinical Skills	4 General assessment of the traumatised patient 3 Assessment and examination of patient with facial trauma 3 Airway management and emergency treatment of facial trauma 3 Ability to formulate a treatment plan and prioritise management 3 Pain control /prevention of infection 4 infiltration / nerve block anaesthesia	Strongly recommended ATLS

Technical Skills and Procedures	3 Clinical examination of oral cavity, facial skeleton and cranial nerves 4 Local anaesthetic and sedation techniques 3 Carry out of steps of procedure safely and correctly 4 Techniques for removal of damaged teeth/retained roots 3 Techniques of preservation of damaged teeth, reduction and fixation 3 Intra-oral soft tissue handling and suturing techniques	Desirable

Topic	**Fractured Zygoma**	**Areas in which simulation should be used to develop relevant skills**
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*To be able to assess an injured patient presenting either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	4 Aetiology of facial trauma 3 Priorities of management 3 Assessment of airway and level of consciousness (Glasgow coma scale) 3 Signs and symptoms of fractures of facial skeleton 3 Eyes/ears assessment 3 Investigations and radiographic interpretation 4 Anatomy of mouth, jaws, teeth and supporting structures 4 Anatomy of trigeminal nerve and infiltration / nerve block anaesthesia 3 Classification of dental trauma and dento-alveolar fractures 3 Assessment of head injury and cranial nerve function 4 Aetiology 3 Interpretation of radiographs 3 Potential complications 4 Pharmacology and therapeutics of post-operative analgesia 4 Anatomy of facial skeleton 4 Physiology of nasal cavity 4 Anatomy of scalp, facial skeleton, orbit and contents 4 Anatomy of eyelids 3 Classification of facial fractures 4 Physiology of sight and occulomotor function 3 Available techniques 3 Anatomy of facial skeleton, teeth and supporting structures 4 Dental occlusion	Desirable: Anatomy
Clinical Skills	4 General assessment of the traumatised patient 3 Assessment and examination of patient with facial trauma 3 Airway management and emergency treatment of facial trauma	Strongly recommended ATLS

	3 Ability to formulate a treatment plan and prioritise management 4 Pain control /prevention of infection 4 infiltration / nerve block anaesthesia	
Technical Skills and Procedures	4 Clinical examination of facial skeleton and cranial nerves 3 Basic ophthalmic and orthoptic assessment 3 Carry out of steps of procedure safely and correctly 3 Techniques of exposure of fracture site(s) and bone manipulation 3 Plate handling skills 3 Soft tissue handling and suturing techniques	Desirable

Topic	**Fracture of mandible (excluding condyle)**	**Areas in which simulation should be used to develop relevant skills**
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*To be able to assess an injured patient presenting either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	3 Aetiology of facial trauma 3 Priorities of management 4 Assessment of airway and level of consciousness (Glasgow coma scale) 3 Signs and symptoms of fractures of facial skeleton 3 Eyes/ears assessment 3 Investigations and radiographic interpretation 4 Anatomy of mouth, jaws, teeth and supporting structures 4 Anatomy of trigeminal nerve and infiltration / nerve block anaesthesia 4 Classification of dental trauma and dento-alveolar fractures 4 Assessment of head injury and cranial nerve function 4 Aetiology 3 Interpretation of radiographs 3 Potential complications 4 Pharmacology and therapeutics of post-operative analgesia 4 Anatomy of facial skeleton 4 Physiology of nasal cavity 4 Anatomy of scalp, facial skeleton, orbit and contents 4 Anatomy of eyelids 4 Classification of facial fractures 4 Physiology of sight and occulomotor function 4 Available techniques 4 Anatomy of facial skeleton, teeth and supporting structures 4 Dental occlusion	Desirable: Anatomy
Clinical Skills	3 General assessment of the traumatised patient 3 Assessment and examination of patient with facial trauma 3 Airway management and emergency treatment of facial trauma 3 Ability to formulate a treatment plan and prioritise management	Strongly recommended ATLS

	3 Pain control /prevention of infection 4 infiltration / nerve block anaesthesia	
Technical Skills and Procedures	4 Clinical examination of teeth, oral cavity, facial skeleton and cranial nerves 3 Carry out of steps of procedure safely and correctly 4 Techniques for removal of damaged teeth/retained roots 3 Techniques of exposure of fracture site(s) and bone manipulation 3 Plate handling skills 3 Techniques of intermaxillary fixation 3 Intra/extra-oral soft tissue handling and suturing techniques	Strongly recommended

Topic	**Fractures of Naso-orbito-ethmoid complex**	**Areas in which simulation should be used to develop relevant skills**
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*Can perform complete task without direct assistance of scrubbed trainer.*	
Knowledge	4 Anatomy of craniofacial skeleton, nasal bones, orbit and contents 4 Classification of facial fractures 3 Assessment of head injury and cranial nerve function 3 Interpretation of radiographs/scans 3 Available techniques 3 Potential complications 4 Anatomy of craniofacial skeleton, frontal bones, nasal bones, orbit and contents 4 Anatomy and physiology of frontal sinus drainage 4 Classification of frontal bone and facial fractures	Desirable: Anatomy
Clinical Skills	4 Clinical examination of eyes, facial skeleton and cranial nerves 3 Carry out of steps of procedure safely and correctly	
Technical Skills and Procedures	Fractures of naso-orbito-ethmoid complex: 3 Techniques for approach to naso-ethmoid complex 3 Safe exposure of fracture sites and reduction of fragments 3 Bone grafting and plating skills Fracture of frontal bones and craniofacial fractures: 3 Techniques for approach to frontal bone fractures 3 Safe exposure of fracture sites and reduction of fragments 2 Management of frontal sinus involvement 3 Bone grafting and plating skills	Strongly recommended Bones Desirable Surgical technique

Topic	**Fracture of frontal bones and craniofacial fractures**	**Areas in which simulation should be used to develop relevant skills**
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*Can perform complete task without direct assistance of scrubbed*	

	trainer.	
Knowledge	4 Anatomy of craniofacial skeleton, nasal bones, orbit and contents 3 Classification of facial fractures 4 Assessment of head injury and cranial nerve function 3 Interpretation of radiographs/scans 4 Available techniques 4 Potential complications 4 Anatomy of craniofacial skeleton, frontal bones, nasal bones, orbit and contents 3 Anatomy and physiology of frontal sinus drainage 3 Classification of frontal bone and facial fractures	Desirable: Anatomy
Clinical Skills	3 Clinical examination of eyes, facial skeleton and cranial nerves 3 Carry out of steps of procedure safely and correctly	
Technical Skills and Procedures	Fractures of naso-orbito-ethmoid complex: 3 Techniques for approach to naso-ethmoid complex 3 Safe exposure of fracture sites and reduction of fragments 3 Bone grafting and plating skills Fracture of frontal bones and craniofacial fractures: 3 Techniques for approach to frontal bone fractures 3 Safe exposure of fracture sites and reduction of fragments 3 Management of frontal sinus involvement 3 Bone grafting and plating skills	Desirable: Anatomy

Topic	**Recurrent dislocation**	**Areas in which simulation should be used to develop relevant skills**
Category	Facial pain	
Sub-category:	Temporomandibular joint disorders	
Objective	*To be able to assess a patient presenting with pain either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	4 Signs and symptoms of TMJ dysfunction 3 Differential diagnosis 3 Investigations and radiographic interpretation 3 Methods of medical and surgical management 3 Relevant pharmacology and therapeutics	
Clinical Skills	3 Ability to take a comprehensive pain history 3 Ability to examine TMJ and muscles of mastication 3 Ability to formulate and instigate treatment plan 3 Understanding of potential role of occlusion	
Technical Skills and Procedures	2 Use of TENS devices 2 Use of occlusal adjustment therapy 2 Arthrocentesis, arthrograms and arthroscopy	Desirable

	3 Open joint procedures e.g. disc plication, eminectomy 3 Approaches to the TMJ and zygomatic arch 3 Appropriate wound closure	

Topic	**Ankylosis**	**Areas in which simulation should be used to develop relevant skills**
Category	Facial pain	
Sub-category:	Temporomandibular joint disorders	
Objective	*To be able to assess a patient presenting with pain either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	4 Signs and symptoms of TMJ dysfunction 3 Differential diagnosis 3 Investigations and radiographic interpretation 3 Methods of medical and surgical management 3 Relevant pharmacology and therapeutics	
Clinical Skills	3 Ability to take a comprehensive pain history 3 Ability to examine TMJ and muscles of mastication 3 Ability to formulate and instigate treatment plan 3 Understanding of potential role of occlusion	
Technical Skills and Procedures	2 Use of TENS devices 2 Use of occlusal adjustment therapy 2 Arthrocentesis, arthrograms and arthroscopy 2 Open joint procedures e.g. disc plication, eminectomy	Desirable

Topic	**Disc displacement**	**Areas in which simulation should be used to develop relevant skills**
Category	Facial pain	
Sub-category:	Temporomandibular joint disorders	
Objective	*To be able to assess a patient presenting with pain either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	3 Signs and symptoms of TMJ dysfunction 3 Differential diagnosis 3 Investigations and radiographic interpretation	

	3 Methods of medical and surgical management 3 Relevant pharmacology and therapeutics	
Clinical Skills	3 Ability to take a comprehensive pain history 3 Ability to examine TMJ and muscles of mastication 3 Ability to formulate and instigate treatment plan 3 Understanding of potential role of occlusion	
Technical Skills and Procedures	2 Use of TENS devices 2 Use of occlusal adjustment therapy 2 Arthrocentesis, arthrograms and arthroscopy 2 Open joint procedures e.g. disc plication, emminectomy	Desirable

Topic	**Peri-operative care**	**Areas in which simulation should be used to develop relevant skills**
Category	Peri-operative care	
Sub-category:	None	
Objective	*To ensure the trainee has reached a level of competence in peri-operative care. The following should apply to each of the procedures in the common conditions and operative skills category.*	
Knowledge	Pre-operative Care 4 Indications for surgery 4 Required preparation for surgery to include necessary pre-operative investigations 4 Outcomes and complications of surgery 4 Knowledge of the admission process Intra-operative care 4 Anatomy to be encountered during procedure 3 Steps involved in operative procedure 3 Knowledge of alternative procedures in case of encountering difficulties Post-operative care 3 Potential complications of procedure 3 Outcomes of procedure 3 Likely post-operative progress from disease process and intervention 3 Physiological and pathological changes in condition as a result of intervention	
Clinical Skills	Pre-operative care 3 Synthesis of history and examination into operative management plan 3 Ability to explain procedure and outcomes to patient and parents at an appropriate level 4 To be able to take informed consent 4 To construct an appropriate theatre list 4 Where appropriate to communicate with relevant other members of the theatre team e.g. anaesthetist, scrub nurse Intra-operative care 3 Appropriate use of assistance 3 Communication with other members of theatre team	Desirable

	Post-operative Care 3 Assessment of patient and physiological parameters 2 Appropriate intervention to deal with changing parameters 3 Communication skills for dealing with team members, patients and carers 3 Ability to prioritise interventions 3 Recognition of complications of procedure	
Technical Skills and Procedures	4 Necessary hand-eye dexterity to complete procedure	Desirable

Topic	**Mucous cyst of sublingual saliva gland/ranula**	**Areas in which simulation should be used to develop relevant skills**
Category	Salivary gland / Neck swellings	
Sub-category:	Salivary gland swellings	
Objective	*To be able to assess a patient presenting with a neck swelling either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	3 Anatomy and physiology of major salivary glands 3 Anatomy of oral cavity and lingual nerve 3 Indications and techniques 3 Potential complications 3 Anatomy of facial and lingual nerves 3 Investigations 3 Indications and techniques 3 Anatomy of facial nerve 3 Investigations / FNAC technique 3 Indications for procedures and techniques	Desirable: Anatomy
Clinical Skills	3 Identification of relevant instruments and support staff	
Technical Skills and Procedures	Sublingual gland excision: 3 Intra-oral dissection 3 Identification and protection of submandibular duct/lingual nerve	Desirable Surgical technique

Topic	**Tumour of sublingual salivary gland**	**Areas in which simulation should be used to develop relevant skills**
Category	Salivary gland / Neck swellings	
Sub-category:	Salivary gland swellings	
Objective	*To be able to assess a patient presenting with a neck swelling*	

	either acutely or in the out-patient clinic *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	3 Anatomy and physiology of major salivary glands 3 Anatomy of oral cavity and lingual nerve 3 Indications and techniques 3 Potential complications 3 Anatomy of facial and lingual nerves 3 Investigations 3 Indications and techniques 3 Anatomy of facial nerve 3 Investigations / FNAC technique 3 Indications for procedures and techniques	Desirable: Anatomy
Clinical Skills	3 Identification of relevant instruments and support staff	
Technical Skills and Procedures	Sublingual gland excision: 3 Intra-oral dissection 3 Identification and protection of submandibular duct/lingual nerve	Desirable Surgical technique

Topic	**Obstructive/inflammatory disease of submandibular gland**	**Areas in which simulation should be used to develop relevant skills**
Category	Salivary gland / Neck swellings	
Sub-category:	Salivary gland swellings	
Objective	*To be able to assess a patient presenting with a neck swelling either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	3 Anatomy and physiology of major salivary glands 3 Anatomy of oral cavity and lingual nerve 3 Indications and techniques 3 Potential complications 3 Anatomy of facial and lingual nerves 3 Investigations 3 Indications and techniques 3 Anatomy of facial nerve 3 Investigations / FNAC technique 3 Indications for procedures and techniques	Desirable: Anatomy
Clinical Skills	3 Identification of relevant instruments and support staff	
Technical Skills and Procedures	Submandibular gland excision: 4 Aseptic preperation 3 Skin incision and approach to gland	Desirable : Surgical technique

	3 Identification and protection of facial nerve 3 Dissection of gland and ligation of duct 3 Appropriate drainage and closure	

Topic	**Tumour of Submandibular Gland**	**Areas in which simulation should be used to develop relevant skills**
Category	Salivary gland / Neck swellings	
Sub-category:	Salivary gland swellings	
Objective	*To be able to assess a patient presenting with a neck swelling either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	3 Anatomy and physiology of major salivary glands 3 Anatomy of oral cavity and lingual nerve 3 Indications and techniques 3 Potential complications 3 Anatomy of facial and lingual nerves 3 Investigations 3 Indications and techniques 3 Anatomy of facial nerve 3 Investigations / FNAC technique 3 Indications for procedures and techniques	Desirable Surgical technique
Clinical Skills	3 Identification of relevant instruments and support staff	
Technical Skills and Procedures	Submandibular gland excision: 3 Aseptic preparation 3 Skin incision and approach to gland 2 Identification and protection of facial nerve 3 Dissection of gland and ligation of duct 3 Appropriate drainage and closure	Desirable Surgical technique

Topic	**Obstructive or Inflammatory disease**	**Areas in which simulation should be used to develop relevant skills**
Category	Salivary gland / Neck swellings	
Sub-category:	Salivary gland swellings	
Objective	*To be able to assess a patient presenting with a neck swelling either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	

Knowledge	3 Anatomy and physiology of major salivary glands 3 Anatomy of oral cavity and lingual nerve 3 Indications and techniques 3 Potential complications 3 Anatomy of facial and lingual nerves 3 Investigations 3 Indications and techniques 3 Anatomy of facial nerve 3 Investigations / FNAC technique 3 Indications for procedures and techniques	Desirable: Anatomy
Clinical Skills	4 Identification of relevant instruments and support staff	
Technical Skills and Procedures	Parotidectomy: 3 FNAC technique 4 Aseptic preparation 3 Skin incisions and approaches to facial nerve 3 Identification and protection of facial nerve 2 Dissection of gland/tumour and ligation of duct 3 Appropriate drainage and closure 2 Neural repair and grafting	Desirable Surgical technique

Topic	**Benign and Malignant Tumour**	**Areas in which simulation should be used to develop relevant skills**
Category	Salivary gland / Neck swellings	
Sub-category:	Salivary gland swellings	
Objective	*To be able to assess a patient presenting with a neck swelling either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	3 Anatomy and physiology of major salivary glands 3 Anatomy of oral cavity and lingual nerve 3 Indications and techniques 3 Potential complications 3 Anatomy of facial and lingual nerves 3 Investigations 3 Indications and techniques 3 Anatomy of facial nerve 3 Investigations / FNAC technique 3 Indications for procedures and techniques	Desirable: Anatomy
Clinical Skills	4 Identification of relevant instruments and support staff	
Technical Skills and Procedures	Parotidectomy: 3 FNAC technique 4 Aseptic preparation 3 Skin incisions and approaches to facial nerve 3 Identification and protection of facial nerve 2 Dissection of gland/tumour and ligation of duct 3 Appropriate drainage and closure	Desirable Surgical technique

	2 Neural repair and grafting	

Topic	Management of Cancer of the head and neck region	Areas in which simulation should be used to develop relevant skills
Category	Head and Neck Cancer	
Sub-category:	None	
Objective	*To be able to assess a patient presenting either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members* *Can perform complete task without direct assistance of scrubbed trainer.*	
Knowledge	3 Aetiological factors and differential diagnosis 3 Specialised investigations 3 Anatomy and physiology of mouth, jaws and face 3 Pathology and modes of invasion / spread of common oro-facial malignancies 3 Interpretation of radiographs / scans 3 Common access techniques to oral and jaw cancers 2 Common excisional techniques for orofacial cancer including conservation surgery 3 Requirements for functional rehabilitation 2 Potential complications 3 Alternatives to surgical treatment 3 Anatomy and physiology of face, orbit and skull 3 Understanding of mode of orbital spread of cancer 2 Common excisional techniques for orbital cancer including conservation surgery 2 Access techniques to orbitofacial lesions 3 Individual steps to orbital exenteration 3 Requirements for rehabilitation	Desirable: Anatomy
Clinical Skills	3 History and examination of the patient with head and neck cancer 3 FNAC/biopsy techniques 2 Endoscopy techniques 2 Ability to formulate treatment plan 3 Carry out appropriate surgery according to competency 2 Post-operative care and follow-up 4 Identify relevant instruments and support staff	
Technical Skills and Procedures	Excision of Oral / Oropharyngeal or Jaw Malignancy: 4 Aseptic preparation 3 Sharp and blunt dissection of soft tissues 2 Osteotomy technique and plate handling skills 2 Safe isolation of tumour 2 Safe adequate excision of tumour in three dimensions 2 Preservation of vital structures	Desirable Surgical technique

	3 Control of haemorrhage 3 Appropriate drain placement and wound closure Orbital Exenteration: 4 Aseptic preparation 3 Sharp and blunt dissection of soft tissues 2 Osteotomy techniques and plate handling skills 2 Safe isolation and exenteration of orbital contents 3 Skin grafting skills 2 Methods of temporary obturation and/or reconstruction	

Topic	**Developmental/acquired deformity of facial skeleton**	**Areas in which simulation should be used to develop relevant skills**
Category	Facial Deformity	
Sub-category:	None	
Objective	*To be able to assess a patient presenting either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	3 Aetiological factors and differential diagnosis 3 Specialised investigations 3 Classification of malocclusion/deformity	
Clinical Skills	3 History and examination of the patient with facial deformity 2 Ability to formulate treatment plan 2 Post-operative care and follow-up 3 Identification of relevant instruments and support staff	Desirable
Technical Skills and Procedures	2 Orthognathic surgery techniques	

Topic	Genioplasty	Areas in which simulation should be used to develop relevant skills
Category	Orthognathic Surgery	
Sub-category:	None	
Objective	*Can perform complete task without direct supervision of scrubbed trainer*	
Knowledge	3 Developmental anatomy of facial skeleton and facial musculature 3 Classification and assessment of facial deformity 3 Psychology of facial deformity 3 Norms of facial proportions 2 Techniques of cephalometric analysis 3 Potential complications	Desirable: Anatomy
Clinical Skills	2 History and examination of the patient with facial deformity 2 Ability to formulate treatment plan 2 Orthognathic surgery techniques 2 Post-operative care and follow-up 3 Identification of relevant instruments and support staff	Desirable: Planning
Technical Skills and Procedures	2 Approaches to the anterior mandible 2 Identification and protection of mental nerves 2 Safe use of power tools 2 Plating and fixation skills 2 Control of haemorrhage	Desirable Surgical technique

Topic	Mandibular ramus osteotomy	Areas in which simulation should be used to develop relevant skills
Category	Orthognathic Surgery	
Sub-category:	None	
Objective	*Can perform complete task without direct supervision of scrubbed trainer*	
Knowledge	3 Developmental anatomy of facial skeleton and facial musculature 3 Development of occlusion 3 Classification and assessment of facial deformity 3 Physiology of mastication 3 Psychology of facial deformity 3 Norms of facial proportions 3 Techniques of cephalometric analysis 3 Potential complications	Desirable: Anatomy
Clinical Skills	3 History and examination of the patient with facial deformity 2 Ability to formulate treatment plan 2 Orthognathic surgery techniques 2 Post-operative care and follow-up 3 Identification of relevant instruments and support staff	Desirable: Planning
Technical Skills and Procedures	2 Approaches to the mandibular ramus 3 Identification and protection of key structures 3 Safe use of power tools 2 Plating and fixation skills	Desirable Surgical technique

	3 Control of haemorrhage 3 Intermaxillary fixation techniques	

Topic	Maxillary osteotomy (Le Fort I and variants)	Areas in which simulation should be used to develop relevant skills
Category	Orthognathic Surgery	
Sub-category:	None	
Objective	*Can perform complete task without direct supervision of scrubbed trainer*	
Knowledge	3 Developmental anatomy of facial skeleton and facial musculature= 3 Development of occlusion 3 Classification and assessment of facial deformity 3 Physiology of mastication 3 Psychology of facial deformity 3 Norms of facial proportions 3 Techniques of cephalometric analysis 3 Potential complications	Desirable: Anatomy
Clinical Skills	3 History and examination of the patient with facial deformity 2 Ability to formulate treatment plan 2 Orthognathic surgery techniques 2 Post-operative care and follow-up 3 Identification of relevant instruments and support staff	Desirable: Planning
Technical Skills and Procedures	3 Approaches to the maxilla 3 Safe use of power tools 3 Plating and fixation skills 3 Control of haemorrhage 3 Intermaxillary fixation techniques	Desirable Surgical technique

Topic	Zygomatic osteotomy	Areas in which simulation should be used to develop relevant skills
Category	Orthognathic Surgery	
Sub-category:	None	
Objective	*Can perform complete task without direct supervision of scrubbed trainer*	
Knowledge	3 Developmental anatomy of facial skeleton / orbits 3 Classification and assessment of facial deformity 3 Psychology of facial deformity 3 Norms of facial proportions 2 Techniques of cephalometric analysis 3 Potential complications	Desirable: Anatomy
Clinical Skills	3 History and examination of the patient with facial deformity 2 Ability to formulate treatment plan 2 Orthognathic surgery techniques 2 Post-operative care and follow-up 3 Identification of relevant instruments and support staff	Desirable: Planning
Technical Skills and	2 Approaches to the zygoma	Desirable

Procedures	2 Safe use of power tools 3 Plating and fixation skills 3 Control of haemorrhage	Surgical technique

Topic	**Harvest of bone graft (Extra-oral sites)**	**Areas in which simulation should be used to develop relevant skills**
Category	Reconstructive Surgery	
Sub-category:	None	
Objective	*Can perform complete task without direct assistance of scrubbed trainer.*	
Knowledge	3 Anatomy and physiology of limbs, pelvis and skull 3 Understanding of bone healing 3 Advantages and disadvantages of various sites 3 Use of alternative procedures 3 Potential complications	Desirable: Anatomy
Clinical Skills	3 Identification of relevant instruments and support staff 4 Aseptic preparation 2 Skin incisions and approaches to bone graft sites 2 Use of bone instruments / harvesting of bone 2 Insetting and fixation of bone graft 2 Management of donor site and closure	Desirable Surgical technique
Technical Skills and Procedures	Proper positioning of the patient preoperatively, where appropriate, an understanding of application and safe use of tourniquets	

Topic	**Pedicled flaps**	**Areas in which simulation should be used to develop relevant skills**
Category	Reconstructive Surgery	
Sub-category:	None	
Objective	*Can perform complete task without direct assistance of scrubbed trainer.*	
Knowledge	3 Anatomy of donor sites and principles of blood supply to skin, fascia and muscle 3 Indications for different types of flap 3 Limitation of techniques 3 Potential complications	Desirable: Anatomy
Clinical Skills	3 Identification of relevant instruments and support staff 3 Raising of pedicled cutaneous, muscle and myocutaneous flaps 3 Insetting of flap 3 Management of donor site and closure 3 Management of complications	Desirable Surgical technique
Technical Skills and Procedures	Understanding and safe positioning of patient for procedure	
Topic	**Free tissue transfer**	**Areas in which simulation should be used**

		to develop relevant skills
Category	Reconstructive Surgery	
Sub-category:	None	
Objective	*Can perform complete task without direct assistance of scrubbed trainer*	
Knowledge	3 Anatomy of donor sites and principles of blood supply to skin, fascia and muscle 3 Anatomy of neck vessels 3 Indications for different types of flap 2 Principles of microvascular anastomosis 3 Limitation of techniques 3 Potential complications	Desirable: Anatomy
Clinical Skills	3 Identification of relevant instruments and support staff 2 Raising of soft tissue and composite flaps 2 Insetting of flap 3 Use of operating microscope and loupes 2 Preparation of donor and recipient vessels 2 Arterial and venous microvasacular anastomosis 2 Management of donor site and closure 3 Management of complications	Desirable Surgical / Microvascular technique
Technical Skills and Procedures	Understanding of and safe use of tourniquets	

Final Stage Overview

The final stage of training comprises two indicative years (ST6 + ST7). The purpose of the final stage is to allow a trainee to acquire and develop the specialist skills, knowledge and attitude that will allow final progress towards and achievement of a CCT in the specialty, with the beginning of special interest training as appropriate.

