Appendix 2: Plastic Surgery Syllabus

The syllabus adopts a modular structure that encompasses the competency requirements of Knowledge, Clinical Skills and Technical Skills. The modular format is presented in a hierarchical manner; namely Basic, Intermediate or Advanced levels of complexity. The definition of levels applies to the entirety of the programme and does not vary between phases 2 and 3. Thus an advanced competency is the same whether or not it is retained as an item under phase 2 or 3.

Syllabus standards

A. Basic level competencies
Within each module there are elemental topics that are designed to act as building blocks from which more complex competences can be achieved.

B. Intermediate level competency
These include a list of the more common topics within each module and most of these competencies will have been achieved within phase prior to entry into phase e.

C. Advanced level competency
This third tier of topics includes the most complex topics in each module. Those items that are specified here are for all phase 2 trainees.

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

Summary of Plastic Surgery Syllabus:

Module	Sub-section
Aesthetic	Aesthetic Surgery of Face, Orbit & Neck Rhinoplasty and Otoplasty Rejuvenation/restoration of the trunk, body contouring, liposuction & fat grafting
Breast surgery	Surgery of the Breast Non-Surgical rejuvenation
Burns	Burns classification, primary management and transfer Burns resuscitation and critical care Burns early surgery Burns late surgery Burns infection and other complications Paediatric burns
Chest wall reconstruction	Chest wall reconstruction

Cleft	Primary management of cleft lip and nose Secondary repair of cleft lip and nose Primary repair of cleft palate Secondary speech surgery Dento-alveolar defect including alveolar bone grafting Orthognathic surgery / Working with the Cleft MDT
Complex Wound	Complex wound
Craniofacial	Craniofacial General Principles Craniosynostosis Craniofacial tumours in adults and children Craniofacial syndromes of tissue deficiency Craniofacial overgrowth syndromes Orbital surgery
Craniomaxilliofacial trauma	Craniomaxillofacial trauma
Ear reconstruction	Ear deformities and ear reconstruction
Genitourinary recon.	Hypospadias and allied conditions Epispadias, Anomalies of Female Genitalia, Ambiguous Genitalia and Acquired Perineal Defects Genital Reassignment
Hand	Skin / Soft tissue / Microsurgery / Dupuytren's Disease Fractures and Joint Injuries including Wrist Instability Osteoarthritis and Inflammatory Arthritis Tendon and tendon-related disorders Nerve and nerve-related disorders The Child's Hand, Vascular Disorders and Tumours
Head & Neck	Basic Sciences Skin-related neoplasia of the head & neck Non skin-related neoplasia of the head & neck Techniques for reconstruction of the head & neck Reconstruction of specific head and neck sites Facial Reanimation
Lower Limb	Assessment and primary management lower limb injuries Debridement, stabilisation and compartment syndrome Soft tissue reconstruction Vascular injuries and amputation Complications Paediatric injuries and outcome measures
Oncoplastic breast	Basic Sciences Breast Cancer Benign breast conditions Breast reconstruction – Implant based techniques Reconstruction – Autologous tissue based techniques
Pelvic floor reconstruction	Pelvic reconstruction
Skin surgery	Basic Sciences & Skin Assessment Primary treatment of Skin-related neoplasia Treatment of recurrent and chronic skin tumours Reconstructive techniques for skin surgery

	Scarring, wounds and other surgical conditions of the skin Multidisciplinary team workings, allied professionals, palliative care and follow up regimes, trials, research and national guidelines
Vascular anomalies	Vascular Anomalies
Sarcoma	Sarcoma
Psychological aspect of Plastic Surgery	Dealing with patients impacted by disfigurement and loss of form and function

Aesthetic Surgery of Face, Orbit & Neck
OBJECTIVE
Acquires competence in the diagnosis, aesthetic assessment and safe management of all patients presenting for consideration of avoidance or reversal of the features of physiological aging of the face, brow, neck and orbits.
KNOWLEDGE
BASIC
Should be able to demonstrate knowledge of:
psychology of the desire for anti-aging interventions
features denoting high-risk groups of patients that may present for surgical rejuvenation
normal facial anatomy and its common variants, including clear understanding of the blood supply, sensory and motor innervation
facial musculature and the course and distribution of the facial nerve
the fascial planes of the face and the brow and the pattern of fascial compartments of the brow, face and neck
anatomy of the eyelids
cosmetic units of the face
the effect of sun exposure on the texture and elasticity of the skin and the patterns of aging
effect of various laser/light treatments on the dermis
mechanisms of healing of partial thickness injury in facial skin
formulation and application of chemical peeling agents
INTERMEDIATE
Should be able to demonstrate knowledge of:
accurate assessment and analysis of the pattern of face aging
injectable fillers available, their uses, contraindications and interactions
pharmacology of paralytic agents, the different formulations and the muscle groups to which they may be applied
role of fillers and paralytics in the overall patient management plan
indications for, and design of, endoscopic and open browlift and foreheadplasty
fixation methods in brow lift
indications and contraindications for facelift
anatomy of the SMAS layer and how it may be modified
facial fat pads and how they change with time
variation of designs for facelift incisions
different methods of facelifting
different methods of necklifting
designs and variations of blepharoplasty, upper and lower
role of submental lipectomy and liposuction