The final stage of specialist training will complete exposure to the essential aspects of oral and maxillofacial surgery and increase exposure to special interest areas of choice. By the end of ST7 all trainees including those who have followed an academic pathway should have acquired the competencies and specialist surgical skills that will form the basis for safe clinical practice in the generality of the specialty. The logbook should record further development of operative skills and any deficiency in experience or competency during levels 1-4 must be corrected during this period. Most trainees will identify areas of special interest during this final period of essential training and individual logbooks will probably reflect a bias towards these chosen aspects of clinical practice.

Typical areas of special interest relevant to oral and maxillofacial surgery are:

- Craniofacial trauma and secondary reconstruction
- Craniofacial surgery for congenital and acquired deformity
- Osseodistraction of the facial skeleton
- Cleft lip and palate
- Head and neck oncology
- Advanced reconstruction of the mouth, face and jaws (including free tissue transfer)
- Osseointegrated implant techniques and surgery for rehabilitation of the head and neck cancer patient
- Aesthetic maxillofacial surgery
- Temporomandibular joint surgery and reconstruction

Attendance at relevant courses and regional study days, national and international conferences will be expected. Trainees should continue to develop their experience in audit, research, teaching, presentations and contributing to the specialty literature.

By the end of ST6 the trainee will have encountered and should be able manage competently the following conditions, in addition to those in the preceding stages, up to and including operative intervention:

- Diagnosis and management of patient requiring extra-oral and intra-oral osseointegrated implant rehabilitation
- Diagnosis and assessment of patient requiring rhinoplasty

During this stage the trainee will gain competence to the level defined in the syllabus in a number of technical skills and procedures. A trainee would be expected to be able to perform all of the procedures listed below without the direct scrubbed assistance or supervision of a trainer **in addition** to those identified in the initial and intermediate stages. The list is not exhaustive, although it covers most of the common procedures expected at this stage.

Maxillofacial trauma

- Repair of lacrimal/parotid duct injury
- Repair of facial nerve injury
- Open reduction and fixation of symphysis/body/angle of fractured mandible
- Open reduction and internal fixation of condylar neck of mandible
- Elevation of fractured zygoma
- Open reduction and fixation of fractured zygoma
- Orbital floor/wall exploration and repair/graft
- Reduction and fixation fractured maxilla (Le Fort II/III)

- Open reduction and fixation of naso-orbito-ethmoid complex fracture
- Reduction and fixation of frontal bone fracture

Salivary gland surgery

- Removal of stone from submandibular duct
- Excision of neoplasm of minor salivary gland
- Sublingual gland excision
- Submandibular gland excision
- Partial/superficial parotidectomy
- Total conservative parotidectomy
- Radical parotidectomy

Orthognathic surgery

- Genioplasty
- Mandibular ramus osteotomy
- Le Fort I maxillary osteotomy
- Le Fort II/III maxillary osteotomy
- Zygomatic/orbital osteotomy
- Mandibular osteodistraction procedures
- Maxillary osteodistraction procedures

Temporomandibular joint surgery

- Arthrocentesis
- Arthroscopy
- Open operation on capsule/disc/condylar head
- Surgery for recurrent TMJ dislocation
- Excision of benign odontogenic tumours
- Excision of fibro-osseous jaw tumours/dysplasia

Neck surgery

- Excision of lymphoepithelial (branchial) cyst
- Excision of thyroglossal cyst/fistula
- Selective neck dissection
- Comprehensive neck dissection

Resection of malignant tumours

- Excision of tongue/oro-pharyngeal tumour
- Resection of mandible/maxilla
- Orbital exenteration
- Reconstructive surgery

Harvest of skin graft

- Harvest of non-vascularised extra-oral bone graft
- Mandibular reconstruction with non-vascularised bone graft
- Pedicled muscle/fascial/myocutaneous flap
- Vascularised free tissue transfer

Osseointegrated implant surgery

- Insertion of extra-oral implants/abutments

- Insertion of intra-oral implants/abutments
- Sinus lift/onlay graft

Aesthetic surgery

- Cervico-facial liposuction
- Rhinoplasty
- Zygomatic/chin/nasal onlays
- Pinnaplasty
- Blepharoplasty
- Browlift

Neural surgery

- Harvest of peripheral nerve (e.g. sural)
- Lingual nerve exploration/repair
- Facial nerve repair/graft

Click on Workplace Based Assessments to view the assessment forms including DOPS and PBAs

Final Stage Topics

Topic	**Nasal Fractures**	**Areas in which simulation should be used to develop relevant skills**
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*To be able to assess an injured patient presenting either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	4 Aetiology of facial trauma 4 Priorities of management 4 Assessment of airway and level of consciousness (Glasgow coma scale) 4 Signs and symptoms of fractures of facial skeleton 4 Eyes/ears assessment 4 Investigations and radiographic interpretation 4 Anatomy of mouth, jaws, teeth and supporting structures and relevance to dental occulusion where appropriate 4 Anatomy of trigeminal nerve and infiltration / nerve block anaesthesia 4 Classification of dental trauma and dento-alveolar fractures 4 Assessment of head injury and cranial nerve function 4 Aetiology 4 Interpretation of radiographs 4 Potential complications	Desirable: Anatomy

	4 Pharmacology and therapeutics of post-operative analgesia 4 Anatomy of facial skeleton 4 Physiology of nasal cavity 4 Anatomy of scalp, facial skeleton, orbit and contents 4 Anatomy of eyelids 4 Classification of facial fractures 4 Physiology of sight and occulomotor function 4 Available techniques 4 Anatomy of facial skeleton, teeth and supporting structures 4 Dental occlusion	
Clinical Skills	4 General assessment of the traumatised patient 4 Assessment and examination of patient with facial trauma 4 Airway management and emergency treatment of facial trauma 4 Ability to formulate a treatment plan and prioritise management 4 Pain control /prevention of infection 4 infiltration / nerve block anaesthesia	Strongly recommended ATLS
Technical Skills and Procedures	4 Clinical examination of facial skeleton and cranial nerves 4 Carry out of steps of procedure safely and correctly 4 Manipulation of nasal bones and septum 4 Management of epistaxis 4 Nasal packing and external splintage	

Topic	Fractured Zygoma	Areas in which simulation should be used to develop relevant skills
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*To be able to assess an injured patient presenting either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	4 Aetiology of facial trauma 4 Priorities of management 4 Assessment of airway and level of consciousness (Glasgow coma scale) 4 Signs and symptoms of fractures of facial skeleton 4 Eyes/ears assessment 4 Investigations and radiographic interpretation 4 Anatomy of mouth, jaws, teeth and supporting structures 4 Anatomy of trigeminal nerve and infiltration / nerve block anaesthesia 4 Classification of dental trauma and dento-alveolar fractures 4 Assessment of head injury and cranial nerve function 4 Aetiology 4 Interpretation of radiographs 4 Potential complications 4 Pharmacology and therapeutics of post-operative analgesia 4 Anatomy of facial skeleton 4 Physiology of nasal cavity 4 Anatomy of scalp, facial skeleton, orbit and contents 4 Anatomy of eyelids 4 Classification of facial fractures 4 Physiology of sight and occulomotor function 4 Available techniques 4 Anatomy of facial skeleton, teeth and supporting structures 4 Dental occlusion	Desirable: Anatomy
Clinical Skills	4 General assessment of the traumatised patient 4 Assessment and examination of patient with facial trauma 4 Airway management and emergency treatment of facial trauma 4 Ability to formulate a treatment plan and prioritise management 4 Pain control /prevention of infection 4 infiltration / nerve block anaesthesia	Strongly recommended ATLS
Technical Skills and Procedures	4 Clinical examination of facial skeleton and cranial nerves 4 Basic ophthalmic and orthoptic assessment 4 Carry out of steps of procedure safely and correctly 4 Techniques of exposure of fracture site(s) and bone manipulation 4 Plate handling skills	

	4 Soft tissue handling and suturing techniques	

Topic	Fracture of mandible (excluding condyle)	Areas in which simulation should be used to develop relevant skills
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*To be able to assess an injured patient presenting either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	4 Aetiology of facial trauma 4 Priorities of management 4 Assessment of airway and level of consciousness (Glasgow coma scale) 4 Signs and symptoms of fractures of facial skeleton 4 Eyes/ears assessment 4 Investigations and radiographic interpretation 4 Anatomy of mouth, jaws, teeth and supporting structures 4 Anatomy of trigeminal nerve and infiltration / nerve block anaesthesia 4 Classification of dental trauma and dento-alveolar fractures 4 Assessment of head injury and cranial nerve function 4 Aetiology 4 Interpretation of radiographs 4 Potential complications 4 Pharmacology and therapeutics of post-operative analgesia 4 Anatomy of facial skeleton 4 Physiology of nasal cavity 4 Anatomy of scalp, facial skeleton, orbit and contents 4 Anatomy of eyelids 4 Classification of facial fractures 4 Physiology of sight and occulomotor function 4 Available techniques 4 Anatomy of facial skeleton, teeth and supporting structures 4 Dental occlusion	Desirable: Anatomy
Clinical Skills	4 General assessment of the traumatised patient 4 Assessment and examination of patient with facial trauma 4 Airway management and emergency treatment of facial trauma 4 Ability to formulate a treatment plan and prioritise management 4 Pain control /prevention of infection 4 infiltration / nerve block anaesthesia	Strongly recommended ATLS
Technical Skills and Procedures	4 Clinical examination of teeth, oral cavity, facial skeleton and cranial nerves 4 Carry out of steps of procedure safely and correctly	

	4 Techniques for removal of damaged teeth/retained roots 4 Techniques of exposure of fracture site(s) and bone manipulation 4 Plate handling skills 4 Techniques of intermaxillary fixation 4 Intra/extra-oral soft tissue handling and suturing techniques	

Topic	**Fracture of mandibular condyle**	**Areas in which simulation should be used to develop relevant skills**
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*To be able to identify a patient who has sustained this injury.* *To be alert for the potential for this injury to occur.* *To understand the principles of surgical management of this injury.* *To be able to carry out these procedures safely and competently*	
Knowledge	4 Anatomy of facial skeleton, TM joint, parotid gland, facial nerve 4 Classification of condylar fractures 4 Assessment of head injury and cranial nerve function 4 Dental occlusion 4 Selection and interpretation of relevant imaging 4 Understanding the benefits and indications of both open and closed treatments 4 Potential complications long and short term	Desirable: Anatomy
Clinical Skills	4 Ability to correctly interpret physical signs and relevant imaging 4 Clinical examination of teeth, oral cavity, facial skeleton and cranial nerves 4 Demonstrates clinical judgment appropriate to injury and patient needs	
Technical Skills and Procedures	Closed reduction: 4 Carry out of steps of procedure safely and correctly 4 Techniques for removal of damaged teeth / retained roots 4 Techniques of intermaxillary fixation Open Reduction: 4 Carry out of steps of procedure safely and correctly 4 Techniques for removal of damaged teeth / retained roots 4 Techniques for exposure of fracture site and manipulation of condylar fragment 4 Plate handling skills 4 Techniques of intermaxillary fixation	Desirable Surgical technique

Topic	**Fracture of maxilla**	**Areas in which simulation should be used to develop relevant skills**

Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*To be able to identify a patient who has sustained this injury.* *To be alert for the potential for this injury to occur.* *To understand the principles of surgical management of this injury.* *To be able to carry out these procedures safely and competently*	
Knowledge	4 Anatomy of facial skeleton 4 Classification of mid -facial fractures 4 Bone healing 4 Head injury and cranial nerve function 4 Dental occlusion 4 Available techniques e.g. open fixation, closed fixation techniques 4 Potential complications 4 Awareness of possibility of other associated fractures 4 Understanding the role of the maxillofacial technician	Desirable: Anatomy
Clinical Skills	4 Systematic clinical examination of teeth, oral cavity, facial skeleton and cranial nerves 4 Interpretation of radiographs/scans 4 Assessment of head injury and cranial nerve function 4 Selection of treatment plan appropriate to the patients injury 4 An awareness of other factors affecting timing of surgery 4 Involving the maxillofacial technician in treatment planning	
Technical Skills and Procedures	4 Carry out of steps of procedure safely and correctly 4 Techniques for removal of damaged teeth / retained roots 4 Techniques for exposure of fracture sites and reduction of fragments 4 Plate handling skills 4 Techniques of intermaxillary fixation 4 Techniques of cranio-maxillary fixation	Desirable Surgical technique

Topic	**Fracture of orbital floor**	**Areas in which simulation should be used to develop relevant skills**
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*To be able to identify a patient who has sustained this injury.* *To be alert for the potential for this injury to occur.* *To understand the principles of surgical management of this injury.* *To be able to carry out these procedures safely and competently*	
Knowledge	4 Anatomy and physiology of facial skeleton, orbit and contents 4 Awareness of head injury and cranial nerve function 4 Potential for complications involving sight and early involvement where appropriate of opthalmologists/orthoptists 4 Surgical approaches to the orbit 4 Available techniques for orbital wall reconstruction 4 Potential complications	Desirable: Anatomy

Clinical Skills	4 Clinical examination of eyes, facial skeleton and cranial nerves 4 Assessment of head injury and cranial nerve function 4 Choice of appropriate surgical technique 4 Interpretation of radiographs/scans	
Technical Skills and Procedures	4 Carry out of steps of procedure safely and correctly 4 Assessment of eye function 4 Techniques for approach to orbital floor 4 Safe exposure of fracture sites and reduction of fragments 4 Bone grafting and plating skills	

Topic	**Fracture of frontal bones and craniofacial fractures**	**Areas in which simulation should be used to develop relevant skills**
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*Can perform complete task without direct assistance of scrubbed trainer.*	
Knowledge	4 Anatomy of craniofacial skeleton, nasal bones, orbit and contents 4 Classification of facial fractures 4 Assessment of head injury and cranial nerve function 4 Interpretation of radiographs/scans 4 Available techniques 4 Potential complications 4 Anatomy of craniofacial skeleton, frontal bones, nasal bones, orbit and contents 4 Anatomy and physiology of frontal sinus drainage 4 Classification of frontal bone and facial fractures	Desirable: Anatomy
Clinical Skills	4 Clinical examination of eyes, facial skeleton and cranial nerves 4 Carry out of steps of procedure safely and correctly	
Technical Skills and Procedures	Fracture of frontal bones and craniofacial fractures: 4 Techniques for approach to frontal bone fractures 4 Safe exposure of fracture sites and reduction of fragments 4 Management of frontal sinus involvement 4 Bone grafting and plating skills	Desirable Surgical technique

Topic	**Fractures of Naso-orbito-ethmoid complex**	**Areas in which simulation should be used to develop relevant skills**
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*Can perform complete task without direct assistance of scrubbed trainer.*	
Knowledge	4 Anatomy of craniofacial skeleton, nasal bones, orbit and contents 4 Classification of facial fractures	Desirable: Anatomy

	4 Assessment of head injury and cranial nerve function 4 Interpretation of radiographs/scans 4 Available techniques 4 Potential complications 4 Anatomy of craniofacial skeleton, frontal bones, nasal bones, orbit and contents 4 Anatomy and physiology of frontal sinus drainage 4 Classification of frontal bone and facial fractures	
Clinical Skills	4 Clinical examination of eyes, facial skeleton and cranial nerves 4 Carry out of steps of procedure safely and correctly	
Technical Skills and Procedures	Fractures of naso-orbito-ethmoid complex: 4 Techniques for approach to naso-ethmoid complex 4 Safe exposure of fracture sites and reduction of fragments 4 Bone grafting and plating skills	Desirable Surgical technique

Topic	**Dental Trauma and dento-alveolar fractures**	**Areas in which simulation should be used to develop relevant skills**
Category	Cranio Maxillofacial Trauma	
Sub-category:	Facial Fractures	
Objective	*To be able to assess an injured patient presenting either acutely or in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	4 Aetiology of facial trauma 4 Priorities of management 4 Assessment of airway and level of consciousness (Glasgow coma scale) 4 Signs and symptoms of fractures of facial skeleton 4 Eyes/ears assessment 4 Investigations and radiographic interpretation 4 Anatomy of mouth, jaws, teeth and supporting structures 4 Anatomy of trigeminal nerve and infiltration / nerve block anaesthesia 4 Classification of dental trauma and dento-alveolar fractures 4 Assessment of head injury and cranial nerve function 4 Aetiology 4 Interpretation of radiographs 4 Potential complications 4 Pharmacology and therapeutics of post-operative analgesia 4 Anatomy of facial skeleton 4 Physiology of nasal cavity	Desirable: Anatomy

	4 Anatomy of scalp, facial skeleton, orbit and contents 4 Anatomy of eyelids 4 Classification of facial fractures 4 Physiology of sight and occulomotor function 4 Available techniques 4 Anatomy of facial skeleton, teeth and supporting structures 4 Dental occlusion	
Clinical Skills	4 General assessment of the traumatised patient 4 Assessment and examination of patient with facial trauma 4 Airway management and emergency treatment of facial trauma 4 Ability to formulate a treatment plan and prioritise management 4 Pain control /prevention of infection 4 infiltration / nerve block anaesthesia	Strongly recommended ATLS
Technical Skills and Procedures	4 Clinical examination of oral cavity, facial skeleton and cranial nerves 4 Local anaesthetic and sedation techniques 4 Carry out of steps of procedure safely and correctly 4 Techniques for removal of damaged teeth/retained roots 4 Techniques of preservation of damaged teeth, reduction and fixation 4 Intra-oral soft tissue handling and suturing techniques	Desirable Surgical technique

Topic	**Reconstruction of temporomandibular joint**	**Areas in which simulation should be used to develop relevant skills**
Category	Temporomandibular Disorders	
Sub-category:	None	
Objective	*Can perform complete task without direct supervision of scrubbed trainer.*	
Knowledge	4 Applied anatomy of temporomandibular joint and surrounding structures 4 Aetiology of TMJ ankylosis 4 Aetiology of failure of development of TMJ 4 Indications for joint replacement or reconstruction 1 Knowledge of alloplastic joint replacements	Desirable: Anatomy
Clinical Skills	4 Identification of relevant instruments and support staff	
Technical Skills and Procedures	4 Approaches to the TMJ and mandibular ramus 3 Harvest of costochondral graft 4 Bone plating skills 3 (Optional: Selection and fitting of alloplastic joint replacement)	

Topic	**Intra-capsular TMJ and condylar head pathology**	**Areas in which simulation should be used to develop relevant skills**
Category	Temporomandibular Disorders	

Sub-category:	None	
Objective	*Can perform complete task without direct supervision of scrubbed trainer.*	
Knowledge	4 Applied anatomy of temporomandibular joint 4 Causes of TMJ/capsular/meniscal pathology 4 Procedures available 4 Indications for open surgery 4 Potential complications	Desirable: Anatomy
Clinical Skills	4 Identification of relevant instruments and support staff	
Technical Skills and Procedures	4 Approaches to the TMJ and mandibular condyle	Desirable Surgical technique

Topic	Peri-operative care	Areas in which simulation should be used to develop relevant skills
Category	Peri-operative care	
Sub-category:	None	
Objective	*To ensure the trainee has reached a level of competence in peri-operative care. The following should apply to each of the procedures in the common conditions and operative skills category.*	
Knowledge	Pre-operative Care 4 Indications for surgery 4 Required preparation for surgery to include necessary pre-operative investigations 4 Outcomes and complications of surgery 4 Knowledge of the admission process Intra-operative care 4 Anatomy to be encountered during procedure 4 Steps involved in operative procedure 4 Knowledge of alternative procedures in case of encountering difficulties Post-operative care 4 Potential complications of procedure 4 Outcomes of procedure 4 Likely post-operative progress from disease process and intervention 4 Physiological and pathological changes in condition as a result of intervention	
Clinical Skills	Pre-operative care 4 Synthesis of history and examination into operative management plan 4 Ability to explain procedure and outcomes to patient and parents at an appropriate level 4 To be able to take informed consent 4 To construct an appropriate theatre list 4 Where appropriate to communicate with relevant other members of the theatre team e.g. anaesthetist, scrub nurse Intra-operative care 4 Appropriate use of assistance 4 Communication with other members of theatre team Post-operative Care 4 Assessment of patient and physiological parameters 4 Appropriate intervention to deal with changing parameters 4 Communication skills for dealing with team members, patients and carers 4 Ability to prioritise interventions 4 Recognition of complications of procedure	Desirable Critical care / ward
Technical Skills and Procedures	4 Necessary hand-eye dexterity to complete procedure	Desirable

Topic	Osseodistraction techniques	Areas in which simulation should be used to develop relevant skills
Category	Orthognathic Surgery	
Sub-category:	None	
Objective	*Can perform complete task without direct supervision of scrubbed trainer.*	
Knowledge	4 Developmental anatomy of facial skeleton and facial musculature 4 Classification and assessment of facial deformity 4 Psychology of facial deformity 4 Norms of facial proportions 4 Techniques of cephalometric analysis 4 Theory of osseodistraction 4 Indications for intra-oral and extra-oral osseodistraction 4 Potential complications	Desirable: Anatomy
Clinical Skills	4 Identification of relevant equipment and support staff	
Technical Skills and Procedures	Osseodistraction techniques: 3 Techniques for placement of intra-oral and extra-oral distractors 4 Safe use of power tools 4 Pinning. plating and fixation skills 4 Post-operative management and supervision during active distraction.	Desirable: Bones