management of complications of rejuvenation surgery
ADVANCED
Should be able to demonstrate knowledge of:
applications, indications, limitations and complications of blepharoplasty alone and in combination with other techniques.
CLINICAL SKILLS
BASIC
assess and deliver non-operative management of the acute surgical patient
take history to include features relevant to the assessment and management of the aesthetic features of the head and neck
examine the patient to include relevant aesthetic features of the head and neck
INTERMEDIATE
assessment and analysis of all the features of the aging eyelid
demonstrate knowledge of the management algorithms, combinations and permutations of the rejuvenation procedures covered in this section including appropriate investigations
record accurate assessment of the pattern of symptoms and physical features
ADVANCED
demonstrate skills of analysis and diagnostic synthesis, judgement, surgical planning
prepare an overall management plan for a given patient
assess the psychological suitability for rejuvenation surgery and appropriately refer for expert advice as necessary
undertake risk benefit analysis of non-pathological based surgery
counsel and consent a patient for rejuvenation intervention
define the subgroup of patients that can be managed by nonsurgical intervention
recognise and counsel the unrealistic patient
manage the situation whereby a patient's best interests are served by declining to treat that patient
deal with disappointment and postoperative dissatisfaction
TECHNICAL SKILLS AND PROCEDURES
BASIC
planning, designing and performing excision of facial skin lesions for aesthetic indications
selecting and using injectables for fine rhytids
using paralytics to weaken aging muscle groups
upper lid blepharoplasty
INTERMEDIATE
facelift with plication of the SMAS
MACS lift
submental lipectomy
liposuction for the face and neck areas.
pan or regional facial rejuvenation by laser / chemical peel / dermabrasion
ADVANCED
lower lid blepharoplasty by external or transconjunctival approaches

Rhinoplasty and Otoplasty
OBJECTIVE
Competence in the diagnosis, planning and management of all aspects of aesthetic nasal and aesthetic ear surgery
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
Rhinoplasty
anatomy of the nose including detailed description of the bone, cartilage, soft tissue structures, aesthetic units
blood supply of the nose including ophthalmic artery, facial artery and angular artery as well as nerve supply
physiological functions of the nose and how these may be affected by nasal surgery
facial aesthetics including the psychological implications of rhinoplasty surgery
dysmorphophobia and recognises clinical features of condition
local anaesthesia and the use of topical agents such as cocaine
Otoplasty
anatomy of the ear including embryology and growth (including nomenclature of different elements of the ear)
blood supply of the ear including branches from external carotid artery, posterior auricular artery and superficial temporal artery
nerve supply of the ear including auriculotemporal nerve, great auricular nerve, branches of the vagus nerve and lesser occipital nerve
INTERMEDIATE
Should demonstrate knowledge of:
Rhinoplasty
techniques to manage the nasal dorsum including dorsal hump reduction and dorsal augmentation
different osteotomy techniques including placement of osteotomies
techniques of endonasal and open approaches, including appropriate selection of surgical technique,
management of the alar cartilages and septum including resection, dome suturing and cartilage grafting techniques
endonasal and open approaches to rhinoplasty
techniques for nasal tip adjustment including resection, suturing, control of projection
management of septal trauma
Otoplasty
appropriate age-related considerations in respect of timing of otoplasty. cartilage maturation
non-surgical management including neonatal moulding techniques
anaesthesia including use of local anaesthesia and appropriate infiltration/blocks
classification of prominent ears and definitions of cup ear, lop ear and Stahl's deformity
surgical techniques for prominent ear correction including cartilage scoring e.g. Chongchet and suture-only techniques e.g. modified Mustardé
various dressing techniques with their relative merits
potential complications of prominent ear correction with risk factors for the same, including infection and necrosis of cartilage and skin
ADVANCED
Should demonstrate knowledge of:

Rhinoplasty
complications of rhinoplasty surgery including functional complications
secondary rhinoplasty techniques with indications for same
Otoplasty
the reconstructive techniques available for treatment of significant necrosis or deformity following prominent ear correction
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
Rhinoplasty
arrange appropriate views for clinical photographic record
elicit focussed history in respect of the rhinoplasty patient
examine patient with reference to the nose including preoperative analysis of appearance and function
recognise the need for psychological assessment and identifies dysmorphophobia
Otoplasty
clinically assess the patient with reference to the external ear and demonstrates appropriate communication when dealing with the paediatric patients
arrange appropriate views for clinical photographic record
take consent for primary otoplasty modifying communication when dealing with paediatric patient
recognise the need for psychological assessment and identifies dysmorphophobia
INTERMEDIATE
Should demonstrate ability to:
Rhinoplasty
clinically assess and analyse nasal defects including issues of balance and proportion
make a surgical plan for primary rhinoplasty using skills of analysis and judgement
counsel and consent patient for rhinoplasty surgery
recognise and counsel the unrealistic patient
explain to patient when rhinoplasty not in best interests of patient
Otoplasty
clinically assess and analyse ear deformities including issues of symmetry and proportion
make a surgical plan for primary otoplasty using skills of analysis and judgement
counsel and consent patient for otoplasty surgery
recognise and counsel the unrealistic patient
explain to patient when otoplasty not in best interests of patient
ADVANCED
Should demonstrate ability to:
Rhinoplasty
examine the patient with reference to the nose including preoperative analysis of appearance and function
deal with disappointment and postoperative dissatisfaction
make a surgical plan for secondary using skills of analysis and judgement,
counsel and consent patient needing secondary rhinoplasty surgery
recognise and counsel the unrealistic patient
explain to patient when rhinoplasty not in best interests of patient
Otoplasty

deal with postoperative complications
deal with disappointment and postoperative dissatisfaction
make a surgical plan for secondary otoplasty using skills of analysis and judgement
counsel and consent patient for secondary otoplasty surgery
recognise and counsel the unrealistic patient
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
Rhinoplasty
application of internal and external nasal splints
drainage of septal haematoma
harvesting cartilage graft from ear and costochondral junction
nasal packing for bleeding
infiltrating nose with local anaesthetic and administer topical agents such as cocaine
osteotomies of nasal bones (various patterns)
Otoplasty
infiltration of ears with local anaesthesia including greater auricular nerve blocks
application of prominent ear head dressing
INTERMEDIATE
Should be able to perform:
Rhinoplasty
closed approach to the septum with or without concomitant rhinoplasty
submucous resection of spurs
approach to the septum during open rhinoplasty
enlargement of septal perforation to reduce symptoms
cartilage graft harvest from nasal septum
adjustment of nasal dorsum including dorsal hump, reduction and dorsal augmentation
Otoplasty
primary otoplasty with cartilage-scoring techniques
primary otoplasty with suture-only techniques
management of complications including haemorrhage, infection and necrosis of skin and cartilage
ADVANCED
Should be able to perform
Rhinoplasty
harvesting calvarial bone graft
septoplasty surgery including scoring and SMR techniques
septoplasty with or without cartilage grafting
management of complications including haemorrhage
secondary procedures to correct unsatisfactory results
closure of septal perforation
reconstruction of septum for nasal support
Otoplasty
secondary procedures to correct unsatisfactory results including ear reconstruction techniques (see Ear Reconstruction Module),
techniques to correct other deformities such as cup ear, lop ear and Stahl's deformity

Rejuvenation/restoration of the trunk, body contouring, liposuction & fat grafting
OBJECTIVE
Acquire competence in the assessment, planning correction and management of all aspects of body lifting and contouring
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
anatomy of the skin and subcutis
patterns and organisation of the blood and nerve supply of the relevant regions of the skin
pattern of relaxed skin tension lines over the whole body
pathogenesis of thromboembolic disease, and the prophylaxis and management of these disorders
selection of appropriate prophylactic antibiotics
INTERMEDIATE
Should demonstrate knowledge of:
principles of bariatric surgery
metabolic consequences of bariatric surgery
pathogenesis, effects and management of tissue necrosis
appropriate placement of incisions for best aesthetic outcome
complications of skin-tailoring surgery
principles of liposuction and know of the different devices and their relative risks and benefits
effects of postoperative changes in body weight and pregnancy in this group of patients
pathology and principles of fat grafting
ADVANCED
Should demonstrate knowledge of:
psychological condition of dysmorphophobia
condition of monosymptomatic hyperchondriacal psychosis
psychosexual impacts of body image disorder
patterns of acquired skin excess
syndromic abnormalities of skin laxity
forms of lipodystrophy, its patterns and presentations
specific complications of the various techniques of liposuction
techniques, donor sites and morbidity of fat grafting
the developing research into trophic/non-volumetric effects of fat grafts
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
assess and deliver non-operative management of the acute surgical patient
take history to include features relevant to the assessment and management of body contour problems
examine the patient with reference to patterns of skin excess and laxity to include assessment and documentation of symptomatically unpleasing body contours
INTERMEDIATE
Should demonstrate ability to:
undertake clinical assessment for the perceived deformities covered in this module
translate presenting complaints into an appropriate plan for potential intervention
recognise the patient seeking treatment of obesity by body contouring