Topic	Congenital or acquired loss of ear, orbital contents or nose	Areas in which simulation should be used to develop relevant skills
Category	Patient requiring osseointegrated implants	
Sub-category:	None	
Objective	*To be able to assess a patient requiring implants presenting in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	4 Aetiological factors and differential diagnosis 4 Specialised investigations 4 Understanding of principles of osseointegration and facial prostheses	
Clinical Skills	4 History and examination of the patient with loss of facial tissues 4 Ability to formulate treatment plan	Desirable: Planning
Technical Skills and Procedures	4 Osseointegration surgery techniques 4 Post-operative care and follow-up	Desirable Surgical technique

Topic	Congenital or acquired loss of teeth and/or alveolar supporting tissues for dental prostheses	Areas in which simulation should be used to develop relevant skills
Category	Patient requiring osseointegrated implants	
Sub-category:	None	
Objective	*To be able to assess a patient requiring implants presenting in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members*	
Knowledge	4 Aetiological factors affecting dental loss and alveolar resorption 4 Specialised investigations and classification of alveolar resorption 4 Understanding of principles of osseointegration and implant borne/retained dental prostheses	
Clinical Skills	4 History and examination of the patient with dental loss and/or alveolar resorption 4 Ability to formulate treatment plan	Desirable: Planning
Technical Skills and Procedures	4 Osseointegration surgery techniques 4 Post-operative care and follow-up	Desirable Surgical technique

Topic	Nasal Deformity	Areas in which simulation should be used to develop relevant skills
Category	Patients requiring rhinoplasty	
Sub-category:	None	
Objective	*To be able to assess a patient requiring a rhinoplasty presenting in the out-patient clinic* *To be able to formulate a differential diagnosis and an investigation and management plan* *To be able to treat the patient appropriately up to and including operative intervention if appropriate* *To be able to communicate the above information at the required level to patients/carers/other team members* *Can perform complete task without direct assistance of scrubbed trainer.*	
Knowledge	4 Aetiological factors 4 Understanding of nasal anatomy and function 4 Understanding of facial aesthetics and age changes in facial tissues 4 Examination of nasal aesthetics and function 4 Specialised investigations 4 Understanding of psychological factors in facial deformity 4 Anatomy of nasal bones, cartilages and soft tissues 4 Physiology of nasal function	Desirable: Anatomy

	4 Facial aesthetics 4 Techniques of closed and open rhinoplasty 4 Principles and technique of septoplasty 4 Indications and limitations of procedures 4 Potential complications	
Clinical Skills	4 History and examination of the patient with nasal deformity 4 Ability to formulate treatment plan 4 Identify relevant instruments and support staff	
Technical Skills and Procedures	4 Rhinoplasty and septo-rhinoplasty techniques 4 Post-operative care and follow-up 4 Approach to and osteotomy of nasal bones 4 Exposure and handling of nasal cartilages / septum 4 Bone and cartilage grafting techniques 4 Wound closure and nasal packing / splinting	Desirable Surgical technique

Topic	**Mandibular reconstruction (non-vascularised bone graft)**	**Areas in which simulation should be used to develop relevant skills**
Category	Reconstructive Surgery	
Sub-category:	None	
Objective	*Can perform complete task without direct assistance of scrubbed trainer.*	
Knowledge	4 Anatomy of mandible, neck and oral cavity 4 Understanding of bone healing and vascularisation 4 Advantages and disadvantages of various donor sites 4 Techniques of block and cancellous chip grafts 4 Use of alternative procedures (alloplasts) 4 Potential complications	Desirable: Anatomy
Clinical Skills	4 Identification of relevant instruments and support staff 4 Harvesting of bone grafts 4 Insetting and fixation of bone graft 4 Plating skills 4 Management of donor site and closure 4 Management of complications	
Technical Skills and Procedures	Safe positioning of the anaesthetised patient for the procedure	

Topic	**Pedicled flaps**	**Areas in which simulation should be used to develop relevant skills**
Category	Reconstructive Surgery	
Sub-category:	None	
Objective	*Can perform complete task without direct assistance of scrubbed trainer.*	
Knowledge	4 Anatomy of donor sites and principles of blood supply to skin, fascia and muscle 4 Indications for different types of flap 4 Limitation of techniques	Desirable: Anatomy

	4 Potential complications	
Clinical Skills	4 Identification of relevant instruments and support staff 3 Raising of pedicled cutaneous, muscle and myocutaneous flaps 4 Insetting of flap 4 Management of donor site and closure 4 Management of complications	Desirable Surgical technique
Technical Skills and Procedures	Application of suction drains and appropriate dressings	

Topic	**Free tissue transfer**	**Areas in which simulation should be used to develop relevant skills**
Category	Reconstructive Surgery	
Sub-category:	None	
Objective	*Can perform complete task without direct assistance of scrubbed trainer*	
Knowledge	4 Anatomy of donor sites and principles of blood supply to skin, fascia and muscle 4 Anatomy of neck vessels 4 Indications for different types of flap 4 Principles of microvascular anastomosis 4 Limitation of techniques 4 Potential complications	Desirable: Anatomy
Clinical Skills	4 Identification of relevant instruments and support staff 3 Raising of soft tissue and composite flaps 4 Insetting of flap 4 Use of operating microscope and loupes 4 Preparation of donor and recipient vessels 4 Arterial and venous microvascular anastomosis 4 Management of donor site and closure 4 Management of complications	Strongly recommended
Technical Skills and Procedures	Ability to manage the instruments used. In microvascular anastomosis ability to use an operating microscope.	Strongly recommended: Microvascular techniques Operating microscope

Special Interest Stage

Special Interest Training builds on the essential requirements gained up to ST7.

Cleft Lip and Palate

Overview

- This special interest module in cleft lip and palate surgery is aimed at trainees in the disciplines of plastic surgery, otolaryngology and maxillofacial surgery who wish to pursue a career with a major interest in cleft lip and palate surgery.
- The module gives the trainee access to high quality training interacting with three disciplines of surgery simultaneously.
- The training covers the essential requirements of the special interest; the breadth and depth of which will vary according to parent specialty of the trainee.
- It is open to applicants already in specialist surgical training and may be taken at any time after the intercollegiate examination has been successfully achieved and a satisfactory ARCP obtained.
- Entry is by application and selection against a published person specification.
- The appointment process is usually conducted at national level. Scotland is a full member of the scheme and the appointment process, although not the funding is fully integrated.
- Every effort is made to accommodate trainees within a reasonable distance of their base deanery but this is not guaranteed and the process is one of 'secondment'.
- It is recognised that trainees entering the programme will start from a variable base of competence depending upon their previous experience and achievements. The period of training, therefore, is somewhat dependent on the learning and training needs of the trainee. It will comprise a minimum of a year and a maximum of 2 years.
- It is anticipated that trainees enrolling in the module intend to apply for consultant posts in centres that provide a regional or sub-regional service in cleft lip and palate surgery.
- Those wishing further information should consult the JCST website www.jcst.org.uk.

The Purpose of Training in the Interface Discipline of cleft lip and palate surgery

- To train a small number of surgical trainees from the relevant surgical specialties in advanced techniques in the management of cleft lip and palate patients.
- To train surgeons in the relevant specialties to be effective, full members of an interdisciplinary team.
- To understand the soft and hard tissue deformities of the mid face and the commonest congenital oro-facial congenital disorder whose degree is variable.
- To collaborate with other medical and dental disciplines, and non-medical health professionals,
- To correct respiratory, hearing, feeding, speech and facial growth disorders and facial deformity.
- To be involved with early diagnosis and care of cleft patients and their families which may start before birth.
- To understand and be a part of multidisciplinary teams that span cleft lip and palate treatment from paediatric presentation through to adulthood.

- To cover the full range of primary and secondary cleft surgical procedures and some of the related procedures that the advanced trainee (and later the consultant) depending on their parent speciality (e.g. insertion of grommets, aspects of dental surgical management).

Description of Training in cleft lip and palate surgery

- This takes place in a number of placements throughout the UK, which have been approved through the JCST mechanism. At the time of writing in October 2008, there are seven approved posts in the United Kingdom.

- By the time that the appointment is taken up the trainee will have discussed his/her learning requirements with the lead surgeon for the module, who will act in the capacity of local programme director for the whole module.

- This dialogue will result in the construction of a learning agreement that will apply to the whole module and will outline the placements and the general direction of travel. The specific essential requirements are set down in the syllabus.

- During each placement, the trainee will relate to an Assigned Educational Supervisor (AES) in the usual way for the purposes of mentoring, monitoring and the end of placement summative report to the ARCP panel. The cleft lip and palate interface team provide an external mentor to ensure that progress is satisfactory.

- It may be appropriate for the lead surgeon role and the AES roles to be combined if the local geography and working permit.

- The lead surgeon will be responsible for all the liaison functions, i.e. with the Interface Group of the JCST, the ARCP panels both base and home, the relevant programme director in the trainee's specialty.

Regulation

- At the time of writing, the module is not recognised as a 'subspecialty' for the purposes of entry onto the Specialist Register, but as an area of 'Special Interest' within the parent specialty.

- The module is competence based and successful completion depends upon achieving the essential requirements for completion as laid out in the syllabus.

- Assessment during the module is through the ARCP process. This is carried out through the local (host) deanery or school of surgery on behalf of the (base) deanery with whom the trainee is registered. The host deanery will liaise carefully with the base deanery.

- Selection occurs through the parent deanery (Severn). These posts are advertised through the British Medical Journal and appointed by a committee involving the three parent specialties. The training programme director has to provide a structured report of the trainees' suitability for the post prior to interview. Appointments are usually made in January.

- The Interface Committee for the special interest will monitor the overall progress of trainees taking the module and the workings of the placements, on behalf of the JCST.

- CCT will be deferred until the essential syllabus for both the parent specialty and the interface modules have been successfully completed.

- Trainees judged to have completed the module successfully by their host deanery ARCP panel will be recommended for the CCT to their base deanery through the usual channels. The Chairman of the Interface Committee of the JCST will write to acknowledge this.

- The CCT will be issued in the specialty with which the trainee is registered.

- Those trainees judged not to have completed the requirements of the module successfully within the time frame set or sooner should their progress be unsatisfactory, will be informed of this by the host ARCP panel and referred back to their base deanery.

- Upon completion of the module, the trainee will transfer back to the base deanery in his/her specialty programme. Experience has shown that most trainees leave the module having completed the essential requirements and successfully achieved a consultant appointment.

The Scope and Standards of Practice for the Completion of the Training Module in cleft lip and palate surgery

Upon successful completion of this module, the surgeon will be able to:

- Comply with all the professional requirements of the CCT in the specialty with which he/she is registered. These are based on the domains outlined in CanMEDS and in Good Medical Practice of the GMC and are listed elsewhere.

- Provide effective counselling for patients and their relatives at the onset and presentation of cleft lip and palate patients, and for the duration of care.

- Deliver the care outlined in the purpose of interface training in cleft lip and palate surgery

- Act as an effective member of the MDT for cleft lip and palate patients.

Essential Syllabus

The core syllabus is common across all three specialties and by the end of the module the trainee will have the following**:**

- Basic sciences knowledge in relation to cleft lip and palate patients in particular the embryology and anatomy.

- The ability to initiate, perform and interpret appropriate investigative techniques for the management of cleft lip and palate patients.

- A working knowledge of multi-disciplinary teams which includes: multi-disciplinary clinics, the development of inter–personal skills with patients and families, and the inter-relationship with speech and language therapists, dental and prosthetic care, physiotherapists, dieticians, psychologists, specialist audiology services and paediatric developmental services.

- Knowledge of and clinical and technical skills in the principles of management of cleft lip and palate patients including both primary and subsequent treatments.

- The principles and practice of rehabilitation: includes restorative dental techniques, speech rehabilitation, swallowing and nutrition.

- Data Management
    - Understanding of data sets
    - Understanding of outcome measures

The essential operative competencies that the trainee will need to achieve by the end of the module are shown in the table below. The levels are as follows:

1. has observed
2. can do with assistance
3. can do whole but may need assistance
4. competent to do without assistance, including complications

Assessment strategy

Progress will be monitored through the ARCP (previously RITA by the parent specialty)

Basic knowledge will have been assessed by the specialty exit exam prior to entry

Knowledge and decision making skill will be assessed through reports generated throughout the training.

Summary assessment forms will be agreed between the Assigned Educational Supervisor and fellow every three months and will be returned to the interface panel (to be submitted later)

Surgical e-logbook summaries will be presented six monthly during training to the interface panel

Click on Workplace Based Assessments to view the assessment forms including DOPS and PBAs

Topics

Topic	Basic sciences
Category	Cleft Lip and Palate Stage 1 Key Objectives to be Achieved in the First 6 Months
Sub-category:	Basic science as applied to Cleft surgery
Objective	*To understand basic sciences in relation to cleft lip and palate patients*
Knowledge	4 Process and timing of facial (including dental), branchial arch and otological development during pregnancy and their relationship to investigations and their limitations 3 Teratogenesis and genetics 4 Common syndromes 3 Relationship to other syndromes 4 Pathogenesis and aetiological risks 4 Normal anatomy and the variations found in cleft lip and palate patients 4 Cardio-respiratory physiology of newborn, energy requirements, growth, development milestones in the first year of life, IV fluid management, principles of resuscitation 4 Feeding mechanisms, swallowing, relation of infant feeding and later speech mechanisms, nasal and Eustachian tube and middle ear physiology 3 Speech and language development
Clinical Skills	History and Examination: 4 Applies above principles Data Interpretation: 4 Evaluates diagnostic imaging (CT and MRI) in light of the anatomy and its variations 4 Applies physiological principles to laboratory and other investigations to patient care To integrate the previous sections into patient management
Technical Skills and Procedures	N/A

Topic	Patient management and family care
Category	Cleft Lip and Palate Stage 1 Key Objectives to be Achieved in the First 6 Months
Sub-category:	
Objective	*To apply the principles of patient care, develop team working and liaise with the family and other carers*
Knowledge	4 Understanding the expertise and role of other disciplines in cleft management 4 Fitness and principles of anaesthesia in relations to problems encountered here 4 Principles and techniques of primary and secondary cleft surgery of lip and palate, including unilateral alveolar bone graft 4 Ethical issues around management 4 Post-operative management, including introduction of feeding 3 Evidence based medicine and audit 3 Principles of biomedical research and clinical care
Clinical Skills	History and Examination: 4 Elicit relevant history including difficult circumstances 4 Elicit pregnancy history 4 Obtains information from the family 4 Examine the head and neck using diagnostic endoscopic equipment if necessary 4 Communicates effectively with patient and other members of the team Data Interpretation:

	4 Interpret haematological, biochemical and other relevant investigations 4 Evaluate diagnostic imaging (CT and MRI) in light of the anatomy and its variations Patient Management: 4 Empathizes with family 4 Prioritise patient's needs 4 Assess patient needs prior to theatre 4 Fluid balance 4 Anti microbial and other drug therapy 4 Taking consent 4 Team working with medical and other workers such as dieticians, speech therapists 4 Records and presents data accurately
Technical Skills and Procedures	4 APLS/PALS 3 Diagnostic fibreoptic endoscopy 4 Applies basic principles of surgery and uses instruments and other modalities as listed in the logbook 3 Involved with research and audit

Topic	**Surgical skills**
Category	Cleft Lip and Palate Stage 1 Key Objectives to be Achieved in the First 6 Months
Sub-category:	
Objective	*To integrate knowledge and behaviour with the developing surgical skills*
Knowledge	4 Details and variations of the primary surgical procedures. These include surgical anatomy, pathological anatomy, techniques and timing, rationale of different sequences 4 Details and variations of the secondary surgical procedures. These include surgical anatomy, pathological anatomy, techniques and timing, rationale of different sequences 4 Preparation for bone grafting, correct assessment of evolution of secondary dentition, 3 Understands orthodontic investigations and treatment. 3 Understands planning, surgical principles in orthognathic appliances and their usage, including methods of distraction osteogenesis 4 Understands the surgery required to correct and repair the nasal deformities
Clinical Skills	Please refer to Patient management and family care
Technical Skills and Procedures	4 Operative skill to repair the lip, palate and appropriate other structures according to Unit protocol 4 Ability to make appropriate lip revision, ability to make appropriate fistula closure 4 Assessing appropriateness of referral for speech investigations, assessing likely co-operation of patient, basic interpretation of results for repair of velo-pharyngeal dysfunction 3 Ability to undertake alveolar bone grafting and orthognathic surgery 4 Ability to undertake septorhinoplasty with and without augmentation

Topic	**Team working**
Category	Cleft Lip and Palate Stage 1 Key Objectives to be Achieved in the First 6 Months
Sub-category:	Multidisciplinary management
Objective	*None*

Knowledge	Understanding the expertise and role of other disciplines in cleft management
Clinical Skills	Effective communication with other disciplines Presentation of clinical cases
Technical Skills and Procedures	None

Topic	**Communication**
Category	Cleft Lip and Palate Stage 1 Key Objectives to be Achieved in the First 6 Months
Sub-category:	Multidisciplinary management
Objective	*None*
Knowledge	Methods and timing of involvement of other disciplines in cleft care
Clinical Skills	Appropriate involvement of other professionals
Technical Skills and Procedures	None

Topic	**Empathy and sensitivity, ethics, consent**
Category	Cleft Lip and Palate Stage 1 Key Objectives to be Achieved in the First 6 Months
Sub-category:	Multidisciplinary management
Objective	*None*
Knowledge	Range of patient and parent reaction to cleft deformity and its consequences Knowledge of ethical issues in cleft management
Clinical Skills	Identifying patients and parents concerns Take consent effectively for primary cleft operations Ability to discuss ethical issues and potential complications
Technical Skills and Procedures	None

Topic	**Antenatal diagnosis**
Category	Cleft Lip and Palate Stage 1 Key Objectives to be Achieved in the First 6 Months
Sub-category:	Multidisciplinary management
Objective	*None*
Knowledge	Possibilities and limitations of antenatal diagnosis Likelihood of undiagnosed coexistent abnormalities
Clinical Skills	Ability to ascertain details of antenatal diagnosis Ability to prioritise information Ability to use simple language in discussing diagnoses
Technical Skills and Procedures	None

Topic	**Organisation and planning**
Category	Cleft Lip and Palate Stage 1 Key Objectives to be Achieved in the First 6 Months
Sub-category:	Multidisciplinary management
Objective	*None*
Knowledge	Systematic approach to patient management
Clinical Skills	Starting with important tasks Improvement of efficiency Discussing prioritisation with colleagues in the team

Technical Skills and Procedures	None

Topic	**Data and record management**
Category	Cleft Lip and Palate Stage 1 Key Objectives to be Achieved in the First 6 Months
Sub-category:	Multidisciplinary management
Objective	*None*
Knowledge	Understand how data are recorded by different specialties in cleft management
Clinical Skills	Contribute accurate records Understand significance of data recorded by others
Technical Skills and Procedures	None

Topic	**Audit/Evidence based medicine**
Category	Cleft Lip and Palate Stage 1 Key Objectives to be Achieved in the First 6 Months
Sub-category:	Multidisciplinary management
Objective	*None*
Knowledge	Principles of EBM Important clinical trials in cleft management Ongoing audit in cleft management
Clinical Skills	Critically appraise evidence Competent use of paper and electronic data sources Ability to discuss evidence with parents and patients at appropriate level Ability to carry out audit project
Technical Skills and Procedures	None

Topic	**Research**
Category	Cleft Lip and Palate Stage 1 Key Objectives to be Achieved in the First 6 Months
Sub-category:	Multidisciplinary management
Objective	*None*
Knowledge	Place of research in aiding patient management Different methods of research and application of these
Clinical Skills	Involvement in departmental research project Using critical analysis skills to determine research questions
Technical Skills and Procedures	None

Topic	**Embryology**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Core knowledge
Objective	*None*
Knowledge	Process and timing of facial, branchial arch and otological development Teratogenic effects
Clinical Skills	Ability to relate deformity/anomaly to embryology
Technical Skills	None

and Procedures	

Topic	**Genetics, syndromes**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Core knowledge
Objective	*None*
Knowledge	Genetics of cleft lip and palate Cleft syndromes Common cranio-facial syndromes Cleft syndromes with risk of disability in other systems
Clinical Skills	Sensitive discussion of new findings Use of clinical genetics inputs
Technical Skills and Procedures	None

Topic	**Growth and development in infant/child nutrition**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Core knowledge
Objective	*None*
Knowledge	Cardio-respiratory physiology of newborn Energy requirements Growth Development milestones in the first year of life IV fluid management Principles of resuscitation (APLS/PALS) Feeding mechanisms, swallowing, relation of infant feeding and later speech mechanisms, nasal and Eustachian tube and middle ear physiology
Clinical Skills	Use of growth charts, recognising growth/development exceptions in syndromic patients, appropriate referral of developmental delay, learning difficulties, childhood disability
Technical Skills and Procedures	None

Topic	**Speech Development**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Core knowledge
Objective	*None*
Knowledge	Feeding mechanisms, swallowing, relation of infant feeding and later speech mechanisms, nasal and Eustachian tube and middle ear physiology Range of normal speech development mechanisms at risk in cleft, effect of otitis media with effusion, speech skills at school entry
Clinical Skills	Effective liaison with Speech Therapists, effective liaison with ENT, appropriate interventions in pre-school child and school child
Technical Skills and Procedures	None

Topic	**Peri-operative Management**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Core knowledge
Objective	*None*
Knowledge	Range of normal pre-operative parameters in children, significant dangers for anaesthetics and operation, principles of post-operative fluid management, antibiotic policy
Clinical Skills	Appropriate examination, liaison with Anaesthetics and Ward staff, counselling of parents, post-operative fluids and feeding management, thresholds for Intensive Care interventions
Technical Skills and Procedures	None

Topic	**Antenatal management**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Antenatal management
Objective	*None*
Knowledge	Possibilities and limitations of antenatal diagnosis, likelihood of undiagnosed coexistent abnormalities
Clinical Skills	Ability to ascertain details of antenatal diagnosis, ability to prioritise information, ability to use simple language in discussing diagnoses Ability to conduct ante-natal counselling, demonstrate appropriate liaison with Fetal Medicine Department
Technical Skills and Procedures	None

Topic	**Airway**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Post natal management
Objective	*None*
Knowledge	Airway in Pierre Robin, choanal and laryngeal anomalies
Clinical Skills	Airway management in collaboration with other professionals
Technical Skills and Procedures	None

Topic	**Feeding**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Post natal management
Objective	*None*
Knowledge	Energy requirements and preferred methods of feeding in clefts, feeding problems in syndromic and premature babies
Clinical Skills	Liaise with other professionals on optimisation of cleft patients' feeding
Technical Skills and Procedures	None

Topic	**Counselling**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Post natal management
Objective	*None*
Knowledge	Understanding of techniques and priorities of informing parents of new patients
Clinical Skills	Counselling parents of new patients, ability to use simple language, ability to demonstrate priorities to parents
Technical Skills and Procedures	None

Topic	**Principles of pre-surgical orthodontics**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Post natal management
Objective	*None*
Knowledge	Awareness of orthodontic preferences, awareness of situations indicating pre-surgical orthodontics
Clinical Skills	Appropriate discussion with Orthodontic colleagues
Technical Skills and Procedures	None

Topic	**Primary lip repair**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Primary surgery
Objective	*None*
Knowledge	Surgical anatomy, pathological anatomy, techniques and timing, rationale of different sequences
Clinical Skills	N/A
Technical Skills and Procedures	Operative skill to repair the lip and appropriate other structures according to Unit protocol

Topic	**Primary Palate repair**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Primary surgery
Objective	*None*
Knowledge	Surgical anatomy, pathological anatomy, techniques and timing, rationale of different sequences
Clinical Skills	N/A
Technical Skills and Procedures	Operative skill to repair the palate and appropriate other structures according to Unit protocol

Topic	**Lip revision and fistula closure**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Secondary surgery
Objective	*None*
Knowledge	Appropriate assessment of lip/fistula disability, awareness of patient perceptions

Clinical Skills	None
Technical Skills and Procedures	Ability to make appropriate lip revision, ability to make appropriate fistula closure

Topic	**Investigation of velo-pharyngeal function**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Secondary surgery
Objective	*None*
Knowledge	Indications for speech investigations, methods and limitations, radiation protection
Clinical Skills	Basic understanding of Nasendoscopy
Technical Skills and Procedures	Assessing appropriateness of referral for speech investigations, assessing likely co-operation of patient, basic interpretation of results Full interpretation of the results and formation of clinical plan

Topic	**Secondary palatal surgery, surgical management of VPI**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Secondary surgery
Objective	*None*
Knowledge	Anatomy and physiology of palatal function and abnormalities after cleft closure, pathophysiology of VPI
Clinical Skills	N/A
Technical Skills and Procedures	Judgement on correct operations for secondary repair and control of VPI, skilful dissection of palate after previous repair, surgical skills in speech surgery, pharyngoplasty

Topic	**Alveolar bone graft**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Secondary surgery
Objective	*None*
Knowledge	Preparation for bone grafting, correct assessment of evolution of secondary dentition, understanding of orthodontic investigations and treatment
Clinical Skills	None
Technical Skills and Procedures	Surgical skills in alveolar bone grafting, correct peri-operative management

Topic	**Rhinoplasty**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Secondary surgery
Objective	*None*
Knowledge	Anatomy and pathological anatomy of the cleft nose, understanding of corrective procedures
Clinical Skills	None
Technical Skills and Procedures	Demonstrate surgical skills in cleft rhinoplasty, management of cleft airway and nasal septum

Topic	**Cleft related orthognathic surgery**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Secondary surgery
Objective	*None*
Knowledge	Understanding of anatomy and pathological anatomy, understanding of planning, surgical principles in orthognathic appliances and their usage, methods of distraction osteogenesis
Clinical Skills	None
Technical Skills and Procedures	Ability to perform orthognathic surgery under supervision

Topic	**Basic Otology and hearing assessment**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Multidisciplinary teamworking
Objective	*None*
Knowledge	Interpretation of audiogram and tympanometry study, understanding the principles of brain stem evoked response audiometry
Clinical Skills	Ability to refer from appropriate history and audiogram
Technical Skills and Procedures	None

Topic	**Orthodontics**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Multidisciplinary teamworking
Objective	*None*
Knowledge	Understanding of orthodontic role in cleft care, planning AGB, planning orthognathic surgery, orthodontic measurement of mid-facial growth
Clinical Skills	Appropriate liaison with Orthodontists
Technical Skills and Procedures	None

Topic	**Speech and language therapy**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Multidisciplinary teamworking
Objective	*None*
Knowledge	Speech and language therapy input into cleft management, tools for examining speech development, surgical and orthodontic assistance to speech therapy
Clinical Skills	Appropriate liaison with Speech and language therapists, partaking in policy formation for patients concerning speech management
Technical Skills and Procedures	None

Topic	**Paediatric and restorative dentistry**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months

Sub-category:	Multidisciplinary teamworking
Objective	*None*
Knowledge	Understanding of the role of Paediatric Dentists, understanding basics of oral and dental hygiene, understanding principles of restorative dentistry
Clinical Skills	Appropriate referral to Paediatric and Restorative Dentist
Technical Skills and Procedures	None

Topic	**Child and adolescent psychology**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Multidisciplinary teamworking
Objective	*None*
Knowledge	Awareness of the role of Psychologists in childhood and adolescence, understanding of situations requiring psychology therapy
Clinical Skills	Care in selection of appropriate patients/families for referral
Technical Skills and Procedures	None

Topic	**Children with disabilities**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Multidisciplinary teamworking
Objective	*None*
Knowledge	Understanding the role of Community Paediatrics and associated professionals, special needs teaching, awareness of communication disorders
Clinical Skills	Appropriate liaison with community agencies, ability to write relevant reports
Technical Skills and Procedures	None

Topic	**Ethical issues**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Multidisciplinary teamworking
Objective	*None*
Knowledge	Understanding of consent in older children and adolescents, Gillick competence, ethics of new procedures
Clinical Skills	Ability to take consent from older children and adolescents, ability to communicate medical ethics to parents and older children
Technical Skills and Procedures	None

Topic	**General paediatric issues**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Multidisciplinary teamworking
Objective	*None*
Knowledge	Understanding resuscitation of children Understanding issues of non-accidental injury and child protection

Clinical Skills	Maintenance of APLS/PALS skills Ability to recognise signs of NAI, risk factors, family pathology, awareness of NAI referral pathways to child protection
Technical Skills and Procedures	None

Topic	**Management of residual cleft deformity in adults**
Category	Cleft Lip and Palate Stage 2 Objectives to be Achieved within 18 months
Sub-category:	Multidisciplinary teamworking
Objective	*None*
Knowledge	Understanding of situation at cessation of facial growth, basic understanding of nasal septal deformity, understanding of adult self-image problems, understanding of adult communication problems
Clinical Skills	Ability to assemble appropriate professionals to solve adults' concerns
Technical Skills and Procedures	None

Professional Behaviour and Leadership

Overview

Click here to download a PDF copy of the 2010 syllabus.

Professional behaviour and leadership skills are integral to the specialty specific syllabuses relating to clinical practice. It is not possible to achieve competence within the specialty unless these skills and behaviours are evident. Professional behaviour and leadership skills are evidenced through clinical practice. By the end of each stage of training, the trainee must be able to demonstrate progress in acquiring these skills and demonstrating these behaviours across a range of situations as detailed in the syllabus.

Under each category heading there are learning objectives in the domains of knowledge, skills and behaviour together with example behaviours. These objectives underpin the activities that are found in the syllabus.

All the workplace based assessments contain elements which assess professional behaviour and leadership skills as illustrated in the matrix below.

WPBA	Good Clinical Care	Communicator	Teaching & Training	Keeping up to date	Manager	Promoting good health	Probity & ethics
CBD	✔✔	✔		✔	✔✔	✔	✔
MSF	✔✔	✔✔	✔	✔	✔	✔	✔✔
CEX	✔✔	✔✔		✔	✔	✔	
PBA	✔✔	✔✔		✔	✔	✔	✔
DOPS	✔✔	✔		✔		✔	✔

Covered ✔✔	Partly covered ✔	Not covered

Click on Workplace Based Assessments to view the assessment forms.

	Professional Behaviour and Leadership	Mapping to Leadership Curriculum	Assessment technique	Areas in which simulation should be used to develop relevant skills
Category	**Good Clinical Care**, to include: • History taking (GMP Domains: 1, 3, 4) • Physical examination (GMP Domains: 1, 2,4) • Time management and decision making (GMP Domains: 1,2,3) • Clinical reasoning (GMP Domains: 1,2, 3, 4) • Therapeutics and safe prescribing (GMP Domains: 1, 2, 3) • Patient as a focus of clinical care (GMP Domains: 1, 3, 4) • Patient safety (GMP Domains: 1, 2, 3) • Infection control (GMP Domains: 1, 2, 3)	**Area 4.1**		
Objective	To achieve an excellent level of care for the		Mini CEX,	Strongly

	individual patient • To elicit a relevant focused history (See modules 2, 3, 4,5) • To perform focused, relevant and accurate clinical examination (See modules 2,3,4,5) • To formulate a diagnostic and therapeutic plan for a patient based upon the clinic findings (See modules 2,3,4,5) • To prioritise the diagnostic and therapeutic plan (See modules 2,3,4,5) • To communicate a diagnostic and therapeutic plan appropriately (See modules 2,3,4,5) To produce timely, complete and legible clinical records to include case-note records, handover notes, and operation notes To prescribe, review and monitor appropriate therapeutic interventions relevant to clinical practice including non – medication based therapeutic and preventative indications (See module 1,2,3,4,5) To prioritise and organise clinical and clerical duties in order to optimise patient care To make appropriate clinical and clerical decisions in order to optimise the effectiveness of the clinical team resource. To prioritise the patient's agenda encompassing their beliefs, concerns expectations and needs To prioritise and maximise patient safety: • To understand that patient safety depends on o The effective and efficient organisation of care o Health care staff working well together o Safe systems, individual competency and safe practice • To understand the risks of treatments and to discuss these honestly and openly with patients • To systematic ways of assessing and minimising risk • To ensure that all staff are aware of risks and work together to minimise risk To manage and control infection in patients, including: • Controlling the risk of cross-infection • Appropriately managing infection in individual patients • Working appropriately within the wider community to manage the risk posed by communicable diseases	**Area 4.1**	CBD, Mini PAT, MRCS and Specialty FRCS	recommended Patient safety Desirable: Human factors
Knowledge	**Patient assessment**			

	• Knows likely causes and risk factors for conditions relevant to mode of presentation • Understands the basis for clinical signs and the relevance of positive and negative physical signs • Recognises constraints and limitations of physical examination • Recognises the role of a chaperone is appropriate or required • Understand health needs of particular populations e.g. ethnic minorities • Recognises the impact of health beliefs, culture and ethnicity in presentations of physical and psychological conditions **Clinical reasoning** • Interpret history and clinical signs to generate hypothesis within context of clinical likelihood • Understands the psychological component of disease and illness presentation • Test, refine and verify hypotheses • Develop problem list and action plan • Recognise how to use expert advice, clinical guidelines and algorithms • Recognise and appropriately respond to sources of information accessed by patients • Recognises the need to determine the best value and most effective treatment both for the individual patient and for a patient cohort **Record keeping** • Understands local and national guidelines for the standards of clinical record keeping in all circumstances, including handover • Understanding of the importance of high quality and adequate clinical record keeping and relevance to patient safety and to litigation • Understand the primacy for confidentiality **Time management** • Understand that effective organisation is key to time management • Understand that some tasks are more urgent and/or more important than others • Understand the need to prioritise work according to urgency and importance • Maintains focus on individual patient needs whilst balancing multiple competing pressures • Outline techniques for improving time management **Patient safety** • Outline the features of a safe working environment • Outline the hazards of medical equipment	**Area 4.1**		

	in common use • Understand principles of risk assessment and management • Understanding the components of safe working practice in the personal, clinical and organisational settings • Outline local procedures and protocols for optimal practice e.g. GI bleed protocol, safe prescribing • Understands the investigation of significant events, serious untoward incidents and near misses **Infection control** • Understand the principles of infection control • Understands the principles of preventing infection in high risk groups • Understand the role of Notification of diseases within the UK • Understand the role of the Health Protection Agency and Consultants in Health Protection			
Skills	**Patient assessment** • Takes a history from a patient with appropriate use of standardised questionnaires and with appropriate input from other parties including family members, carers and other health professionals • Performs an examination relevant to the presentation and risk factors that is valid, targeted and time efficient and which actively elicits important clinical findings • Give adequate time for patients and carers to express their beliefs ideas, concerns and expectations • Respond to questions honestly and seek advice if unable to answer • Develop a self-management plan with the patient • Encourage patients to voice their preferences and personal choices about their care **Clinical reasoning** • Interpret clinical features, their reliability and relevance to clinical scenarios including recognition of the breadth of presentation of common disorders • Incorporates an understanding of the psychological and social elements of clinical scenarios into decision making through a robust process of clinical reasoning • Recognise critical illness and respond with due urgency • Generate plausible hypothesis(es) following patient assessment			

	• Construct a concise and applicable problem list using available information • Construct an appropriate management plan in conjunction with the patient, carers and other members of the clinical team and communicate this effectively to the patient, parents and carers where relevant **Record keeping** • Producing legible, timely and comprehensive clinical notes relevant to the setting • Formulating and implementing care plans appropriate to the clinical situation, in collaboration with members of an interdisciplinary team, incorporating assessment, investigation, treatment and continuing care • Presenting well documented assessments and recommendations in written and/or verbal form **Time management** • Identifies clinical and clerical tasks requiring attention or predicted to arise • Group together tasks when this will be the most effective way of working • Organise, prioritise and manage both team-members and workload effectively and flexibly **Patient safety** • Recognise and practise within limits of own professional competence • Recognise when a patient is not responding to treatment, reassess the situation, and encourage others to do so • Ensure the correct and safe use of medical equipment • Improve patients' and colleagues' understanding of the side effects and contraindications of therapeutic intervention • Sensitively counsel a colleague following a significant untoward event, or near incident, to encourage improvement in practice of individual and unit • Recognise and respond to the manifestations of a patient's deterioration or lack of improvement (symptoms, signs, observations, and laboratory results) and support other members of the team to act similarly **Infection control** • Recognise the potential for infection within patients being cared for • Counsel patients on matters of infection risk, transmission and control • Actively engage in local infection control procedures	**Area 4.1**		

	• Prescribe antibiotics according to local guidelines and work with microbiological services where appropriate • Recognise potential for cross-infection in clinical settings • Practice aseptic technique whenever relevant			
Behaviour	• Shows respect and behaves in accordance with Good Medical Practice • Ensures that patient assessment, whilst clinically appropriate considers social, cultural and religious boundaries • Support patient self-management • Recognise the duty of the medical professional to act as patient advocate • Ability to work flexibly and deal with tasks in an effective and efficient fashion • Remain calm in stressful or high pressure situations and adopt a timely, rational approach • Show willingness to discuss intelligibly with a patient the notion and difficulties of prediction of future events, and benefit/risk balance of therapeutic intervention • Show willingness to adapt and adjust approaches according to the beliefs and preferences of the patient and/or carers • Be willing to facilitate patient choice • Demonstrate ability to identify one's own biases and inconsistencies in clinical reasoning • Continue to maintain a high level of safety awareness and consciousness • Encourage feedback from all members of the team on safety issues • Reports serious untoward incidents and near misses and co-operates with the investigation of the same. • Show willingness to take action when concerns are raised about performance of members of the healthcare team, and act appropriately when these concerns are voiced to you by others • Continue to be aware of one's own limitations, and operate within them • Encourage all staff, patients and relatives to observe infection control principles • Recognise the risk of personal ill-health as a risk to patients and colleagues in addition to its effect on performance			
Examples and descriptors for Core Surgical Training	**Patient assessment** • Obtains, records and presents accurate clinical history and physical examination relevant to the clinical presentation, including an indication of patient's views • Uses and interprets findings adjuncts to basic examination appropriately e.g. internal examination, blood pressure measurement, pulse oximetry, peak flow • Responds honestly and promptly to patient questions			

	• Knows when to refer for senior help
	• Is respectful to patients by
	  ○ Introducing self clearly to patients and indicates own place in team
	  ○ Checks that patients comfortable and willing to be seen
	  ○ Informs patients about elements of examination and any procedures that the patient will undergo
	
	Clinical reasoning
	• In a straightforward clinical case develops a provisional diagnosis and a differential diagnosis on the basis of the clinical evidence, institutes an appropriate investigative and therapeutic plan, seeks appropriate support from others and takes account of the patients wishes
	
	Record keeping
	• Is able to format notes in a logical way and writes legibly
	• Able to write timely, comprehensive, informative letters to patients and to GPs
	
	Time management
	• Works systematically through tasks and attempts to prioritise
	• Discusses the relative importance of tasks with more senior colleagues.
	• Understands importance of communicating progress with other team members
	
	Patient safety
	• Participates in clinical governance processes
	• Respects and follows local protocols and guidelines
	• Takes direction from the team members on patient safety
	• Discusses risks of treatments with patients and is able to help patients make decisions about their treatment
	• Ensures the safe use of equipment
	• Acts promptly when patient condition deteriorates
	• Always escalates concerns promptly
	
	Infection control
	• Performs simple clinical procedures whilst maintaining full aseptic precautions
	• Follows local infection control protocols
	• Explains infection control protocols to students and to patients and their relatives
	• Aware of the risks of nosocomial infections.
		Area 4.1		

Examples and descriptors for CCT	**Patient assessment** • Undertakes patient assessment (including history and examination) under difficult circumstances. Examples include:			

	○ Limited time available (Emergency situations, Outpatients, ward referral), ○ Severely ill patients ○ Angry or distressed patients or relatives • Uses and interprets findings adjuncts to basic examination appropriately e.g. electrocardiography, spirometry, ankle brachial pressure index, fundoscopy, sigmoidoscopy • Recognises and deals with complex situations of communication, accommodates disparate needs and develops strategies to cope • Is sensitive to patients cultural concerns and norms • Is able to explain diagnoses and medical procedures in ways that enable patients understand and make decisions about their own health care. **Clinical reasoning** • In a complex case, develops a provisional diagnosis and a differential diagnosis on the basis of the clinical evidence, institutes an appropriate investigative and therapeutic plan, seeks appropriate support from others and takes account of the patients wishes **Record keeping** • Produces comprehensive, focused and informative records which summarise complex cases accurately **Time management** • Organises, prioritises and manages daily work efficiently and effectively • Works with, guides, supervises and supports junior colleagues • Starting to lead and direct the clinical team in effective fashion **Patient safety** • Leads team discussion on risk assessment, risk management, clinical incidents • Works to make organisational changes that will reduce risk and improve safety • Promotes patients safety to more junior colleagues • Recognises and reports untoward or significant events • Undertakes a root cause analysis • Shows support for junior colleagues who are involved in untoward events **Infection control** • Performs complex clinical procedures whilst maintaining full aseptic precautions • Manages complex cases effectively in	**Area 4.1**		

	collaboration with infection control specialists			

	Professional Behaviour and Leadership	**Mapping to Leadership Curriculum**	**Assessment technique**	**Areas in which simulation should be used to develop relevant skills**
Category	*Being a good communicator* To include: • Communication with patients (GMP Domains: 1, 3, 4) • Breaking bad news (GMP Domains: 1, 3, 4) • Communication with colleagues (GMP Domains: 1, 3)	***N/A***		
Objective	**Communication with patients** • To establish a doctor/patient relationship characterised by understanding, trust, respect, empathy and confidentiality • To communicate effectively by listening to patients, asking for and respecting their views about their health and responding to their concerns and preferences • To cooperate effectively with healthcare professionals involved in patient care • To provide appropriate and timely information to patients and their families **Breaking bad news** • To deliver bad news according to the needs of individual patients **Communication with Colleagues** • To recognise and accept the responsibilities and role of the doctor in relation to other healthcare professionals. • To communicate succinctly and effectively with other professionals as appropriate • To present a clinical case in a clear, succinct and systematic manner		PBA, DOPS, Mini CEX, Mini PAT and CBD	Desirable: Human factors

Knowledge	**Communication with patients**
	• Understands questioning and listening techniques
	• Understanding that poor communication is a cause of complaints/ litigation
	
	Breaking bad news
	• In delivering bad news understand that:
	  ○ The delivery of bad news affects the relationship with the patient
	  ○ Patient have different responses to bad news
	  ○ Bad news is confidential but the patient may wish to be accompanied
	  ○ Once the news is given, patients are unlikely to take in anything else			

	○ Breaking bad news can be extremely stressful for both parties ○ It is important to prepare for breaking bad news **Communication and working with colleagues** • Understand the importance of working with colleagues, in particular: ○ The roles played by all members of a multi-disciplinary team ○ The features of good team dynamics ○ The principles of effective inter-professional collaboration ○ The principles of confidentiality			
Skills	**Communication with patients** • Establish a rapport with the patient and any relevant others (e.g. carers) • Listen actively and question sensitively to guide the patient and to clarify information • Identify and manage communication barriers, tailoring language to the individual patient and others and using interpreters when indicated • Deliver information compassionately, being alert to and managing their and your emotional response (anxiety, antipathy etc.) • Use, and refer patients to appropriate written and other evidence based information sources • Check the patient's understanding, ensuring that all their concerns/questions have been covered • Make accurate contemporaneous records of the discussion • Manage follow-up effectively and safely utilising a variety if methods (e.g. phone call, email, letter) • Provide brief advice on health and self care e.g. use of alcohol and drugs. • Ensure appropriate referral and communications with other healthcare professional resulting from the consultation are made accurately and in a timely manner **Breaking bad news** • Demonstrate to others good practice in breaking bad news • Recognises the impact of the bad news on the patient, carer, supporters, staff members and self • Act with empathy, honesty and sensitivity avoiding undue optimism or pessimism **Communication with colleagues** • Communicate with colleagues accurately, clearly and promptly • Utilise the expertise of the whole multi-disciplinary team			

	• Participate in, and co-ordinate, an effective hospital at night or hospital out of hours team • Communicate effectively with administrative bodies and support organisations • Prevent and resolve conflict and enhance collaboration			
Behaviour	**Communication with patients** • Approach the situation with courtesy, empathy, compassion and professionalism • Demonstrate and inclusive and patient centred approach with respect for the diversity of values in patients, carers and colleagues **Breaking bad news** • Behave with respect, honest ant empathy when breaking bad news • Respect the different ways people react to bad news **Communication with colleagues** • Be aware of the importance of, and take part in, multi-disciplinary teamwork, including adoption of a leadership role • Foster an environment that supports open and transparent communication between team members • Ensure confidentiality is maintained during communication with the team • Be prepared to accept additional duties in situations of unavoidable and unpredictable absence of colleagues Act appropriately on any concerns about own or colleagues' health e.g. use of alcohol and/or other drugs.			
Examples and descriptors for Core Surgical Training	• Conducts a simple consultation with due empathy and sensitivity and writes accurate records thereof • Recognises when bad news must be imparted. • Able to break bad news in planned settings following preparatory discussion with seniors • Accepts his/her role in the healthcare team and communicates appropriately with all relevant members thereof			
Examples and descriptors for CCT	• Shows mastery of patient communication in all situations, anticipating and managing any difficulties which may occur • Able to break bad news in both unexpected and planned settings • Fully recognises the role of, and communicates appropriately with, all relevant team members			

	• Predicts and manages conflict between members of the healthcare team • Beginning to take leadership role as appropriate, fully respecting the skills, responsibilities and viewpoints of all team members			

	Professional Behaviour and Leadership	**Mapping to Leadership Curriculum**	**Assessment technique**	**Areas in which simulation should be used to develop relevant skills**
Category	**Teaching and Training** (GMP Domains: 1, 3)	N/A		
Objective	• To teach to a variety of different audiences in a variety of different ways • To assess the quality of the teaching • To train a variety of different trainees in a variety of different ways • To plan and deliver a training programme with appropriate assessments		Mini PAT, Portfolio assessment at ARCP	Strongly recommended Teaching and Assessment Desirable: Presentation skills Reflective practice
Knowledge	• Understand relevant educational theory and principles relevant to medical education • Understand the structure of an effective appraisal interview • Understand the roles to the bodies involved in medical education • Understand learning methods and effective learning objectives and outcomes • Differentiate between appraisal, assessment and performance review • Differentiate between formative and summative assessment • Understand the role, types and use of workplace-based assessments • Understand the appropriate course of action to assist a trainee in difficulty			
Skills	• Critically evaluate relevant educational literature • Vary teaching format and stimulus, appropriate to situation and subject • Provide effective feedback and promote reflection • Conduct developmental conversations as appropriate eg: appraisal, supervision, mentoring • Deliver effective lecture, presentation, small group and bed side teaching sessions • Participate in patient education • Lead departmental teaching programmes			

	including journal clubs • Recognise the trainee in difficulty and take appropriate action • Be able to identify and plan learning activities in the workplace			
Behaviour	• In discharging educational duties respect the dignity and safety of patients at all times • Recognise the importance of the role of the physician as an educator • Balances the needs of service delivery with education • Demonstrate willingness to teach trainees and other health workers • Demonstrates consideration for learners • Acts to endure equality of opportunity for students, trainees, staff and professional colleagues • Encourage discussions with colleagues in clinical settings to share understanding • Maintains honesty, empathy and objectivity during appraisal and assessment			
Examples and descriptors for Core Surgical Training	• Prepares appropriate materials to support teaching episodes • Seeks and interprets simple feedback following teaching • Supervises a medical student, nurse or colleague through a simple procedure • Plans, develops and delivers small group teaching to medical students, nurses or colleagues			
Examples and descriptors for CCT	• Performs a workplace based assessment including giving appropriate feedback • Devises a variety of different assessments (eg MCQs, WPBAs) • Appraises a medical student, nurse or colleague • Acts as a mentor to a medical student, nurses or colleague • Plans, develops and delivers educational programmes with clear objectives and outcomes • Plans, develops and delivers an assessment programme to support educational activities			