ADVANCED
Should demonstrate ability to:
make a surgical plan for the individual patient in respect of conditions covered in this module using skills of analysis and judgement
assess the psychological suitability for body contouring surgery and appropriately refers for psychological advice as necessary
perform risk-benefit analysis of non-pathological based surgery
counsel and consent a patient for an episode of body contouring surgery
communicate the range of secondary effects of a given operation and suggest adjuvant procedures or alternative techniques
accurately assess local volume excess and translate that into a plan for liposuction
recognise lipodystrophies
recognise local fat deficiencies which will benefit from fat grafting
recognise and counsel the unrealistic patient
explain to patient when body contouring surgery not in best interests of patient
deal with disappointment and postoperative dissatisfaction
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to undertake:
wound management and dressing care
management of the necrotic wound and its defect
range of wound closure techniques
application of closed suction drainage
INTERMEDIATE
Should be able to perform:
various patterns of abdominoplasty
correction of lax abdominal musculature
regional liposuction
scar revision including management of the ‘dogear’
fat graft harvest and preparation of fat grafts
undertakes local lipofilling with fat graft
ADVANCED
Should be able to perform:
modified abdominoplasty in the presence of unfavourable abdominal scarring
brachioplasty
BELT/body lift
buttock lift
thigh lift
liposuction of the arms or distal to the mid thigh, major circumferential liposuction
complex combination procedures
major staged fat graft for general contour restoration
secondary contouring procedures to correct unsatisfactory results

Non-Surgical rejuvenation
OBJECTIVE
Acquire competence in the management of the aesthetic patient using non-surgical enhancement techniques
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
anatomy and physiology of skin including classification of skin types
normal ageing changes of skin including changes related to sun exposure
range of products and non-surgical techniques available for non-surgical rejuvenation
the role of these techniques, the indications for use as sole techniques and as adjuncts to other surgical procedures
INTERMEDIATE
Should demonstrate knowledge of:
specific patterns of ageing in different parts of the body with emphasis on face, neck and hands
biology of scarring, pigmentation changes, and their modulation
factors and conditions that may cause premature ageing including smoking and substance abuse
mechanism of action, effects and duration of action of the products and techniques used for non-surgical rejuvenation. Specifically, the range of preparations of botulinum toxin, dose schedules and how to achieve complete and partial temporary paralysis of selected muscle groups
the various filler injection preparations on the market and the literature regarding outcomes of the same (permanent, semi-permanent and temporary fillers)
different types of lasers available for aesthetic enhancement, their potential applications, mechanism of action, treatment schedules and usage
ADVANCED
Should demonstrate knowledge of:
racial differences in skin type and the differences in response by skin type to the interventions described in this module
complications of use of non-surgical techniques including use of hydoxyquinones, botulinum toxin overuse, scarring from chemical peel, laser
regulatory framework for supply of relevant products on named patient basis. Know about the regulation of non-surgical rejuvenation including the legislation and safety requirements on the use of lasers.
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
elicit relevant features in patient history including the specific concerns of the patient
identify and enumerate the features of facial ageing and examines the skin and underlying tissues to demonstrate those features
INTERMEDIATE
Should demonstrate ability to:
identify evidence of previous treatments including active botulinum toxin, stigmata of laser resurfacing / dermabrasion / microdermabrasion
formulate management plan for the optimal enhancement of the facial aesthetic patient by non-surgical techniques
optimize the sequencing of the recommended treatments
undertake basic functional and psychological assessment of patient’s needs

show ability to take clinical photographs and catalogue within the legislative framework of the Data Protection Act, and offer appropriate explanation to patient regarding the safeguarding and use of their images
ADVANCED
Should demonstrate ability to
record the patient's pretreatment status and progress using charts
formulates management plan for use of techniques in the patient who has previously undergone facial rejuvenation surgery including amelioration of the unsatisfactory result by non-surgical means
demonstrate planning and prescription of dermatological formulations in the form of skin care regimen for skin stimulation and skin lightening (tretinoin based / glycolic acid based)
modify the original prescription of dermatological formulations based on patient response
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
injection techniques to the facial area
steroid injection for hypertrophic or keloidal scar
filler injections for facial rhytids or small depressed scars
INTERMEDIATE
Should be able to administer:
botulinum toxin injections to glabella, forehead, periorbital, perioral and cervical areas for targeted muscle paralysis
ADVANCED
Should be able to perform
laser resurfacing treatment for skin resurfacing including fractionated CO2, erbium, NdYAG (hair removal)
chemical peel for facial rejuvenation using trichoroacetic acid / glycolic acid
micropigmentation techniques for aesthetic enhancement
microneedling for refinement of mature scar
Surgery of the Breast
OBJECTIVE
Acquire competence in the diagnosis, aesthetic assessment and safe management of all deformities and conformations of the breast, developmental and acquired, pathological and physiological.
Acquire proficiency in all aspects of breast reconstruction and subsequent revisional procedures.
Acquire facility in the psychological assessment of patients presenting for breast surgery
KNOWLEDGE
BASIC
Should be able to demonstrate knowledge of:
applied and surgical anatomy of the breast, its blood, nerve supply and function
development of the breast and congenital deformity and variations of breast form and associated structures
hormonal control of the breast and its pathology, when deranged
breast physiology in pregnancy and lactation
benign pathologies of the breast