	Professional Behaviour and Leadership	**Mapping to Leadership Curriculum**	**Assessment technique**	**Areas in which simulation should be used to develop relevant skills**
Category	*Keeping up to date and understanding how to analyse information* ***Including*** • *Ethical research* (GMP Domains: 1) • Evidence and guidelines (GMP Domains: 1)			

	• Audit (GMP Domains: 1, 2) • Personal development	**Area 1.3**		
Objective	• To understand the results of research as they relate to medical practise • To participate in medical research • To use current best evidence in making decisions about the care of patients • To construct evidence based guidelines and protocols • To complete an audit of clinical practice • At actively seek opportunities for personal development • To participate in continuous professional development activities	**Area 1.3** **Area 1.3**	Mini PAT, CBD, Portfolio assessment at ARCP, MRCS and specialty FRCS	
Knowledge	• Understands GMC guidance on good practice in research • Understands the principles of research governance • Understands research methodology including qualitative, quantitative, bio-statistical and epidemiological research methods • Understands of the application of statistics as applied to medical practise • Outline sources of research funding • Understands the principles of critical appraisal • Understands levels of evidence and quality of evidence • Understands guideline development together with their roles and limitations • Understands the different methods of obtaining data for audit • Understands the role of audit in improving patient care and risk management • Understands the audit cycle • Understands the working and uses of national and local databases used for audit such as specialty data collection systems, cancer registries etc • To demonstrate knowledge of the importance of best practice, transparency and consistency	**Area 1.3**		
Skills	• Develops critical appraisal skills and applies these when reading literature • Devises a simple plan to test a hypothesis • Demonstrates the ability to write a scientific paper • Obtains appropriate ethical research approval • Uses literature databases • Contribute to the construction, review and updating of local (and national) guidelines of good practice using the principles of evidence based medicine • Designs, implements and completes audit cycles • Contribute to local and national audit projects as appropriate • To use a reflective approach to practice with an ability to learn from previous experience • To use assessment, appraisal, complaints and other feedback to discuss and develop an understanding of own development needs	**Area 1.3** **Area 1.3**		

Behaviour	• Follows guidelines on ethical conduct in research and consent for research • Keep up to date with national reviews and guidelines of practice (e.g. NICE) • Aims for best clinical practice at all times, responding to evidence based medicine while recognising the occasional need to practise outside clinical guidelines • Recognise the need for audit in clinical practice to promote standard setting and quality assurance • To be prepared to accept responsibility • Show commitment to continuing professional development	**Area 1.3** **Area 1.3**		
Examples and descriptors for Core Surgical Training	• Defines ethical research and demonstrates awareness of GMC guidelines • Differentiates audit and research and understands the different types of research approach e.g. qualitative and quantitative • Knows how to use literature databases • Demonstrates good presentation and writing skills • Participates in departmental or other local journal club • Critically reviews an article to identify the level of evidence • Attends departmental audit meetings • Contributes data to a local or national audit • Identifies a problem and develops standards for a local audit • Describes the audit cycle and take an audit through the first steps • Seeks feedback on performance from clinical supervisor/mentor/patients/carers/service users	**Area 1.3** **Area 1.3**		
Examples and descriptors for CCT	• Demonstrates critical appraisal skills in relation to the published literature • Demonstrates ability to apply for appropriate ethical research approval • Demonstrates knowledge of research organisation and funding sources • Demonstrates ability to write a scientific paper • Leads in a departmental or other local journal club • Contributes to the development of local or national clinical guidelines or protocols • Organise or lead a departmental audit meeting • Lead a complete clinical audit cycle including development of conclusions, the changes needed for improvement, implementation of findings and re-audit to assess the effectiveness of the changes • Seeks opportunity to visit other departments and learn from other professionals	**Area 1.3** **Area 1.3**		

	Professional Behaviour and Leadership	Mapping to Leadership Curriculum	Assessment technique	Areas in which simulation should be used to develop relevant skills
Sub-category:	*Manager **including*** • Self Awareness and self management (GMP Domains: 1) • Team-working (GMP Domains: 1, 3) • Leadership (GMP Domains: 1, 2, 3) • Principles of quality and safety improvement (GMP Domains: 1, 3, 4) • Management and NHS structure (GMP Domains: 1)	**Area 1.1 and 1.2** **Area 2** **Area 4.2, 4.3, 4.4** **Area 3**		
Objective	**Self awareness and self management** • To recognise and articulate one's own values and principles, appreciating how these may differ from those of others • To identify one's own strengths, limitations and the impact of their behaviour • To identify their own emotions and prejudices and understand how these can affect their judgement and behaviour • To obtain, value and act on feedback from a variety of sources • To manage the impact of emotions on behaviour and actions • To be reliable in fulfilling responsibilities and commitments to a consistently high standard • To ensure that plans and actions are flexible, and take into account the needs and requirements of others • To plan workload and activities to fulfil work requirements and commitments with regard to their own personal health **Team working** • To identify opportunities where working with others can bring added benefits • To work well in a variety of different teams and team settings by listening to others, sharing information, seeking the views of others, empathising with others, communicating well, gaining trust, respecting roles and expertise of others, encouraging others, managing differences of opinion, adopting a team approach **Leadership** • To develop the leadership skills necessary to lead teams effectively. These include: • Identification of contexts for change • Application of knowledge and evidence to	**Area 1.1 and 1.2** **Area 2** **Area 5**	Mini PAT and CBD Mini PAT, CBD and Portfolio assessment during ARCP Mini PAT, CBD and Portfolio	Desirable: Patient safety Human factors

	produce an evidence based challenge to systems and processes • Making decision by integrating values with evidence • Evaluating impact of change and taking corrective action where necessary **Principles of quality and safety improvement** • To recognise the desirability of monitoring performance, learning from mistakes and adopting no blame culture in order to ensure high standards of care and optimise patient safety • To critically evaluate services • To identify where services can be improved • To support and facilitate innovative service improvement **Management and NHS culture** • To organise a task where several competing priorities may be involved • To actively contribute to plans which achieve service goals • To manage resources effectively and safely • To manage people effectively and safely • To manage performance of themselves and others • To understand the structure of the NHS and the management of local healthcare systems in order to be able to participate fully in managing healthcare provision	**Area 4.2, 4.3 and 4.4** **Area 3**	assessment during ARCP Mini PAT, CBD and Portfolio assessment during ARCP Mini PAT, CBD and Portfolio assessment during ARCP	
Knowledge	**Self awareness and self management** • Demonstrate knowledge of ways in which individual behaviours impact on others; • Demonstrate knowledge of personality types, group dynamics, learning styles, leadership styles • Demonstrate knowledge of methods of obtaining feedback from others • Demonstrate knowledge of tools and techniques for managing stress • Demonstrate knowledge of the role and responsibility of occupational health and other support networks • Demonstrate knowledge of the limitations of self professional competence **Team working** • Outline the components of effective collaboration and team working • Demonstrate knowledge of specific techniques and methods that facilitate effective and empathetic communication • Demonstrate knowledge of techniques to facilitate and resolve conflict • Describe the roles and responsibilities of members of the multidisciplinary team • Outline factors adversely affecting a doctor's and team performance and methods to rectify these • Demonstrate knowledge of different leadership	**Areas 1.1 and 1.2** **Area 2**		

	styles
	
	Leadership
	• Understand the responsibilities of the various Executive Board members and Clinical Directors or leaders
	• Understand the function and responsibilities of national bodies such as DH, HCC, NICE, NPSA, NCAS; Royal Colleges and Faculties, specialty specific bodies, representative bodies; regulatory bodies; educational and training organisations
	• Demonstrate knowledge of patient outcome reporting systems within surgery, and the organisation and how these relate to national programmes.
	• Understand how decisions are made by individuals, teams and the organisation
	• Understand effective communication strategies within organisations
	• Demonstrate knowledge of impact mapping of service change, barriers to change, qualitative methods to gather the experience of patients and carers
	
	Quality and safety improvement
	• Understand the elements of clinical governance and its relevance to clinical care
	• Understands significant event reporting systems relevant to surgery
	• Understands the importance of evidence-based practice in relation to clinical effectiveness
	• Understand risks associated with the surgery including mechanisms to reduce risk
	• Outline the use of patient early warning systems to detect clinical deterioration
	• Keep abreast of national patient safety initiatives including National Patient Safety Agency , NCEPOD reports, NICE guidelines etc
	• Understand quality improvement methodologies including feedback from patients, public and staff
	• Understand the role of audit, research, guidelines and standard setting in improving quality of care
	• Understand methodology of creating solutions for service improvement
	• Understand the implications of change
	
	Management and NHS Structure
	• Understand the guidance given on management and doctors by the GMC
	• Understand the structure of the NHS and its constituent organisation
	• Understand the structure and function of healthcare systems as they apply to surgery
	• Understand the principles of:
	  • Clinical coding
	  • Relevant legislation including Equality and Diversity, Health and Safety, Employment law, European Working Time Regulations
		Area 5
		
		Area 4.2, 4.3, 4.4
		
		Area 3		

	• National Service Frameworks • Health regulatory agencies (e.g., NICE, Scottish Government) • NHS Structure and relationships • NHS finance and budgeting • Consultant contract • Commissioning, funding and contracting arrangements • Resource allocation • The role of the independent sector as providers of healthcare • Patient and public involvement processes and role • Understand the principles of recruitment and appointment procedures • Understand basic management techniques			
Skills	**Self awareness and self management** • Demonstrate the ability to maintain and routinely practice critical self awareness, including able to discuss strengths and weaknesses with supervisor, recognising external influences and changing behaviour accordingly • Demonstrate the ability to show awareness of and sensitivity to the way in which cultural and religious beliefs affect approaches and decisions, and to respond respectfully • Demonstrate the ability to recognise the manifestations of stress on self and others and know where and when to look for support • Demonstrate the ability to□□alance personal and professional roles and responsibilities, prioritise tasks, having realistic expectations of what can be completed by self and others **Team working** • Preparation of patient lists with clarification of problems and ongoing care plan • Detailed hand over between shifts and areas of care • Communicate effectively in the resolution of conflict, providing feedback • Develop effective working relationships with colleagues within the multidisciplinary team • Demonstrate leadership and management in the following areas: o Education and training of junior colleagues and other members of the team o Deteriorating performance of colleagues (e.g. stress, fatigue) o Effective handover of care between shifts and teams • Lead and participate in interdisciplinary team meetings • Provide appropriate supervision to less experienced colleagues • Timely preparation of tasks which need to be completed to a deadline	**Area 1.2 and 1.2** **Area 2** **Area 5**		

	Leadership • Discuss the local, national and UK health priorities and how they impact on the delivery of health care relevant to surgery • Identify trends, future options and strategy relevant to surgery • Compare and benchmark healthcare services • Use a broad range of scientific and policy publications relating to delivering healthcare services • Prepare for meetings by reading agendas, understanding minutes, action points and background research on agenda items • Work collegiately and collaboratively with a wide range of people outside the immediate clinical setting • Evaluate outcomes and re-assess the solutions through research, audit and quality assurance activities • Understand the wider impact of implementing change in healthcare provision and the potential for opportunity costs **Quality and safety improvement** • Adopt strategies to reduce risk e.g. Safe surgery • Contribute to quality improvement processes e.g. o Audit of personal and departmental performance o Errors / discrepancy meetings o Critical incident and near miss reporting o Unit morbidity and mortality meetings o Local and national databases • Maintenance of a personal portfolio of information and evidence • Creatively question existing practise in order to improve service and propose solutions **Management and NHS Structures** • Manage time and resources effectively • Utilise and implement protocols and guidelines • Participate in managerial meetings • Take an active role in promoting the best use of healthcare resources • Work with stakeholders to create and sustain a patient-centred service • Employ new technologies appropriately, including information technology • Conduct an assessment of the community needs for specific health improvement measures	**Area 4.2, 4.3, 4.4** **Area 3**		
Behaviour	**Self awareness and self management** • To adopt a patient-focused approach to decisions that acknowledges the right, values and strengths of patients and the public • To recognise and show respect for diversity and • differences in others • To be conscientious, able to manage time and delegate • To recognise personal health as an important	**Area 1.1 and 1.2**		

	issue **Team working** • Encourage an open environment to foster and explore concerns and issues about the functioning and safety of team working • Recognise limits of own professional competence and only practise within these. • Recognise and respect the skills and expertise of others • Recognise and respect the request for a second opinion • Recognise the importance of induction for new members of a team • Recognise the importance of prompt and accurate information sharing with Primary Care team following hospital discharge **Leadership** • Demonstrate compliance with national guidelines that influence healthcare provision • Articulate strategic ideas and use effective influencing skills • Understand issues and potential solutions before acting • Appreciate the importance of involving the public and communities in developing health services • Participate in decision making processes beyond the immediate clinical care setting • Demonstrate commitment to implementing proven improvements in clinical practice and services • Obtain the evidence base before declaring effectiveness of changes **Quality and safety improvement** • Participate in safety improvement strategies such as critical incident reporting • Develop reflection in order to achieve insight into own professional practice • Demonstrates personal commitment to improve own performance in the light of feedback and assessment • Engage with an open no blame culture • Respond positively to outcomes of audit and quality improvement • Co-operate with changes necessary to improve service quality and safety **Management and NHS Structures** • Recognise the importance of equitable allocation of healthcare resources and of commissioning • Recognise the role of doctors as active participants in healthcare systems • Respond appropriately to health service objectives and targets and take part in the development of services • Recognise the role of patients and carers as active participants in healthcare systems and service	**Area 2** **Area 5** **Area 4.2, 4.3, 4.4** **Area 3**		

	planning • Show willingness to improve managerial skills (e.g. management courses) and engage in management of the service			
Examples and descriptors for Core Surgical Training	**Self awareness and self management** • Obtains 360° feedback as part of an assessment • Participates in peer learning and explores leadership styles and preferences • Timely completion of written clinical notes • Through feedback discusses and reflects on how a personally emotional situation affected communication with another person • Learns from a session on time management **Team working** • Works well within the multidisciplinary team and recognises when assistance is required from the relevant team member • Invites and encourages feedback from patients • Demonstrates awareness of own contribution to patient safety within a team and is able to outline the roles of other team members. • Keeps records up-to-date and legible and relevant to the safe progress of the patient. • Hands over care in a precise, timely and effective manner • Supervises the process of finalising and submitting operating lists to the theatre suite **Leadership** • Complies with clinical governance requirements of organisation • Presents information to clinical and service managers (eg audit) • Contributes to discussions relating to relevant issues e.g. workload, cover arrangements using clear and concise evidence and information **Quality and safety improvement** • Understands that clinical governance is the over-arching framework that unites a range of quality improvement activities • Participates in local governance processes • Maintains personal portfolio • Engages in clinical audit • Questions current systems and processes **Management and NHS Structures** • Participates in audit to improve a clinical service • Works within corporate governance structures • Demonstrates ability to manage others by teaching and mentoring juniors, medical students and others, delegating work effectively, • Highlights areas of potential waste	**Area 1.1 and 1.2** **Area 2** **Area 5** **Area 4.2, 4.3, 4.4** **Area 3**		
Examples and descriptors	**Self awareness and self management** • Participates in case conferences as part of multidisciplinary and multi agency team • Responds to service pressures in a responsible	**Area 1.1 and 1.2**		

for CCT	and considered way • Liaises with colleagues in the planning and implementation of work rotas **Team working** • Discusses problems within a team and provides an analysis and plan for change • Works well in a variety of different teams • Shows the leadership skills necessary to lead the multidisciplinary team • Beginning to leads multidisciplinary team meetings o Promotes contribution from all team members o Fosters an atmosphere of collaboration o Ensures that team functioning is maintained at all times. o Recognises need for optimal team dynamics o Promotes conflict resolution • Recognises situations in which others are better equipped to lead or where delegation is appropriate **Leadership** • Shadows NHS managers • Attends multi-agency conference • Uses and interprets departments performance data and information to debate services • Participates in clinical committee structures within an organisation **Quality and safety improvement** • Able to define key elements of clinical governance • Demonstrates personal and service performance • Designs audit protocols and completes audit cycle • Identifies areas for improvement and initiates improvement projects • Supports and participates in the implementation of change • Leads in review of patient safety issue • Understands change management **Management and NHS Structure** • Can describe in outline the roles of primary care, including general practice, public health, community, mental health, secondary and tertiary care services within healthcare • Participates fully in clinical coding arrangements and other relevant local activities • Can describe the relationship between PCTs/Health Boards, General Practice and Trusts including relationships with local authorities and social services • Participate in team and clinical directorate meetings including discussions around service development • Discuss the most recent guidance from the	**Area 2** **Area 5** **Area 4.2, 4.3, 4.4** **Area 3**		

	relevant health regulatory agencies in relation to the surgical specialty • Describe the local structure for health services and how they relate to regional or devolved administration structures • Discusses funding allocation processes from central government in outline and how that might impact on the local health organisation			

	Professional Behaviour and Leadership	**Mapping to Leadership Curriculum**	**Assessment technique**	**Areas in which simulation should be used to develop relevant skills**
Sub-category:	**Promoting good health** (GMP Domains: 1, 2, 3)			
Objective	• To demonstrate an understanding of the determinants of health and public policy in relation to individual patients • To promote supporting people with long term conditions to self-care • To develop the ability to work with individuals and communities to reduce levels of ill health and to remove inequalities in healthcare provision • To promote self care	N/A	MRCS, specialty FRCS, CBD, Mini PAT	
Knowledge	• Understand guidance documents relevant to the support of self care • Recognises the agencies that can provide care and support out with the hospital • Understand the factors which influence the incidence and prevalence of common conditions including psychological, biological, social, cultural and economic factors • Understand the screening programmes currently available within the UK • Understand the possible positive and negative implications of health promotion activities • Demonstrate knowledge of the determinants of health worldwide and strategies to influence policy relating to health issues • Outline the major causes of global morbidity and mortality and effective, affordable interventions to reduce these			
Skills	• Adapts assessment and management accordingly to the patients social circumstances • Assesses patient's ability to access various services in the health and social system and offers appropriate assistance • Ensures appropriate equipment and devices are discussed and where appropriate puts the patient in touch with the relevant agency • Facilitating access to appropriate training and			

	skills to develop the patients' confidence and competence to self care • Identifies opportunities to promote change in lifestyle and to prevent ill health • Counsels patients appropriately on the benefits and risks of screening and health promotion activities			
Behaviour	• Recognises the impact of long term conditions on the patient, family and friends • Put patients in touch with the relevant agency including the voluntary sector from where they can access support or equipment relevant to their care • Show willingness to maintain a close working relationship with other members of the multi-disciplinary team, primary and community care • Recognise and respect the role of family, friends and carers in the management of the patient with a long term condition • Encourage where appropriate screening to facilitate early intervention			
Examples and descriptors for Core Surgical Training	• Understands that "quality of life" is an important goal of care and that this may have different meanings for each patient • Promotes patient self care and independence • Helps the patient to develop an active understanding of their condition and how they can be involved in self management • Discusses with patients those factors which could influence their health			
Examples and descriptors for CCT	• Demonstrates awareness of management of long term conditions • Develops management plans in partnership with the patient that are pertinent to the patients long term condition • Engages with relevant external agencies to promote improving patient care • Support small groups in a simple health promotion activity • Discuss with small groups the factors that have an influence on their health and describe steps they can undertake to address these • Provide information to an individual about a screening programme offering specific guidance in relation to their personal health and circumstances concerning the factors that would affect the risks and benefits of screening to them as an individual.			

	Professional Behaviour and Leadership	Mapping to Leadership Curriculum	Assessment technique	Areas in which simulation should be used to develop relevant skills
Sub-category:	*Probity and Ethics* To include • Acting with integrity • Medical Error • Medical ethics and confidentiality (GMP Domains: 1, 2, 3, 4) • Medical consent (GMP Domains: 1, 3, 4) • Legal framework for medical practise (GMP Domains: 1, 2, 3)	Area 1.4		
Objective	• To uphold personal, professional ethics and values, taking into account the values of the organisation and the culture and beliefs of individuals • To communicate openly, honestly and inclusively • To act as a positive role model in all aspects of communication • To take appropriate action where ethics and values are compromised • To recognise and respond the causes of medical error • To respond appropriately to complaints • To know, understand and apply appropriately the principles, guidance and laws regarding medical ethics and confidentiality as they apply to surgery • To understand the necessity of obtaining valid consent from the patient and how to obtain • To understand the legal framework within which healthcare is provided in the UK • To recognise, analyse and know how to deal with unprofessional behaviours in clinical practice, taking into account local and national regulations • Understand ethical obligations to patients and colleagues • To appreciate an obligation to be aware of personal good health	Area 1.4	Mini PAT and CBD, PBA, DOPS, MRCS, specialty FRCS	Desirable: Human factors
Knowledge	• Understand local complaints procedure • Recognise factors likely to lead to complaints • Understands the differences between system and individual errors • Outline the principles of an effective apology • Knows and understand the professional, legal and ethical codes of the General Medical Council and any other codes to which the physician is bound • Understands of the principles of medical ethics • Understands the principles of confidentiality • Understands the Data Protection Act and Freedom of Information Act • Understands the principles of Information Governance and the role of the Caldicott Guardian • Understands the legal framework for patient	Area 1.4		

	consent in relation to medical practise • Recognises the factors influencing ethical decision making including religion, personal and moral beliefs, cultural practices • Understands the standards of practice defined by the GMC when deciding to withhold or withdraw life-prolonging treatment • Understands the UK legal framework and GMC guidelines for taking and using informed consent for invasive procedures including issues of patient incapacity			
Skills	• To recognise, analyse and know how to deal with unprofessional behaviours in clinical practice taking into account local and national regulations • To create open and nondiscriminatory professional working relationships with colleagues awareness of the need to prevent bullying and harassment • Contribute to processes whereby complaints are reviewed and learned from • Explains comprehensibly to the patient the events leading up to a medical error or serious untoward incident, and sources of support for patients and their relatives • Deliver an appropriate apology and explanation relating to error • Use and share information with the highest regard for confidentiality both within the team and in relation to patients • Counsel patients, family, carers and advocates tactfully and effectively when making decisions about resuscitation status, and withholding or withdrawing treatment • Present all information to patients (and carers) in a format they understand, checking understanding and allowing time for reflection on the decision to give consent • Provide a balanced view of all care options • Applies the relevant legislation that relates to the health care system in order to guide one's clinical practice including reporting to the Coroner's/Procurator Officer, the Police or the proper officer of the local authority in relevant circumstances • Ability to prepare appropriate medical legal statements for submission to the Coroner's Court, Procurator Fiscal, Fatal Accident Inquiry and other legal proceedings • Be prepared to present such material in Court	Area 1.4 Area 1.4		
Behaviour	• To demonstrate acceptance of professional regulation • To promote professional attitudes and values • To demonstrate probity and the willingness to be truthful and to admit errors • Adopt behaviour likely to prevent causes for complaints • Deals appropriately with concerned or dissatisfied patients or relatives • Recognise the impact of complaints and medical error on staff, patients, and the National Health	Area 1.4 Area 1.4 Area 1.4		

	Service
	• Contribute to a fair and transparent culture around complaints and errors
	• Recognise the rights of patients to make a complaint
	• Identify sources of help and support for patients and yourself when a complaint is made about yourself or a colleague
	• Show willingness to seek advice of peers, legal bodies, and the GMC in the event of ethical dilemmas over disclosure and confidentiality
	• Share patient information as appropriate, and taking into account the wishes of the patient
	• Show willingness to seek the opinion of others when making decisions about resuscitation status, and withholding or withdrawing treatment
	• Seeks and uses consent from patients for procedures that they are competent to perform while
	  ○ Respecting the patient's autonomy
	  ○ Respecting personal, moral or religious beliefs
	  ○ Not exceeding the scope of authority given by the patient
	  ○ Not withholding relevant information
	• Seeks a second opinion, senior opinion, and legal advice in difficult situations of consent or capacity
	• Show willingness to seek advice from the employer, appropriate legal bodies (including defence societies), and the GMC on medico-legal matters			

Examples and descriptors for Core Surgical Training	• Reports and rectifies an error if it occurs • Participates in significant event audits • Participates in ethics discussions and forums • Apologises to patient for any failure as soon as an error is recognised • Understands and describes the local complaints procedure • Recognises need for honesty in management of complaints • Learns from errors • Respect patients' confidentiality and their autonomy • Understand the Data Protection Act and Freedom of Information Act • Consult appropriately, including the patient, before sharing patient information • Participate in decisions about resuscitation status, withholding or withdrawing treatment • Obtains consent for interventions that he/she is competent to undertake • Knows the limits of their own professional capabilities	Area 1.4 Area 1.4 Area 1.4		

The Assessment System

Assessment and feedback

Overview of the assessment system

The curriculum adopts the following GMC definitions:

Assessment

A systematic procedure for measuring a trainee's progress or level of achievement, against defined criteria to make a judgement about a trainee.