presentation, clinical features of breast cancer, its staging, prognosis and management pathways
effect of ionizing radiation on the breast and implants
planning incisions on the breast
closure and management of breast wounds
self-perception and self-consciousness in relation to breast conformation and proportion including the social and sexual dimensions
pathology of deranged self-image
INTERMEDIATE
Should be able to demonstrate knowledge of:
content, structure, physical and biological properties of breast implants
spectrum of implants available and their applications
design, principles and applications of tissue expanders
nature, physiology and behaviour of implant capsules
management of capsular contractures
biology, implications, avoidance of and management of implant infection
various designs and approaches to breast augmentation and their applications
the issues surrounding breast size and its assessment
complications of breast augmentation and their management
various designs and patterns of breast reduction and mastopexy
complications and management of breast reduction/remodelling
presentation, management and complications of gynaecomastia
ADVANCED
Should be able to demonstrate knowledge of:
assessment of envelope and volume in relation to breast asymmetry, both developmental and acquired
classification and management pathways of the tuberous breast
management pathways and choices in breast asymmetry
impact of breast reconstruction choices on symmetry
effect of time, ageing and pregnancy on breast asymmetry correction
various techniques of breast reconstruction, their applications, design and planning
complications of breast reconstruction
techniques for salvage of failed breast surgery
techniques for nipple reconstruction, including considerations of sequence and timing
features of dysmorphophobia
psychosexual dimension in aesthetic breast surgery
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
assess and undertake non-operative of the management of the acute surgical patient
take a targeted breast history
perform patient examination including breast examination with reference to aesthetic considerations
INTERMEDIATE
Demonstrate knowledge of the management algorithms for the procedures covered in this section including investigations
ADVANCED

Should be able to:
demonstrate skills of analysis and diagnostic synthesis, judgement, surgical planning
assess and accurately record aesthetic concerns about the breast
formulate management plans in relation to aesthetic interventions
clearly explain, consent and counsel potential patients for aesthetic breast surgery
assess the psychological suitability for aesthetic breast surgery and appropriately refer for expert psychological advice as necessary
undertake risk benefit analysis of non-pathological based surgery
deal with disappointment and postoperative dissatisfaction
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
planning, execution and closing incisions on the breast with reference to aesthetic principles and sub units
designing and conduction of excision of skin lesions of the breast
undertaking an aesthetic approach to removal of benign lesions of the breast
scar revision in aesthetic breast surgery
INTERMEDIATE
Should be able to perform:
correction of the inverted nipple (various techniques)
bilateral breast augmentation by various routes, in various planes
Wise pattern bilateral breast reduction
vertical pattern bilateral breast reduction
bilateral mastopexy of periareolar, vertical and Wise patterns
excision of gynaecomastia, incorporating various forms of liposuction as appropriate
ADVANCED
Should be able to perform
correction of the spectrum of nipple deformities
unilateral or differential breast augmentation to attain symmetry
unilateral or asymmetric breast reduction in pattern or volume to attain symmetry
synchronous mastopexy and breast augmentation in several patterns
correction of tuberous breast by combinations of mastopexy, augmentation or tissue expansion
unilateral or differential mastopexy in pattern or extent to attain symmetry
revision procedures following previous aesthetic surgery of the breast
aesthetic surgery of the breast as above in patients with previous breast cancer or irradiation
fat grafting for minor deformities of the breast
Burns classification, primary management and transfer
OBJECTIVE
Acquire competence in the initial management of patients with burns in the emergency department and their transfer to an appropriate burns facility/unit/centre.
KNOWLEDGE
BASIC
Should be able to describe in detail the knowledge required to manage the acutely unwell adult and child, and the emergency management of acute burns:
Should demonstrate knowledge of:

anatomy of the body surface, physiology, pathophysiology of burn injury
factors influencing burn healing
blood supply of skin
the timing and rationale for antibiotic use
timing of initial surgery
appropriate pre-operative investigations
classification of burn injury
resuscitation options
importance of specialist centres, MDT and interdisciplinary communication, especially with anaesthetic and paediatric colleagues
the role of other members of team including microbiologists, physiotherapy, occupational therapy
paediatric fluid regimes
features and management of toxic shock syndrome
an overview of non-accidental injury
INTERMEDIATE
Should demonstrate knowledge of:
differing roles of burn facilities, units and centres and
integration with Major Trauma Centres
pathophysiology of burns and their classification
management of specific injuries e.g. inhalation, chemical and electrical burns
non-accidental injury
various transfer options available for the burn patient
ADVANCED
Should demonstrate knowledge of:
management of the multiply-injured burn patient
controversies and issues arising as a result of a decision not to resuscitate
other protection issues
the impact of disfigurement, the consequences of an altered appearance, what it involves psychologically and socially, and the impact of an individual's body image on their life and that of their family.
the process by which an individual can successfully adjust to disfigurement and explain how the multidisciplinary team can assist with that process.
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
elicit burn-related history
assess and plan the non-operative management of burn injury
recognise life-threatening injuries
perform examination to including assessment of severity (extent and depth) of injury
assess vascular status of limb
assess the presence of compartment syndrome
INTERMEDIATE
Should demonstrate ability to:
prepare a range of management options for the conditions covered in this module
work with other agencies in non-accidental injury
ADVANCED

Should demonstrate skills of analysis and diagnostic synthesis, judgement, surgical planning relevant to the subjects specified in this module.
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
assessment of burn area and depth
adjunctive techniques for depth assessment
escharotomy and fasciotomy
application and change of burn dressings
INTERMEDIATE
Should be able to perform:
Demonstrate ability to use epidermal substitutes
ADVANCED
Should be able to perform:
airway management including performing tracheostomy
stabilising associated injuries and bleeding
Burns resuscitation and critical care
OBJECTIVE
Acquire competence in the initial resuscitation of a burn patient and ongoing critical care.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
options for airway management
pathophysiology of burn shock
resuscitation regimes
wound dressings
pathophysiology of inhalation injury
INTERMEDIATE
Should demonstrate knowledge of:
principles of early burn debridement
principles and management of burns and the relevance to subsequent soft tissue reconstruction
relevance of pharmacological interventions including antibiotics and inotropes
management of inhalation injury including bronchoscopy
metabolic response to the burn injury
palliative care in respect of the burn patient
PHDU practices
ADVANCED
Should demonstrate knowledge of:
microbiology of burns
principles of ventilation
nutritional support
PICU practices
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
assess burn injury

manage large burn wounds
apply temporary dressings e.g. negative pressure
INTERMEDIATE
Should demonstrate ability to:
manage more complex burns
resuscitate burns with TBSA <40%
explain the problems associated with the extremes of age and of polytrauma
prescribe appropriate antibiotics (antibiotic stewardship)
undertake nutritional management of burns patients
provide detailed advice on the treatment pathway within the context of the relevant MDT
ADVANCED
Should demonstrate ability to
recognise injuries that would benefit from primary amputation
manage the metabolic response
resuscitate burns with TBSA >40%
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
endotracheal intubation
appropriate pre-washing and prepping burn during dressing change
escharotomy and fasciotomy
application of a range of burns dressings e.g. Biobrane, Flamazine
INTERMEDIATE
Should be able to perform:
elective tracheostomy
adequate debridement of injured soft tissues to achieve a stable wound approaching elective conditions (including fascial excision)
planning of future soft tissue reconstruction
ADVANCED
Should be able to perform:
endotracheal intubation
bronchoscopy
basic ventilator management,
amputation of non-salvageable limbs
Burns early surgery
OBJECTIVE
Acquires competence in the planning and execution of appropriate early surgery in burns
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
anatomy of skin
classification of burn injury by zones
benefits and disadvantages of both early excision and conservative management
INTERMEDIATE
Should demonstrate knowledge of:
options available for early surgery

requirements of special sites
principles of management of more complex injuries, including polytrauma
planning and prioritising treatment within an MDT setting
ADVANCED
Should demonstrate knowledge of:
management of more complex injuries, and polytrauma
surgical management of the burn
principles and use of dermal and epidermal substitutes
principles of cell culture
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
clinically assesses burn injuries and demonstrates recognition of injury patterns
use simple management techniques including use of appropriate dressings
prescribe appropriate antibiotics,
plan burn excision and grafting
use of epidermal substitutes such as Biobrane
INTERMEDIATE
Should demonstrate ability to:
formulate management algorithms for the common patterns of burn injury
plan total and staged burn excision and grafting
apply psychological assessment tools for evaluation of psychological needs (patient questionnaires)
ADVANCED
Should demonstrate ability to
formulate management algorithms for complex burn injuries,
arrange patient-centred care with patient as partner in the process, providing realistic information and guiding patient decision-making regarding choices available and timing of those treatments,
manage and lead the multi-disciplinary teams in respect of provision of psycho-social care
be able to arrange the care pathway that supports an individual to successfully adjust to disfigurement through giving the individual and family specific life-skills. These include the patient being provided with information about their condition and its treatment, developing a positive outlook/belief system, learning to cope with their feelings, exchanging experiences with others who've "been there" and social skills training to manage other people's reactions.
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
dressings care
skin grafts of small to moderate areas
INTERMEDIATE
Should be able to perform:
skin grafts of large areas
plan and raise flaps where grafts are not appropriate
early excision of paediatric burns to prevent systemic upset
ADVANCED
Should be able to perform:

resurfacing procedures using temporary skin cover
resurfacing using skin substitutes
limb amputations
Burns late surgery
OBJECTIVE
Acquire competence in later burn management including the planning and execution of reconstructive surgery
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
anatomy of skin and soft tissues,
pathophysiology of hypertrophic scars and keloids,
principles of scar management,
effect of growth on burn scars,
use of grafts and local flaps.
INTERMEDIATE
Should demonstrate knowledge of:
indications for use of skin substitutes, distant flaps and free flaps,
stages of bereavement associated with loss of body image and the clinical and psychological supports that can be put in place to assist the patient cope with that loss.
ADVANCED
Should demonstrate knowledge of:
principles of management of more complex injuries
surgical options for late reconstruction
novel therapies.
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
clinically assess burn scars and contractures demonstrating recognition of injury patterns
use simple management techniques including use of splints and pressure garments
plan release of burn scars using grafting and local flaps
INTERMEDIATE
Should demonstrate ability to:
formulate management algorithms for the common patterns of burn scarring
plan for the use of skin substitutes, distant flaps and free flaps
ADVANCED
Should demonstrate ability to
describe detailed management algorithms for complex burn injuries
show understanding of the complexities of burn injury reconstruction in patients with polytrauma and significant co-morbidities
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform burn scar grafting and local flaps including the Z-plasty and its variations
INTERMEDIATE
Should be able to use skin substitutes and distant flaps of small and medium areas

ADVANCED
Should be able to perform
resurfacing with skin substitutes, distant flaps and free flaps of medium and large areas
late major amputations
Burns infection and other complications
OBJECTIVE
Acquire competence in the diagnosis and management of burn infections and other complications
KNOWLEDGE
BASIC
Should demonstrate knowledge of the microbiology of burns
INTERMEDIATE
Should demonstrate knowledge of:
metabolic derangement occurring in the burn patient
concept and practice of antibiotic stewardship
ADVANCED
Should demonstrate knowledge of
antibiotic and antiseptic regimens and their rationale
controversies regarding metabolic management
multi-organ effects and systemic disturbance caused by burns
CLINICAL SKILLS
BASIC
Should demonstrate ability to undertake wound assessment
INTERMEDIATE
Should demonstrate ability for the clinical assessment and management algorithms for the infections and other burn complications
ADVANCED
Should demonstrate ability to
clinically assess the unstable complex burn patient
make decisions on appropriate management issues
interpret the range of investigations in the unstable complex burn patient to formulate management plans
manage the iatrogenic injury
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to undertake surgical management of wound infection
INTERMEDIATE
Should be able to perform radical excision of burn wound for infection.
ADVANCED
Should be able to perform amputation and other life-saving surgery in the case of infection and other complications

Paediatric burns
OBJECTIVE
Acquire competence in the diagnosis and management of paediatric burns and the recognition of the need for multidisciplinary management
KNOWLEDGE
BASIC
The knowledge requirements are as per modules 1-5, in the context of the paediatric patient
Should demonstrate knowledge as defined by PALS/APLS
paediatric fluid regimens
toxic shock syndrome
non-accidental injury
INTERMEDIATE.
As per modules 1-5, in the context of the paediatric patient
Demonstrates knowledge of PHDU practices
ADVANCED
As per modules 1-5, in the context of the paediatric patient.
Should demonstrate knowledge
other child protection issues
PICU practices
CLINICAL SKILLS
BASIC
As per modules 1-5, in the context of the paediatric patient
Works with other agencies in the event of non-accidental injury
INTERMEDIATE
As per modules 1-5, in the context of the paediatric patient
Works with the paediatric elements of the MDT
Applies the law in respect of non-accidental injury and communicates with appropriate parties
ADVANCED
As per modules 1-5, in the context of the paediatric patient
TECHNICAL SKILLS AND PROCEDURES
BASIC
As per modules 1-5, in the context of the paediatric patient
Should be able to apply Biobrane and similar dressings
INTERMEDIATE
As per modules 1-5, in the context of the paediatric patient
Should be able to perform early excision of burns to prevent systemic upset
ADVANCED
As per modules 1-5, in the context of the paediatric patient
Chest wall reconstruction
OBJECTIVE
Acquire competence in the diagnosis and management of congenital and acquired defects of the chest wall.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
anatomy and physiology of the chest wall and respiratory mechanics