Assessment system

An integrated set of assessments which is in place for the entire postgraduate training programme and which is blueprinted against and supports the approved curriculum.

Purpose of the assessment system

The purpose of the assessment system is to:

- Determine whether trainees are meeting the standards of competence and performance specified at various stages in the curriculum for surgical training.
- Provide systematic and comprehensive feedback as part of the learning cycle.
- Determine whether trainees have acquired the common and specialty-based knowledge, clinical judgement, operative and technical skills, and generic professional behaviour and leadership skills required to practise at the level of Certification in the designated surgical specialty.
- Address all the domains of Good Medical Practice and conform to the principles laid down by the GMC.

Components of the assessment system

The individual components of the assessment system are:

- Workplace-based assessments covering knowledge, clinical judgement, technical skills and professional behaviour and attitudes. These are complemented by the surgical logbook of procedures to support the assessment of operative skills
- Examinations held at key stages; during the early years of training and towards the end of specialty training
- The Learning Agreement and the Assigned Educational Supervisors' report
- An Annual Review of Competence Progression (ARCP)

In order to be included in the assessment system, the assessments methods selected have to meet the following criteria.

- **Valid** - To ensure face validity, the workplace based assessments comprise direct observations of workplace tasks. The complexity of the tasks increases in line with progression through the training programme. To ensure content validity all the assessment instruments have been blueprinted against all the standards of Good Medical Practice.
- **Reliable** - In order to increase reliability, there will be multiple measures of outcomes. ISCP assessments make use of several observers' judgements, multiple assessment methods (triangulation) and take place frequently. The planned, systematic and permanent programme of assessor training for trainers and Assigned Educational Supervisors (AESs) through the postgraduate deaneries/LETBs is intended to gain maximum reliability of placement reports.
- **Feasible** - The practicality of the assessments in the training and working environment has been taken into account. The assessment should not add a significant amount of time to the workplace task being assessed and assessors should be able to complete the scoring and feedback part of the assessment in 5-10 minutes.

- **Cost-effectiveness** – Once staff have been trained in the assessment process and are familiar with the ISCP website, the only significant additional costs should be any extra time taken for assessments and feedback and the induction of new Assigned Educational Supervisors. The most substantial extra time investment will be in the regular appraisal process for units that did not previously have such a system.
- **Opportunities for feedback –** All the assessments, both those for learning and of learning, include a feedback element. Structured feedback is a fundamental component of high quality assessment and should be incorporated throughout workplace based assessments.
- **Impact on learning** - The workplace-based assessments are all designed to include immediate feedback as part of the process. A minimum number of three appraisals with the AES per clinical placement are built into the training system. The formal examinations all provide limited feedback as part of the summative process. The assessment process thus has a continuous developmental impact on learning. The emphasis given to reflective practice within the portfolio also impacts directly on learning.

Assessment and feedback

Types of assessment

The assessment blueprint and framework

The Overarching Blueprint demonstrates that the curriculum is consistent with the four domains of Good Medical Practice: Knowledge, skills and performance; *Safety and quality; Communication, partnership and teamwork; Maintaining trust*. The specialty-specific syllabuses specify the knowledge, skills and performance required for different stages of training and have patient safety as their principal consideration. The professional behaviour and leadership skills syllabus specifies the standards for patient safety; communication, partnership and team-working and maintaining trust. The standards have been informed by the Academy Common Competency Framework and the Academy and NHS Leadership Competency Framework.

Curriculum assessment runs throughout training as illustrated in the Assessment Framework (PDF: 16kb) and is common to all disciplines of surgery.

Types of assessment

Assessments can be categorised as *for* learning or *of* learning, although there is a link between the two.

Assessment *for* Learning - is primarily aimed at aiding learning through constructive feedback that identifies areas for development. Alternative terms are Formative or Low-stakes assessment. Lower reliability is acceptable for individual assessments as they can and should be repeated frequently. This increases their reliability and helps to document progress. Such assessments are ideally undertaken in the workplace.

Assessments for learning are used in the curriculum as part of a developmental or on-going teaching and learning process and mainly comprise workplace-based assessments. They provide the trainee with educational feedback from skilled clinicians that should result in reflection on practice and an improvement in the quality of care. Assessments are collated in the trainee's learning portfolio. These are regularly reviewed during each placement, providing evidence that inform the judgement of the Assigned Educational Supervisors' (AES) reports to the Training Programme Director and the Annual Review of Competence Progression (ARCP). Assessments for learning therefore contribute to summative judgements of the trainee's progress.

Assessment *of* Learning - is primarily aimed at determining a level of competence to permit progression through training or for certification. Such assessments are undertaken infrequently (e.g. examinations) and must have high reliability as they often form the basis of decisions. Alternative terms are summative or high-stakes assessments [GMC].

Assessments of learning in the curriculum are focussed on the waypoints in the specialty syllabuses. For the most part these comprise the examinations and structured AES end of placement reports which, taken in the round, cover the important elements of the syllabus and ensure that no gaps in achievement are allowed to develop. They are collated at the ARCP panel, which determines progress or otherwise.

The balance between the two assessment approaches principally relates to the relationship between competence and performance. Competence (can do) is necessary but not sufficient for performance (does), and as trainees' experience increases so performance-based assessment in the workplace becomes more important.

Assessment and feedback

Workplace Based Assessment (WBA)

The purpose of WBA

The primary purpose of WBA is to provide short loop feedback between trainers and their trainees – a formative assessment to support learning. They are designed to be mainly trainee driven but may be triggered or guided by the trainer. The number of types and intensity of each type of WPBA in any one assessment cycle will be initially determined by the Learning Agreement fashioned at the beginning of a training placement and regularly reviewed. The intensity may be altered to reflect progression and trainee need. For example a trainee in difficulty would undertake more frequent assessments above an agreed baseline for all trainees. In that sense WPBAs meet the criterion of being adaptive.

WBAs are designed to:

- **Provide feedback to trainers and trainees as part of the learning cycle**

The most important use of the workplace-based assessments is in providing trainees with feedback that informs and develops their practice (formative). Each assessment is completed only for the purpose of providing meaningful feedback on one encounter. The assessments should be viewed as part of a process throughout training, enabling trainees to build on assessor feedback and chart their own progress. Trainees should complete more than the minimum number identified.

- **Provide formative guidance on practice**

Surgical trainees can use different methods to assess themselves against important criteria (especially that of clinical reasoning and decision-making) as they learn and perform practical tasks. The methods also encourage dialogue between the trainee and Assigned Educational Supervisor (AES), Clinical Supervisors (CS) and other trainers.

- **Encompass the assessment of skills, knowledge, behaviour and attitudes during day-to-day surgical practice**

WBA is trainee led; the trainee chooses the timing, the case and assessor under the guidance of the AES via the Learning Agreement. It is the trainee's responsibility to ensure completion of the required number of the agreed type of assessments by the end of each placement.

- **Provide a reference point on which current levels of competence can be compared with those at the end of a particular stage of training**

The primary aim is for trainees to use assessments throughout their training programmes to demonstrate their learning and development. At the start of a level it would be normal for trainees to have some assessments which are less than satisfactory because their performance is not yet at the standard for the completion of that level. In cases where assessments are less than satisfactory, trainees should repeat assessments as often as required to show progress.

- **Inform the AES's (summative) assessment at the completion of each placement**

Although the principal role of WBA is formative, the summary evidence will be used to inform the nnual review process and will contribute to the decision made as to how well the trainee is progressing.

- **Contribute towards a body of evidence held in the trainee's learning portfolio and be made available for the Annual Review of Competence Progression (ARCP)**

At the end of a period of training, the trainee's portfolio will be reviewed. The accumulation of formative assessments will be one of a range of indicators that inform the decision as to satisfactory completion of training at the ARCP.

Guidance on good practice use of the Workplace Based assessments (WBAs)

The assessment methods used are:

- CBD (Case Based Discussion)
- CEX (Clinical Evaluation Exercise)
- PBA (Procedure-based Assessment)
- DOPS (Direct Observation of Procedural Skills in Surgery)
- Multi Source Feedback (Peer Assessment Tool)
- Assessment of Audit
- Observation of Teaching

Assessment of Audit (AoA)

The AoA reviews a trainee's competence in completing an audit. Like all workplace-based assessments, it is intended to support reflective learning through structured feedback. It was adapted for surgery from an instrument originally developed and evaluated by the UK Royal Colleges of Physicians.

The assessment can be undertaken whenever an audit is presented or otherwise submitted for review. It is recommended that more than one assessor takes part in the assessment, and this may be any surgeon with experience appropriate to the process. Assessors do not need any prior knowledge of the trainee or their performance to date, nor do the assessors need to be the trainee's current Assigned Educational Supervisor.

Verbal feedback should be given immediately after the assessment and should take no more than 5 minutes to provide. A summary of the feedback with any action points should be recorded on the Assessment of Audit form and uploaded into the trainee's portfolio.

The Assessment of Audit guidance notes provide a breakdown of competences evaluated by this method.

Case Based Discussion (CBD)

The CBD was originally developed for the Foundation training period and was contextualised to the surgical environment. The method is designed to assess clinical judgement, decision-making and the application of medical knowledge in relation to patient care in cases for which the trainee has been directly responsible. The method is particularly designed to test higher order thinking and synthesis as it allows assessors to explore deeper understanding of how trainees compile, prioritise and apply knowledge. The CBD is not focused on the trainees' ability to make a diagnosis nor is it a viva-style assessment. The CBD should be linked to the trainee's reflective practice.

The CBD process is a structured, in-depth discussion between the trainee and the trainee's assessor (normally the Assigned Educational Supervisor) about how a clinical case was managed by the trainee; talking through what occurred, considerations and reasons for actions. By using clinical cases that offer a challenge to the trainee, rather than routine cases, the trainee is 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.

Most assessments take no longer than 15-20 minutes. After completing the discussion and filling in the assessment form, the assessor should provide immediate feedback to the trainee. Feedback would normally take about 5 minutes.

Clinical Evaluation Exercise (CEX) and Clinical Evaluation Exercise for Consent (CEXC)

The CEX/C is a method of assessing skills essential to the provision of good clinical care and to facilitate feedback. It assesses the trainee's clinical and professional skills on the ward, on ward rounds, in Accident and Emergency or in outpatient clinics. It was designed originally by the American Board of Internal Medicine and was contextualised to the surgical environment.

Trainees will be assessed on different clinical problems that they encounter from within the curriculum in a range of clinical settings. Trainees are encouraged to choose a different assessor for each assessment but one of the assessors must be the trainee's current Assigned Educational Supervisor. Each assessor must have expertise in the clinical problem.

The assessment involves observing the trainee interact with a patient in a clinical encounter. The areas of competence covered include: consent (CEXC), history taking, physical examination, professionalism, clinical judgement, communication skills, organisation/efficiency and overall clinical care. Most encounters should take between 15-20 minutes.

Assessors do not need to have prior knowledge of the trainee. The assessor's evaluation is recorded on a structured form that enables the assessor to provide developmental verbal feedback to the trainee immediately after the encounter. Feedback would normally take about 5 minutes.

Direct Observation of Procedural Skills (DOPS)

The DOPS is used to assess the trainee's technical, operative and professional skills in a range of basic diagnostic and interventional procedures, or parts of procedures, during routine surgical practice in order to facilitate developmental feedback. The method is a surgical version of an assessment tool originally developed and evaluated by the UK Royal Colleges of Physicians.

The DOPS is used in simpler environments and can take place in wards or outpatient clinics as well as in the operating theatre. DOPS is set at the standard for Core Surgical Training (CT1/ST1 and CT2/ST2) although some specialties may also use specialty level DOPS in higher specialty training.

The DOPS form can be used routinely every time the trainer supervises a trainee carrying out one of the specified procedures, with the aim of making the assessment part of routine surgical training practice. The procedures reflect the index procedures in each specialty syllabus which are routinely carried out in the trainees' workplace.

The assessment involves an assessor observing the trainee perform a practical procedure within the workplace. Assessors do not need to have prior knowledge of the trainee. The assessor's evaluation is recorded on a structured form that enables the assessor to provide verbal developmental feedback to the trainee immediately afterwards. Trainees are encouraged to choose a different assessor for each assessment but one of the assessors must be the current Assigned Educational Supervisor. Most procedures take no longer than 15-20 minutes. The assessor will provide immediate feedback to the trainee after completing the observation and evaluation. Feedback would normally take about 5 minutes.

The DOPS form is completed for the purpose of providing feedback to the trainee. The overall rating on any one assessment can only be completed if the entire procedure is observed. A judgement will be made on completion of the placement about the overall level of performance achieved in each of the assessed surgical procedures

Multi-Source Feedback (MSF)

Surgical trainees work as part of a multi-professional team with other people who have complementary skills. Trainees are expected to understand the range of roles and expertise of team members in order to communicate effectively to achieve high quality service for patients. The MSF, also known as peer and 360° assessment, is a method of assessing professional competence within a team-working environment and providing developmental feedback to the trainee.

Trainees should complete the MSF once a year. The trainee's Assigned Educational Supervisor (AES) may request further assessments if there are areas of concern at any time during training.

The MSF comprises a self-assessment and assessments of a trainee's performance from a range of co-workers. It uses up to 12 raters with a minimum of 8. Raters are chosen by the trainee and will always include the AES and a range of colleagues covering different grades and environments (e.g. ward, theatre, outpatients) but not patients.

The MSF process should be started in time for raters to submit their online assessments and the generation of the trainee's personalised feedback for discussion with the AES before the end of the placement, and for a further MSF to be performed before the end of the training year, if required. The MSF should, therefore, be undertaken:

- in the 3rd month of the first four-month placement in a training year
- in the 5th month of the first six-month placement in a training year
- in the 5th month of a one-year placement

The competences map across to the standards of Good Medical Practice and to the core objectives of the ISCP. The method enables 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 that enables comparison of the self-assessment with the collated views received from co-workers for each of the 16 competences including a global rating, on a 3-point scale. Trainees are not given access to individual assessments, however, raters' written comments are listed verbatim. The AES should meet with the trainee to discuss the feedback on performance in the MSF. The AES makes comments and signs off the trainee's MSF assessment and can also recommend a repeat MSF.

Observation of Teaching (OoT)

The OoT provides formative feedback to trainees as part of the on-going culture of reflective learning that workplace-based assessment seeks to develop. It was adapted from the Teaching Observation Tool developed by the Joint Royal Colleges of Physicians' Training Board (JRCPTB) for use in surgery. It assesses instances of formal teaching delivered by the trainee as and when they arise.

The form is intended for used when teaching by a trainee is directly observed by the assessor. This must be in a formal situation where others are gathered specifically to learn from the speaker, and does not include bedside teaching or other occasions of teaching in the presence of a patient. Assessors may be any surgeon with suitable experience to review the teaching event; it is likely that these will be consultants for trainees in higher specialty levels.

Possible areas for consideration to aid assessment and evaluation are included in the guidance notes below. It should be noted that these are suggestions for when considering comments and observations rather than mandatory competences.

Procedure Based Assessment

The PBA assesses the trainee's technical, operative and professional skills in a range of specialty procedures or parts of procedures during routine surgical practice up to the level of certification. PBAs provide a framework to assess practice and facilitate feedback in order to direct learning. The PBA was originally developed by the Orthopaedic Competence Assessment Project (OCAP) for Trauma and Orthopaedic surgery and was further developed by the Specialty Advisory Committees for surgery for use in all the surgical specialties.

The assessment method uses two principal components:

- A series of competences within 5 domains. Most of the competences are common to all procedures, but a relatively small number of competences within certain domains are specific to a particular procedure.
- A global assessment that is divided into 8 levels of global rating. The highest rating is the ability to perform the procedure to the standard expected of a specialist in practice within the NHS (the level required for certification or equivalent).

The assessment form is supported by a worksheet consisting of descriptors outlining desirable and undesirable behaviours that assist the assessor in deciding whether or not the trainee has reached a satisfactory standard for certification, on the occasion observed, or requires development.

The procedures chosen should be representative of those that the trainee would normally carry out at that training level and will be one of an indicative list of index procedures relevant to the specialty. The trainee generally chooses the timing and makes the arrangements with the assessor. The assessor will normally be the trainee's, Clinical Supervisor or another surgical consultant trainer. One of the assessors must be the trainee's current Assigned Educational Supervisor. Some PBAs may be assessed by senior trainees depending upon their level of training and the complexity of the procedure. Trainees are encouraged to request assessments on as many procedures as possible with a range of different assessors.

Assessors do not need to have prior knowledge of the trainee. The assessor will observe the trainee undertaking the agreed sections of the PBA in the normal course of workplace activity (usually scrubbed). Given the priority of patient care, the assessor must choose the appropriate level of supervision depending on the trainee's stage of training. Trainees will carry out the procedure, explaining what they intend to do throughout. The assessor will provide verbal prompts, if required, and intervene if patient safety is at risk.

The practicalities of Workplace Based Assessment

Introduction

'I have no time to do this'

The clips located here are intended to illustrate the utility and versatility of the work based assessment tools (WPBA). They show that no more than ten minutes are required for any of these tools to be used meaningfully. They can be undertaken as a planned or as an opportunistic exercise. Any interaction with a trainee and trainer can be converted into a learning opportunity and then be evidenced for the benefit of the trainee and trainer as a WPBA.

The primary purpose of workplace-based assessments is for learning through constructive short loop feedback between trainers and their trainees that identifies areas for development. Collectively they are used as part of the Annual Review of Competence Progression (ARCP) which is a summative process. However, individually the tools are designed to develop trainees and are formative assessment tools which can:

- Trigger conversations between trainee and trainer;
- Enable observation and discussion of clinical practice;
- Record good practice and outline areas for development of knowledge, skills, judgement and professional behaviour;
- Formulate action plans for development;
- Enable trainees to analyse pattern recognition.

The tools are **not** intended to:

- Score trainees;
- Summate progress globally;
- Predict future performance;
- Be completed without a face to face feedback conversation.

These assessments can be divided into:

1. Observational tools

The purpose of the CEX, DOPS and PBA tools is to encourage trainee practice within a supported environment, followed by a developmental conversation (feedback) to identify elements of good practice and areas for development. Such development should be discussed in terms of follow up actions that will extend the trainee's technical proficiency and clinical skills.

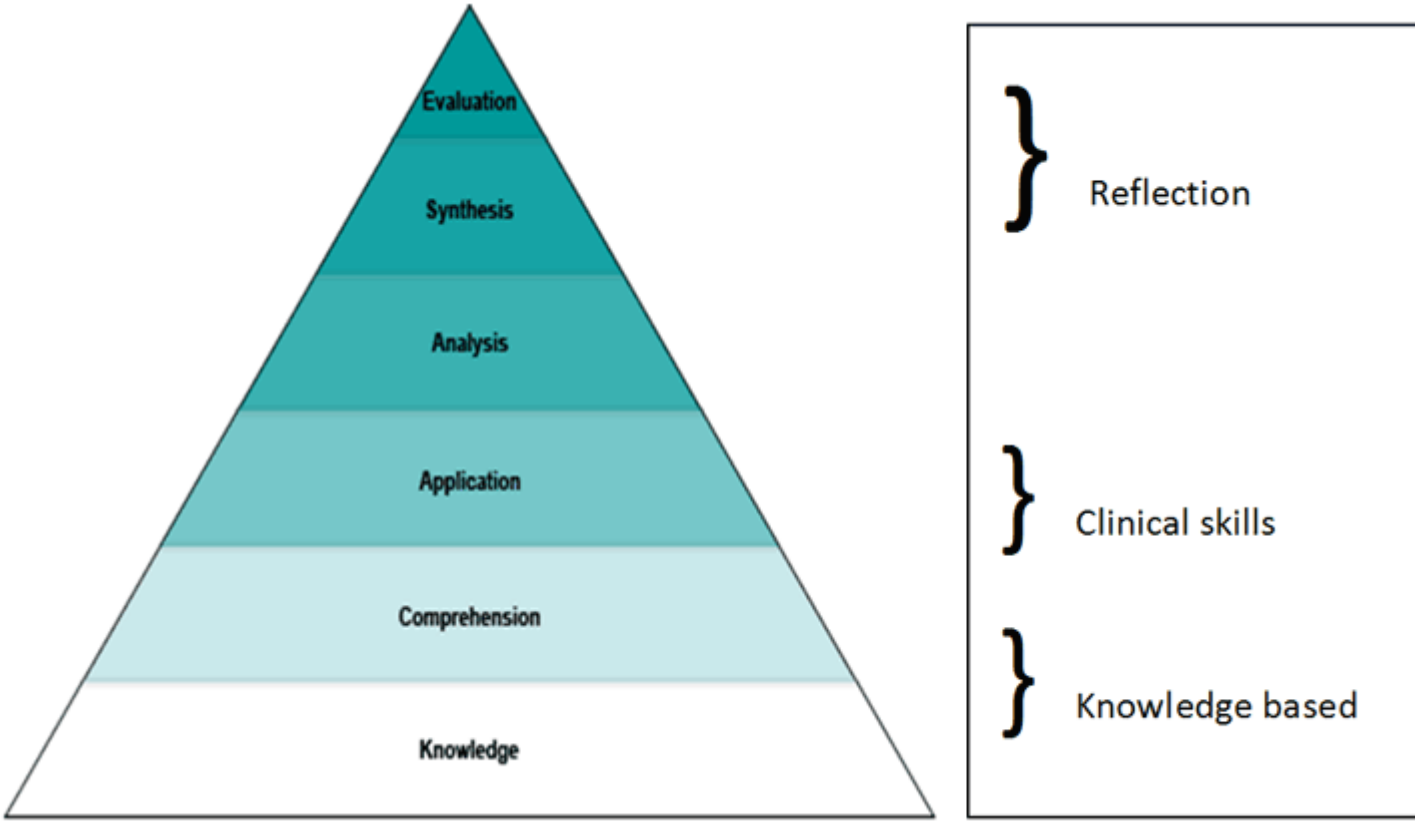
2. Discussion tools

The CBD can record any conversation that reviews a trainee's practice or their thoughts about practice. From an office based, time protected tutorial to the short conversation that happens in the theatre coffee room, or even the corridor, a CBD allows trainers to explore the thinking of their trainees, and to share understanding and professional thinking.

CBDs focus on knowledge and understanding and occur at different levels of Bloom's taxonomy (see figure below). A CBD that looks at knowledge addresses the knowledge base of the trainee e.g. a trainee might be asked for the classification of shock. The trainer could take the discussion beyond the classification to look at how that knowledge relates to the understanding of the patient's condition and the symptoms manifested by the patient. Application relates to the use of knowledge and understanding in practice and so the trainee may be asked to consider the possible treatment options for that patient. Analysis and synthesis are higher order levels of the thinking or cognitive function and CBDs that look at a situation reflectively, to break it down and consider what elements helped or hindered patient care, can be invaluable to trainees in reviewing and making sense of their experiences and in extending their critical thinking. At the evaluation level trainees

may well be engaging in discussions that relate to service improvement and changes in practice at a group level rather than an individual one.

Blooms Taxonomy



3. Insight tools

The Multi Source Feedback collects the trainee's self-assessment together with the subjective views of the trainee from a specified range of colleagues (consultants, specialty doctors, senior nurses and other healthcare providers.) The benefit of the MSF lies in the conversation between trainer and trainee to review and discuss the overview of the collated comments.

Practicalities

Trainers are under the pressure of training multiple trainees all at differing levels of competence and therefore with different training needs. EWTR and the constraints of managing a service as well as training require that we use our time smarter rather than working longer hours for both trainees and trainers. One educational opportunity whether in an operating theatre, on call or in a clinic can be developed into a targeted learning opportunity for individual but also multiple trainees.

The following videos will demonstrate how one case can:

1. allow targeted learning for multiple trainees
2. be alongside our normal surgical practice
3. make use of wastage time during our surgical practice
4. produce multiple items of evidence of trainee development for their portfolio

Each scenario demonstrated ensures that:

1. **Although the trainer facilitates the discussion, the recording of the case is undertaken by the trainee**
2. **Each discussion concludes with an action plan that tasks the trainee with further development**

Observational Tools

The purpose of the CEX, DOPS and PBA tools is to encourage trainee practice within a supported environment, followed by a developmental conversation (feedback) to identify elements of good practice and areas for development. Such development should be discussed in terms of follow up actions that will extend the trainee's technical proficiency and clinical skills.

The following clips demonstrate the versatility of surgical practice. An operation can be divided into several stages all of which can be used to develop trainees at differing levels of competence as well as developing teaching and training skills in the more senior trainees. The clips also demonstrate the use of DOPS and PBAs within a surgical team.

PBA/DOPS

Here a consultant is asked to provide feedback to two trainees on their DOPS (insertion of a catheter) and a PBA (laparoscopic port insertion) before the procedure begins and so this is trainee triggered. It is also possible that a list is designated as a training list and therefore all cases can be used in this way. It is important that trainees or trainers request that such tools be used prior to the procedure. DOPS, PBAs and CEXs are all observational tools and so if the observer is not aware that they are required to observe and provide feedback until after the event the quality of the observation and feedback will be compromised. Note that the consultant requested that the forms be available for her to use whilst observing and providing feedback to the trainees. This is to guide her in her evaluation and also to record comments for the trainees to document subsequently on the ISCP web-based forms.

The following clips are the discussions that occur in the coffee room after completing a laparoscopic cholecystectomy for a FY2, CTI and ST3.

Discussion Tools

The CBD can record any conversation that reviews a trainee's practice or their thoughts about practice. From an office based, time protected tutorial to the short conversation that happens in the theatre coffee room, or even the corridor, CBD allows trainers to explore the thinking of their trainees, and to share understanding and professional thinking.

CBDs that look at information are addressing the knowledge base of the trainee. This may be asking trainees for the classification of shock. A trainer could take the discussion beyond the classification to look at how that knowledge relates to the understanding of the patient's condition and the symptoms manifested by the patient. Application relates to the use of knowledge and understanding in practice and so the trainee may be asked to consider the possible treatment options for that patient. Analysis and synthesis are higher order levels of the thinking or cognitive function and CBDs that look at a situation reflectively, to break it down and consider what elements helped or hindered patient care, can be invaluable to trainees in reviewing and making sense of their experiences and in extending their critical thinking. At the evaluation level trainees may well be engaging in discussions that relate to service improvement and changes in practice at a group level rather than an individual one.

In the clips we see three CBDs focusing on the same case. The first looks at the knowledge base underpinning the case. The second looks at the clinical skills used by a CT2 - that is the application of knowledge and understanding. The third one looks at Reflection by the registrar involved in the case.

Overall Summary of case

A 23 year old man had arrived in Accident and Emergency (A&E) after being involved in a road traffic accident (RTA). He had been riding a bike and had been hit from the left hand side by a car, had got up and was shaken but sore. He was brought to A&E by ambulance and triaged by A&E. He was seen three hours later by the A&E SHO and fast tracked to SAU by a surgical CT1 at handover time. The incoming CT2 flagged him up as a case that should be reviewed by the Registrar on call. The CT2 had seen the patient in SAU as he had been transferred. Suspicious of a splenic injury with the clinical findings, he had requested a CT scan. The CT scan was carried out and was not reported for several hours. The patient was stable and so there was no real urgency but was discussed in the corridor with the consultant on call who had been angered by the clinical scenario and requested that the report be made readily available. The ST3 was busy on call and asked the CT2 to chase the report. Finally the scan result was available at 6pm just as the patient deteriorated and the ST3/ST5 was called urgently as blood pressure was falling. The patient needed urgent review and theatre that evening for a splenectomy. The procedure was carried out by an ST5 with consultant supervision.

Insight Tools

The Multi Source Feedback collects the trainee's self-assessment together with subjective views of the trainee from a specified range of colleagues (consultants, specialty doctors, senior nurses and other Health care providers.) The benefit of the MSF lies in the conversation between trainer and trainee to review and discuss the overview of the collated comments.

The Multi Source Feedback (previously known as Mini PAT) tool is used to provide a 360 degree range of feedback across a spectrum of professional domains which are closely related to the GMC duties of a good doctor. Trainees fill in their self-rating form and they ask a range of people for their ratings too, anonymously. When the data are collated electronically the Assigned Educational Supervisor will meet with the trainee to discuss the overview of the data.

The following two clips show two trainees, (played by the same actor) discussing their feedback with their Assigned Educational Supervisor.

In both clips the AES approaches the conversation in a similar way, explaining what she would like to discuss and then looking first at the strengths of the trainee and where these correlate to the strengths perceived by the other raters, before moving on to any developmental areas and finally compiling an action plan for further development.

Examinations

Examinations are held at two key stages: during initial training and towards the end of specialty training.

MRCS

The Membership Examination of the Surgical Royal Colleges of Great Britain and in Ireland (MRCS) is designed for candidates in the generality part of their specialty training. The purpose of the MRCS is to determine that trainees have acquired the knowledge, skills and attributes required for the completion of core training in surgery and, for trainees following the Intercollegiate Surgical Curriculum Programme, to determine their ability to progress to higher specialist training in surgery.
The MRCS examination has two parts: Part A (written paper) and Part B Objective Structured Clinical Examination (OSCE).

Part A (written paper)

Part A of the MRCS is a machine-marked, written examination using multiple-choice Single Best Answer and Extended Matching items. It is a four hour examination consisting of two papers, each of two hours' duration, taken on the same day. The papers cover generic surgical sciences and applied knowledge, including the core knowledge required in all surgical specialties as follows:

Paper 1 - Applied Basic Science
Paper 2 - Principles of Surgery-in-General

The marks for both papers are combined to give a total mark for Part A. To achieve a pass the candidate is required to demonstrate a minimum level of knowledge in each of the two papers in addition to achieving or exceeding the pass mark set for the combined total mark for Part A.

Part B (OSCE)

The Part B (OSCE) integrates basic surgical scientific knowledge and its application to clinical surgery. The purpose of the OSCE is to build on the test of knowledge encompassed in the Part A examination and test how candidates integrate their knowledge and apply it in clinically appropriate contexts using a series of stations reflecting elements of day-to-day clinical practice.

Further information can be obtained from www.intercollegiatemrcsexams.org.uk

DO-HNS and MRCS(ENT)

Otolaryngology trainees at CT1/2 level in ENT themed core surgical training posts should undertake Part A of the MRCS and the Part 2 (OSCE) of the Diploma in Otolaryngology – Head and Neck Surgery (DO-HNS) in order to acquire the Intercollegiate MRCS(ENT) Diploma. From August 2013, the MRCS(ENT) examination will be a formal exit requirement from Core Surgical Training for Otolaryngology trainees. It is also a mandatory requirement for entry into higher specialty training in ENT. The DO-HNS examination exists as a separate entity but is not a requirement for ST3 unless paired with the MRCS as explained above.

The purpose of the Diploma in Otolaryngology – Head and Neck Surgery (DO-HNS) is to test the breadth of knowledge, the clinical and communication skills and the professional attributes considered appropriate by the Colleges for a doctor intending to undertake practice within an otolaryngology department in a trainee position. It is also intended to provide a test for those who wish to practise within another medical specialty, but have an interest in the areas where that specialty interacts with the field of otolaryngology. It is also relevant for General Practitioners wishing to offer a service in minor ENT surgery.

FRCS

The Intercollegiate Specialty Examination (FRCS) is a summative assessment in each of the ten surgical specialties. It is a mandatory requirement for certification and entry to the Specialist Register. It forms part of the overall assessment system for UK and Irish surgical trainees who have participated in a formal surgical

training programme leading to UK certification or a Certificate of Eligibility for Specialist Registration via the Combined Programme (CESR CP) or, in the Republic of Ireland, a Certificate of Completion of Specialist Training (CCST).

Section 1 is a written test composed of two Multiple Choice Questions papers; Paper 1: Single Best Answer [SBA] and Paper 2: Extended Matching Items [EMI]. Candidates must meet the required standard in Section 1 in order to gain eligibility to proceed to Section 2.

Section 2 is the clinical component of the examination. It consists of a series of carefully designed and structured interviews on clinical topics, some being scenario-based and some being patient-based. Further information can be obtained from www.intercollegiate.org.uk

Feedback

All the assessments in the curriculum, both those *for* learning and *of* learning, include a feedback element. Workplace based assessments are designed to include immediate feedback for learning as part of two-way dialogue towards improving practice. Formal examinations provide limited feedback as part of the summative process. Assigned Educational Supervisors are able to provide further feedback to each of their trainees through the regular planned educational review and appraisal that features at the beginning, middle and end of each placement. Feedback is based on the evidence contained in the portfolio.

Educational feedback:

- Enhances the validity of the assessment and ensures trainees receive constructive criticism on their performance.
- Is given by skilled clinicians, thereby enhancing the learning process.

Constructive formative feedback should include three elements:

- An outline of the strengths the trainee displayed,
- Suggestions for development,
- Action plan for improvement.

Feedback is complemented by the trainee's reflection on his/her practice with the aim of improving the quality of care.

The Annual Review of Competence Progression (ARCP)

Purpose of the ARCP (adapted from the Gold Guide):

The ARCP is a formal Deanery/LETB process which scrutinises each surgical trainee's suitability to progress to the next stage of, or complete, the training programme. It follows on from the appraisal process and bases its recommendations on the evidence that has been gathered in the trainee's learning portfolio during the period between ARCP reviews. The ARCP records that the required curriculum competences and experience are being acquired, and that this is at an appropriate rate. It also provides a coherent record of a trainee's progress. The ARCP is not in itself an assessment exercise of clinical or professional competence.

The ARCP should normally be undertaken on at least an annual basis for all trainees in surgical training. Some Deaneries/Local Education and Training Boards (LETBs) plan to arrange two ARCPs each year in the early years of training. An ARCP panel may be convened more frequently if there is a need to deal with progression issues outside the normal schedule.

The surgical Specialty Advisory Committees (SACs) use the opportunity afforded, through their regional Liaison Member on the panel, to monitor the quality of training being delivered by the programme and/or its components.

Further information on this process can be found in the Reference Guide to Postgraduate Specialty Training in the UK.

Preparation for the ARCP

The trainee's learning portfolio provides the evidence of progress. It is the trainee's responsibility to ensure that the documentary evidence is complete in good time for the ARCP.

The SAC representatives on ARCP Panels will monitor trainees' progress throughout their training to assess whether they are on course to obtain certification or a Certificate of Eligibility for Specialist Registration via a Combine Programme; CESR(CP). Particular attention will be paid in the final two years of training to ensure that any remedial action can be taken, if necessary, to enable individual trainees to successfully complete their training.

The ARCP Panel

Please note that during the time of the panel meeting, members of an ARCP panel will have access to the portfolios of the trainees they review. Panel members are appointed by the Deanery/LETB and are likely to include the following:

- Postgraduate Dean / Associate Director / Associate Dean
- Training Programme Director
- Chair of the Specialty Training Committee
- College/Faculty representatives (e.g. liaison member from the surgical specialty SAC)
- Assigned Educational Supervisors (who have not been directly responsible for the trainee's placements)
- Associate Directors/Deans
- Academic representatives (for academic programmes, who have not been directly responsible for the trainee's placements)
- A representative from an employing authority
- Lay/patient representative
- External trainer
- Representative from an employing organisation

ARCP Outcomes

The ARCP panel will make one of the following recommendations about each trainee based on the evidence put before them:

Satisfactory progress

1. Achieving progress and competences at the expected rate

Unsatisfactory progress

2. Development of specific competences required – additional training time not required
3. Inadequate progress by the trainee – additional training time required
4. Released from training programme with or without specified competences

Insufficient evidence

5. Incomplete evidence presented – additional training time may be required

Recommendation for completion of the training programme (core or higher)

6. Gained all required competences for the programme

(Similar outcomes are made for those in Locum Appointment for Training (LAT) / Fixed-term Specialty Training Appointment (FTSTA) / Out of programme (OOP) and Top-up training).

The training system

Roles and responsibilities

Schools of Surgery/LETBs/Deaneries

Schools of Surgery or their equivalent have been created nationally within each Postgraduate Medical Deanery and/or Local Education and Training Board (LETB) and the Scottish Surgical Specialties Training Board (SSSTB) within NHS Education for Scotland (NES). They provide the structure for educational, corporate and financial governance and co-ordinate the educational, organisational and quality management activities of surgical training programmes. The Schools draw together the representatives and resources of Deaneries/LETBs/SSTB, JCST, trusts, NHS service providers and other relevant stakeholders in postgraduate medical education and training. They ensure the implementation of curricula and assessment methodologies with associated training requirements for educational supervision. In the Republic of Ireland, these roles are undertaken by the Medical Council, HSE National Doctors Training and Planning (NDTP) and the Royal College of Surgeons in Ireland (RCSI).

Who is Involved in training?

The key roles involved in teaching and learning are Training Programme director (TPD), Assigned Educational Supervisor (AES), Clinical Supervisor (CS), Assessor and Trainee.

Training Programme Director

The majority of Training Programme Directors (TPDs) manage specialty programmes; there are, however, a number TPDs who manage Core Surgical Training programmes TPD (CST).

TPDs are responsible for:

- Organising, managing and directing the training programmes, ensuring that the programmes meet curriculum requirements;
- Identifying and supporting local faculty (i.e. AES, CS) including organising their induction and training where necessary;
- Overseeing progress of individual trainees through the levels of the curriculum; ensuring that appropriate levels of supervision, training 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/LETB administrative support are knowledgeable about curriculum delivery and are able to work with SACs, trainees and trainers;
- Administering and chairing the Annual Review of Competence Progression meetings (ARCP).

Assigned Educational Supervisor

Educational supervision is a fundamental conduit for delivering teaching and training in the NHS. It takes advantage of the experience, knowledge and skills of expert clinicians / consultant trainers and their familiarity with clinical situations. It ensures interaction between an experienced clinician and a trainee. This is the desired link between the past and the future of surgical practice, to guide and steer the learning process of the trainee. Clinical supervision is also vital to ensure patient safety and the high quality service of trainees. The curriculum requires trainees reaching the end of their training to demonstrate competence in clinical supervision before Certification. The Joint Committee on Surgical Training (JCST) also acknowledges that the process of gaining competence in supervision must start at an early stage in training with trainees supervising more junior trainees. The example set by the educational supervisor is the most powerful influence upon the standards of conduct and practice of a trainee.

In the UK, the GMC's plan for recognition and approval of trainers will take full effect from 31 July 2016. In addition to the GMC's statutory requirements for approval of GP trainers, postgraduate deans and medical schools will formally recognise medical trainers who are named Assigned Educational Supervisors and named Clinical Supervisors.

The Assigned Educational Supervisor (AES) is responsible for between 1 and 4 trainees at any time. The number will depend on factors such as the size of the unit and the availability of support such as a Clinical Supervisors (CSs) or Clinical Tutors (CTs). The role of the Assigned Educational Supervisor is to:

- Have overall educational and supervisory responsibility for the trainee in a given placement;
- Ensure that an induction to the unit (where appropriate) has been carried out;
- Ensure that the trainee is familiar with the curriculum and assessment system relevant to the level/stage of training and undertakes it according to requirements;
- Ensure that the trainee has appropriate day-to-day supervision appropriate to their stage of training;
- Act as a mentor to the trainee and help with both professional and personal development;
- Agree a Learning Agreement, setting, agreeing, recording and monitoring the content and educational objectives of the placement;
- Discuss the trainee's progress with each trainer with whom a trainee spends a period of training and involve them in the formal report to the annual review process;
- Undertake regular formative/supportive appraisals with the trainee (typically one at the beginning, middle and end of a placement) and ensure that both parties agree to the outcome of these sessions and keep a written record;
- Ensure a record is kept in the portfolio of any serious incidents for concerns and how they have been resolved;
- Regularly inspect the trainee's learning portfolio and ensure that the trainee is making the necessary clinical and educational progress;
- Inform trainees of their progress and encourage trainees to discuss any deficiencies in the training programme, ensuring that records of such discussions are kept;
- Ensure patient safety in relation to trainee performance by the early recognition and management of those doctors in distress or difficulty;
- Keep the Training Programme Director informed of any significant problems that may affect the trainee's training;
- Provide an end of placement AES report for the Annual Review of Competence Progression (ARCP).

In order to become an AES, a trainer must be familiar with the curriculum and have a demonstrated an interest and ability in teaching, training, assessing and appraising. They must have appropriate access to teaching resources and time for training allocated to their job plan (approx. 0.25 PA per trainee). AESs must have undertaken training in a relevant Training the Trainers course/programme offered by an appropriate educational institution and must keep up-to-date with developments in training. 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.

Clinical Supervisor

Clinical supervisors (CS) are responsible for delivering teaching and training under the delegated authority of the AES. They:

- Carry out assessments as requested by the AES or the trainee. This will include delivering feedback to the trainee and validating assessments;
- Ensure patient safety in relation to trainee performance;
- Liaise closely with other colleagues, including the AES, regarding the progress and performance of the trainee with whom they are working during the placement;
- Keep the AES informed of any significant problems that may affect the trainee's training;
- Provide regular CS Reports which contribute to the AES's end of placement report for the ARCP.

The training of CSs should be similar to that of the AES.

Assessor

Assessors will carry out a range of assessments and provide feedback to the trainee and the AES, which will support judgements made about a trainee's overall performance. Assessments during training will usually be carried out by clinical supervisors (consultants) and other members of the surgical team, including (for the MSF). Those who are not medically qualified may also be tasked with this role.

Those carrying out assessments must be appropriately qualified in the relevant professional discipline and trained in the methodology of workplace based assessment (WBA). This does not apply to MSF raters.

Trainee

The trainee is required to take responsibility for his/her learning and to be proactive in initiating appointments to plan, undertake and receive feedback on learning opportunities. The trainee is responsible for ensuring that

- a Learning Agreement is carried out in each placement;
- opportunities to discuss progress are identified;
- assessments are undertaken and validated by assessors in good time;
- evidence is systematically recorded in the learning portfolio.

Teaching

The detail of clinical placements will be determined locally by Training Programme Directors (TPD). In order to provide sufficient teaching and learning opportunities, the placements need to be in units that:

- Are able to provide sufficient clinical resource;
- Have sufficient trainer capacity.

The JCST has developed a series of Quality Indicators (QIs) to help identify good and poor quality training placements. The QIs are measured through the JCST trainee survey.

The PDs and AESs define the parameters of practice and monitor the delivery of training to ensure that the trainee has exposure to:

- A sufficient range and number of cases in which to develop the necessary technical skills (according to the stage of training) and professional judgement (to know when to carry out the procedure and when to seek assistance);
- Managing the care of patients in the case of common conditions that are straightforward, patients who display well known variations to common conditions, and patients with ill-defined problems;
- Detailed feedback.

Development of professional practice can be supported by a wide variety of teaching and learning processes, including role modelling, coaching, mentoring, reflection, and the maximising of both formal and informal opportunities for the development of expertise on the job. Learning opportunities need to be related to changing patterns of healthcare delivery.

The training system

Training roles

Training roles will exist, with minor, locally agreed variation, in all Deaneries/LETBs/Schools and are a requirement of the ISCP.

In accordance with GMC and curriculum standards:

- There must be an adequate number of appropriately qualified and experienced staff in place to deliver an effective training programme.
- Trainers must have the time within their job plan to support the role.
- Subject areas of the curriculum must be taught by staff with relevant specialist expertise and knowledge.
- Individuals undertaking educational roles must undergo a formal programme of training and be subject to regular review.
- Training programmes should include practise exercises covering an understanding of the curriculum, workplace-based assessment methodology and how to give constructive feedback. They should also include equality and diversity training.

The main surgical training roles fall into one of two broad categories:

- Those to do with managing individual trainees (i.e. Clinical Supervisor, Assigned Educational Supervisor, Training Programme Director)
- Those to do with managing the system. Included within these roles would be important aspects such as the provision of common learning resources and quality control of the training being provided. Training Programme Directors would fall into this category.

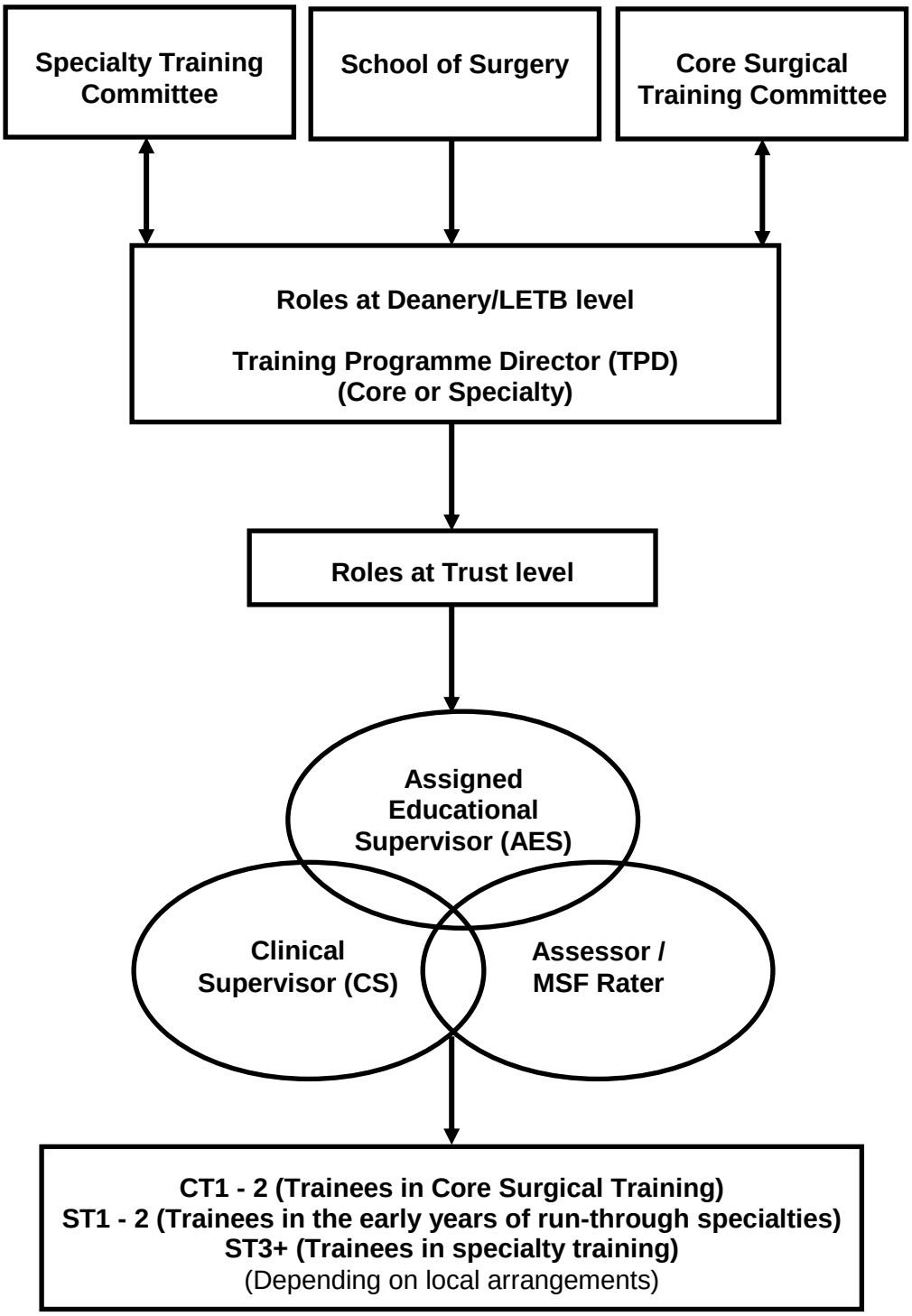
It may be entirely appropriate for a surgeon involved in training to hold more than one role (e.g. Assigned Educational Supervisor, Clinical Supervisor and Assessor) where the workload is manageable and the trainee continues to receive training input from several sources. The role of assessor is not intended to be used as a formal title, but describes a function that will be intrinsic to many of the roles described in the ISCP.

The ISCP requires adherence to a common nomenclature for the trainers who are working directly with the trainee and these are highlighted on the website. These roles are Training Programme Director (core surgical training or specialty training), Assigned Educational Supervisor, Clinical Supervisor, Trainee and Assessor. This is to support the interactive parts of the website, access levels etc. and it is strongly recommended that Deaneries/LETBs use the titles outlined here in the interests of uniformity.

There is great variation in the number of trainees being managed at the various levels within Deaneries/LETBs/Schools of Surgery. This is particularly the case during the early years of training. For this reason, many Deaneries/LETBs will find that the Training Programme Director roles may have to be subdivided. It is recommended that the suffix or prefix ‘deputy’ is used in conjunction with the main title rather than devising a completely new title. This will make clear the general area in which the surgeon is working and should help to avoid confusion.

Wherever possible these roles are harmonised with the Gold Guide but there may be minor variations in nomenclature and tasks that reflect the intercollegiate approach to surgical specialty training.

Training Governance Structure



Multi-professional team

The Training System

Quality assurance of the training system

The General Medical Council (GMC) has overall responsibility for the quality assurance of medical education and training in the UK, as outlined in its Quality Improvement Framework (QIF) but it delegates some responsibility in this respect to the Postgraduate Medical Deaneries and/or Local Education and Training Boards (LETBs) and their Schools of Surgery, the Joint Committee on Surgical Training (JCST) and Local Education Providers (LEPs). In the Republic of Ireland, these roles are undertaken by the Medical Council (MC) and by the Royal College of Surgeons in Ireland (RCSI).

Deaneries and LETBs are responsible for the quality management of training programmes and posts and must implement processes to ensure training within their region meets national standards and is implemented in accordance with the GMC-approved curricula. LEPs deliver training and are responsible for its quality control. In the Republic of Ireland, this is overseen by the MC and the RSCI.

As part of its role in the quality management of surgical training, the JCST has developed its own quality assurance strategy based upon its quality indicators, trainee surveys, Certification Guidelines and the annual specialty report. For more information on the quality assurance of surgical training, please visit the Quality assurance page on the JCST website.

Quality Indicators

- The JCST, in conjunction with the Schools of Surgery, has developed a series of quality indicators (QIs) in order to assess the quality of surgical training placements in each of the surgical specialties and at core level.
- The QIs, which are measured through the JCST trainee survey, enable good and poor quality training placements to be identified so appropriate action may be taken.

The QIs for each surgical specialty and core surgical training are available to download from the JCST Quality Indicators page of the JCST website.

JCST trainee survey

- The JCST launched the trainee survey in November 2011, which was developed in conjunction with the Schools of Surgery.
- The survey is run through the ISCP website and trainees are notified through their ISCP account of when they should complete it. This should be towards the end of each placement and prior to their ARCP.
- Confirmation of completion of all relevant surveys will be part of the evidence assessed at the trainees' ARCP.

For more information on the trainee survey, please visit the JCST Trainee Survey page of the JCST website.

Certification Guidelines

- Each SAC has produced a series of guidelines to identify what trainees applying for Certification will normally be expected to have achieved during their training programme. The guidelines cover such aspects of training as: clinical and operative experience; operative competency; research; quality improvement; and management and leadership.
- Trainees and trainers should use the guidelines to inform decisions about the experiences that trainees need to gain during their 5/6 year programme.
- Trainees will be monitored against the guidelines throughout their training programmes to ensure they are receiving appropriate exposure to all aspects of training.

For more information and to download a copy of the guidelines for each specialty, please visit the Certification Guidelines page of the JCST website.

Annual Specialty Report

The JCST submits an Annual Specialty Report (ASR) to the GMC to provide both a national overview of the status of surgical training and an update on any major developments.

For more information on the ASR, please visit the GMC Quality Improvement Framework (QIF) page.

Teaching and Learning

Principles of surgical education

The balance between didactic teaching and learning in clinical practice will change as the trainee progresses through the training programme, with the former decreasing and the latter increasing.

A number of people from a range of professional groups will be involved in teaching. In accordance with GMC standards, subject areas of the curriculum must be taught by staff with relevant specialist expertise and knowledge. Specialist skills and knowledge are usually taught by consultants and more advanced trainees; whereas the more generic aspects of practice can also be taught by the wider multi-disciplinary team. The Assigned Educational Supervisor (AES) is key as he/she agrees with each trainee how he/she can best achieve his or her learning objectives within a placement.

Establishing a learning partnership creates the professional relationship between the teacher (AES, CS or assessor) and the learner (trainee) that is essential to the success of the teaching and learning programme.

The learning partnership is enhanced when:

- The teacher understands:
    - Educational principles, values and practices and has been appropriately trained;
    - The role of professional behaviour, judgement, leadership and team-working in the trainee's learning process;
    - The specialty component of the curriculum;
    - Assessment theory and methods.
- The learner:
    - Understands how to learn in the clinical practice setting, recognising that everything they see and do is educational;
    - Recognises that although observation has a key role to play in learning, action (doing) is essential;
    - Is able to translate theoretical knowledge into surgical practice and link surgical practice with the relevant theoretical context.
    - Uses reflection to improve and develop practice (see self-directed learning);
- There is on-going dialogue in the clinical setting between teacher and the learner;
- There are adequate resources to provide essential equipment and facilities;
- There is adequate time for teaching and learning.

Trainee-led learning

The ISCP encourages a learning partnership between the trainee and AES in which learning is trainee-led and trainer-guided. 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 responsible for:

- Utilising opportunities for learning throughout their training;
- Triggering assessments and appraisal meetings with their trainers, identifying areas for observation and feedback throughout placements;
- Maintaining an up to date learning portfolio;
- Undertaking self and peer assessment;
- Undertaking regular reflective practice.

Learning opportunities

There are many learning opportunities available to trainees to enable them to develop their knowledge, clinical and professional judgement, technical and operative ability and conduct as a member of the profession of surgery. The opportunities broadly divide into three areas:

- Learning from practice otherwise known as learning on-the-job or in the workplace. This can be informal and opportunistic or planned and structured
- Learning from formal situations
- Self-directed learning

Learning from practice

The workplace provides learning opportunities on a daily basis for surgical trainees, based on what they see and what they do. Whilst in the workplace, trainees will be involved in supervised clinical practice, primarily in a hospital environment in wards, clinics or theatre. The trainees' role in these contexts will determine the nature of the learning experience.

Learning will start with observation of a trainer (not necessarily a doctor) and will progress to assisting a trainer; the trainer assisting/supervising the trainee and then the trainee managing a case independently but with access to expert help. The level of supervision will decrease and the level of complexity of cases will increase as trainees become proficient in the appropriate technical skills and are able to demonstrate satisfactory professional judgement. Continuous systematic feedback, both formal and informal, and reflection on practice are integral to learning from practice, and will be assisted by assessments for learning (formative assessment methods) such as surgical Direct Observation of Procedural Skills in Surgery (DOPS), Procedure Based Assessment (PBA), Clinical Evaluation Exercise (CEX) and Case Based Discussion (CBD), each of which has been developed for the purpose.

Trainees are required to keep a surgical logbook to support the assessment of operative skills, using corresponding supervision levels:

Assisting (A):

The trainer completes the procedure from start to finish
The trainee performs the approach and closure of the wound
The trainer performs the key components of the procedure

Supervised - trainer scrubbed (S-TS):

The trainee performs key components of the procedure (as defined in the relevant PBA) with the trainer scrubbed

Supervised - trainer unscrubbed (S-TU):

The trainee completes the procedure from start to finish
The trainer is unscrubbed and is:
- in the operating theatre throughout
- in the operating theatre suite and regularly enters the operating theatre during the procedure (70% of the duration of the procedure)

Performed (P):

The trainee completes the procedure from start to finish
The trainer is present for <70% of the duration of the procedure
The trainer is not in the operating theatre and is:
- scrubbed in the adjacent operating theatre
- not in the operating suite but is in the hospital

Training more junior trainee (T):

A non-consultant grade surgeon training a junior trainee

Observed (O):

Procedure observed by an unscrubbed trainee

In the Workplace – Informal

Surgical learning is largely experiential in its nature with any interaction in the workplace having the potential to become a learning episode. The curriculum encourages trainees to manage their learning and to reflect on practice. Trainees are encouraged to take advantage of clinical cases, audit and the opportunities to shadow peers and consultants.

In the Workplace - Planned and Structured

Theatre (training) lists

Training lists on selected patients enable trainees to develop their surgical skills and experience under supervision. The lists can be carried out in a range of settings, including day case theatres, main theatres endoscopy suites and minor injuries units.

Each surgical procedure can be considered an integrated learning experience and the formative workplace assessments provide feedback to the trainee on all aspects of their performance, from pre-operative planning and preparation, to the procedure itself and subsequent post-operative management.

The syllabus is designed to ensure that teaching is systematic and based on progression. The level of supervision will decrease and the level of complexity of cases will increase as trainees become proficient in the appropriate technical skills and are able to demonstrate satisfactory professional judgement. By Certification time trainees will have acquired the skills and judgement necessary to provide holistic care for patients normally presenting to their specialty and referral to other specialists as appropriate. Feedback on progress is facilitated by the DOPS and PBA.

Clinics (Out Patients)

Trainees build on clinical examination skills developed during the Foundation Programme. There is a progression from observing expert clinical practice in clinics to assessing patients themselves, under direct observation initially and then independently, and presenting their findings to the trainer. Trainees will assess new patients and will review/follow up existing patients.

Feedback on performance will be obtained primarily from the CEX and CBD workplace assessments together with informal feedback from trainers and reflective practice.

Ward Rounds (In Patient)

As in the other areas, trainees will have the opportunity to take responsibility for the care of in-patients appropriate to their level of training and need for supervision. The objective is to develop surgeons as effective communicators both with patients and with other members of the team. This will involve taking consent, adhering to protocols, pre-operative planning and preparation and post-operative management.

Progress will be assessed by MSF, CBD, CEX, DOPS and PBA.

Learning from formal situations

Work based practice is supplemented by an educational programme of courses, local postgraduate teaching sessions arranged by the Specialty Training Committees (STCs) or Schools of Surgery and regional, national and international meetings. Courses have a role at all levels, for example basic surgical skills courses using skills centres and specialty skills programmes. These focus on developing specific skills using models, tissue in skills labs and deceased donors as appropriate and are delivered by the colleges, specialty associations and locally by Deaneries/LETBs.

It is recognised that there is a clear and increasingly prominent role for off the job learning through specific intensive courses to meet specific learning goals. Trainees must show evidence that they have gained competence in the management of trauma through a valid certificate of the Advanced Trauma Life Support (ATLS®), Advanced Paediatric Life Support (APLS) or equivalent, at the completion of core training. In the following specialties, trainees need to show that this certificate of competence is being maintained up to Certification.

- Neurosurgery
- Oral and Maxillofacial Surgery
- Paediatric Surgery (APLS)
- Plastic Surgery
- Trauma and Orthopaedic Surgery

Learning from simulation

Simulation in this context means 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-safe environment. Simulation can be used for the development of both individuals and teams.

Simulation training is often classified as either high or low fidelity. The fidelity of simulation refers to how accurately or closely the simulation resembles the situation being reproduced. 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.

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 should be regarded as 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. Feedback can be assisted by workplace-based assessments and recorded in the learning portfolio. Simulation training should broadly follow the same pattern of learning opportunities offering insight into the development of technical skills, team-working, leadership, judgement and professionalism.

Self-directed learning

Self-directed learning is encouraged. Trainees are encouraged to establish study groups, journal clubs and conduct peer review; there will be opportunities for trainees to learn 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 formal and informal teaching. This will include using study materials and publications and reflective practice. Trainees are expected to use the developmental feedback they get from their trainers in appraisal meetings and from assessments to focus further research and practice.

Reflective practice is a very important part of self-directed learning and is a vital component 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 surgical practice in order to refine and improve them.

Reflection in the oral form is very much an activity that surgeons engage in already and find it useful and developmental. Writing reflectively adds more to the oral process by deepening the understanding of surgeons about their 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.

Some of this time will be taken as study leave. In addition there are the web based learning resources which are on the ISCP website and specialty association websites.

Supervision

In accordance with the requirements of Good Medical Practice, 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. The level of supervision will change in line with the trainee's progression through the stages of the curriculum, enabling trainees to develop independent learning. Those involved in the supervision of trainees must undertake appropriate training.

Trainees must be placed in approved posts that meet the required training and educational standards. Individual trusts must take responsibility for ensuring that clinical governance and health and safety standards are met.

Clinical Supervisors and other trainers must have the relevant qualifications, experience and training to undertake the role. There is an expectation that supervision and feedback are part of the on-going relationship between trainees and their trainers and assessors, and that it will take place informally on a daily basis.

The syllabus content details the level of knowledge, clinical, technical/operative and professional skills expected of a trainee at any given stage of training. The surgical logbook provides a record of the trainee's operative experience and supervision levels corresponding to the operative levels of: *Observed (O); Assisting (A); Supervised - trainer scrubbed (S-TS); Supervised - trainer unscrubbed (S-TU); Performed (P) and Training a more junior trainee (T).*

Trainees must work at a level commensurate with their experience and competence, and this should be explicitly set down by the Assigned Educational Supervisor in the Learning Agreement. There is a gradual reduction in the level of supervision required until the level of competence for independent practice is acquired.

In keeping with Good Medical Practice and Good Clinical Care, trainees have a responsibility to recognise and work within the limits of their professional competence and to consult with colleagues as appropriate. The development of good judgement in clinical practice is a key requirement of the curriculum. The content of the curriculum dealing with professional behaviour emphasises the responsibilities of the trainee to place the well-being and safety of patients above all other considerations. 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. Appropriate consultation with trainers and colleagues for advice and direct help is carefully monitored and assessed.

The Learning Agreement

The Learning Agreement is a written statement of the mutually agreed learning goals and strategies negotiated between a trainee (learner) and the trainee's Assigned Educational Supervisor (AES). It is agreed at the initial objective setting meeting and covers the period of the placement. The agreement is based on the learning needs of the individual trainee undertaking the learning as well as the formal requirements of the curriculum. The web-based Learning Agreement form is accessed through the secure area of the website and is completed on-line. The AES and trainee complete the Learning Agreement together and are guided by the Training Programme Director's (TPD's) Global Objective. A blank Learning Agreement Form (for illustrative purposes only) is available in the Help area of the website.

Training Programme Director's (TPD's) Global Objective

The TPD's global objective is a statement which the TPD can set for the trainee's training year, informing placement objectives. The broad global objectives, derived from the syllabuses, are included in the Learning Agreement and highlight what the trainee should achieve during a period that may encompass several placements. They normally cover the period between the annual reviews.

The global objective for early years training would normally cover the following components:

- Run-through programmes: the common surgical syllabus, specialty-specific competences in the chosen specialty and professional behaviour and leadership skills for the stage.
- Themed programmes: the common surgical syllabus, specialty-specific competences in a number of complementary specialties and professional behaviour and leadership skills for the stage.
- Un-themed, broad-based programmes: the common surgical syllabus, sampling of specialty-specific competences in a number of specialties (topping up in specific specialties later in the stage) and professional behaviour and leadership skills for the stage.

For those wishing to pursue an academic surgical career, a proportion of competences might emphasise additional academic pursuits including research and teaching.

Together, the global and placement objectives are the means used by the TPD, AES and trainee to ensure curriculum coverage.

The content of the Learning Agreement will be influenced by the:

- Requirements set by the surgical specialty in its syllabus for the stage of training;
- Learner's previous experience;
- Learner's knowledge and skills;
- Learner's personal aspirations set down in a Personal Development Plan;
- Local circumstances of the placement.

Although the Learning Agreement is a statement of expected outcomes there is equal emphasis on learning opportunities and how the outcomes can be met. Trainees use it to keep track of which objectives have been completed and which have not; AESs use it to set down the educational strategies that are suited to the experiential learning appropriate to the placement, to monitor progress and make a summative report to the annual review. TPDs use it to oversee the process and to ensure that the correct training is delivered appropriate to the achievement of learning outcomes.

Each stage in the process allows the trainee and the AES to make individual comments on the training and appraisal process and to sign it off. The trainee also has the right of appeal to the TPD through the process. The trainee will meet the AES at the start of each placement to agree the learning and development plan and at mid-point and end of placement to review and report on progress. The frequency of meetings can be increased if required. The Learning Agreement provides a mechanism for the trainee and AES to meet and discuss feedback and guidance.

Stages in the Learning Agreement

There are three stages to the Learning Agreement that should be completed in sequence: Objective Setting; Interim Review; and Final Review.

In the Objective Setting stage, the trainee and the AES:

- Agree the learning objectives for the placement according to the trainee's needs and the learning that can be delivered in the placement and with reference to the TPD's global objective;
- Identify learning opportunities in the workplace such as in theatre, ward, clinic and simulated settings;
- Agree on the workplace-based assessments that can be undertaken to obtain formative feedback and demonstrate progress matched to areas of the syllabus e.g. DOPS for central venous line insertion;
- Identify the resources required so that the trainee can achieve his/her learning objectives, for example, time in clinic and theatre, equipment, reflective practice, trainers;
- Identify formal learning opportunities, activities or events in the educational programme, that the trainee should attend e.g. seminars, presentations, peer reviews.
- Consider the examinations the trainee is required to take whilst in the placement and courses the trainee plans to attend.
- Consider opportunities for audit and quality improvement activities, research and other projects.

Once these aspects have been agreed, the trainee and the AES sign off the Learning Agreement.

Although the objective setting stage of the Learning Agreement is the agreed plan for the placement, it can be modified during training if circumstances change and this can be recorded during the interim or final review.

Interim Review occurs at the mid-point of the placement. This stage is encouraged even for 4-month placements to check that progress is in line with the placement objectives. In the event that difficulties are being experienced, focussed training and repeat assessments should be initiated. The objectives for progress and further action plans agreed at the meeting are recorded on the Interim Review form and are signed off by the trainee and AES.

Final Review occurs towards the end of the placement. The trainee and AES review what the trainee has learned in the placement against the placement objectives set down in the Learning Agreement. Evidence would typically include the following:

- Workplace-based assessments and feedback (these should occur frequently with a range of assessors)
- Surgical logbook
- Audit and quality improvement
- Courses and seminars
- Examinations
- Meetings and conferences
- Patient feedback
- Presentations and posters
- Projects
- Publications
- Reflective practice (includes self MSF, reflective CBD, reflections in the journal and workplace-based assessment)
- Research
- Teaching

Each tool captures elements of judgment in action and maps to standards of Good Medical Practice. Over the training period they reveal the trainee's particular strengths, areas for development and progress.

Assigned Educational Supervisor's Report: The AES is responsible for synthesising the portfolio evidence at the end of the placement. The process of judging the evidence also involves the Trainee's Clinical Supervisors. The AES's evidence-based report is written in terms of the trainee's progress and specific learning outcomes and is facilitated by the learning portfolio. The report will be a key document for the Annual Review of Competence Progression (ARCP).

The TPD takes a holistic view of progress over the whole training period.

The Learning Portfolio

The trainee's portfolio has been designed to store evidence of the trainee's competence and fitness to practise. It serves as a repository of evidence that a trainee is progressing and meeting all the requirements of the curriculum. The portfolio is the vehicle used by the Annual Review of Competence Progression (ARCP) to recommend the trainee's continuing training or Certification.

The portfolio is organised into discrete sections, each designed to help trainees along the training pathway. The main sections of the portfolio include the Learning Agreement from each placement, reports from the trainee's Assigned Educational Supervisor (AES) and Clinical Supervisors (CSs); workplace-based assessment (WBA), a summary of the surgical logbook, other evidence of workplace activity and the ARCP.

The trainee is solely responsible for the contents of the portfolio both in terms of quality and veracity. Submission of information known to be false, if discovered, will have very serious consequences. All entries to the portfolio must respect the confidentiality of colleagues and patients and should not contain names or numbers to identify patients or staff. Portfolio evidence must be collected and documented systematically by the trainee as they progress through each placement.

Trainees must record all assessments that are conducted during the training period. WBA is considered to be formative and those that are of a less than satisfactory standard, if reflected upon appropriately, need not necessarily be seen as negative because they provide developmental feedback to drive learning and so improve practice. Where assessments have been unsatisfactory they should be repeated after focussed training until successful. The portfolio should enable the AES at the end of placement to assess the trainee in the round.

As part of the their professional obligations, trainees are also required to sign an educational contract which defines, in terms of education and training, their relationships, duties and obligations. It also makes explicit the basic framework the trainee can expect from each placement and what is expected by the AES in return. Statements of health and probity statement are also obligatory because doctors must have integrity and honesty and must take care of their own health and well-being so as not to put patients at risk.