common cardiothoracic procedures, their access (e.g. median sternotomy, lateral thoracotomy) and potential complications (e.g. mediastinitis, empyema, bronchopleural fistula)
indications for skeletal reconstruction in chest wall defects
INTERMEDIATE.
Should demonstrate knowledge of:
congenital chest wall deformities e.g. Poland's syndrome, pectus carinatum and pectus excavatum
local and regional flaps utilised in chest wall reconstruction and their anatomy
pathophysiology of median sternotomy breakdown and a classification for median sternotomy wounds
ADVANCED:
Should demonstrate knowledge of:
potential impact of chest wall defects on respiratory physiology
strategies for management of noncollapsible chest cavity dead space and bronchopleural fistula
prosthetic materials used in chest wall reconstruction
the effects of radiation on the chest wall and the pathophysiology of osteoradionecrosis
omental flap in chest wall reconstruction
free tissue transfer in chest wall reconstruction
techniques for repair of congenital pectus deformities
techniques for salvage of failed chest reconstruction
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
communicate and plan with other specialties to organise patient care
undertake clinical assessment of a median sternotomy wound
undertake clinical assessment of a chest wall soft tissue tumour
INTERMEDIATE
Should demonstrate ability to:
formulate a holistic management plan for an individual with a chest wall defect
undertake clinical assessment of a congenital chest wall deformity
consent a patient for chest wall reconstruction, discussing advantages and disadvantages of reconstructive options and detailing possible complications
manage complications of chest wall reconstructive surgery appropriately
ADVANCED:
Should demonstrate ability to:
clinically assess complex reconstructive cases, including salvage reconstruction, and formulate an appropriate multi-disciplinary management plan
formulate a care pathway for an individual with a congenital chest wall deformity, including provision of psycho-social care as well as a holistic management plan that considers the aesthetic as well as functional consequences of the condition and subsequent treatment
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to:
apply a negative pressure dressing to a chest wall defect
perform skin grafting to a chest wall defect
perform a range of local skin flaps for a chest wall defect
INTERMEDIATE

Should be able to perform:
primary debridement of a chest wall wound
pectoralis major and rectus abdominis pedicled muscle flaps for median sternotomy coverage
ADVANCED
Should be able to perform:
1. fasciocutaneous / musculocutaneous / muscle-only flap reconstruction for thoracic defects (e.g. serratus anterior, trapezius, latissimus dorsi or parascapular flaps).
2. reconstruction of defect with omental flap (in concert with general surgery colleague)
Primary management of cleft lip and nose
OBJECTIVE
Acquire competence in the management of the unrepaired cleft lip and nose deformity
KNOWLEDGE
BASIC
Should be able to demonstrate knowledge of:
surgical anatomy, pathological anatomy, embryology and basic genetics of facial clefting and associated anomalies
past and current and protocols for repair of cleft lip and palate
content of the Paediatric Intermediate Life Support Course or equivalent course as currently approved by the Resuscitation council of the UK, and ability to resuscitate a child
criteria that would constitute grounds for admission to Intensive Care Unit
issues of non-accidental injury and child protection. Know the referral pathways for protection of the 'at-risk' child
INTERMEDIATE
Should demonstrate knowledge of:
the different techniques for cleft lip and nose repair
timelines and sequence of operative procedures
ADVANCED
Should demonstrate knowledge of:
history of cleft lip and nose repair, and the outcomes as well as the means of measurement of outcomes for cleft lip and nose repair
characteristic anatomical elements of the neonatal airway, and basis for tracheostomy in emergency circumstances where airway cannot be maintained mechanically
alternatives for timing of different sequences and operations for repair of the cleft lip and nose
CLINICAL SKILLS
BASIC
Should demonstrate ability to
take care of the pre and post-operative patient/child undergoing cleft surgery including assessment for anaesthetic risk factors, postoperative fluid management, antibiotic prescribing,
manage a naso-pharyngeal airway both in the peri-operative environment, and post-operatively,
take informed consent for the procedures covered in this module,
use the operating microscope,
present cases within the Cleft MDT.
INTERMEDIATE
Should demonstrate ability to:
counsel parents of new patients including those following ante-natal scan diagnosis,

plan appropriate treatment schedule within the context of the cleft MDT.
ADVANCED
Should demonstrate ability to:
formulate a management plan within the MDT as a fully integrated member of the team,
communicate with patients/families,
maintain and demonstrate the skills articulated in APLS/PALS,
recognise signs of non-accidental injury, risk factors, and family pathology
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to mark up a cleft lip repair according to one of the currently accepted techniques
INTERMEDIATE
Should be able to mark a cleft lip and nose repair. Should be able to perform some of the muscle dissection and elevation of a vomerine flap
ADVANCED
Should be able to repair the cleft lip and nose according to one of the currently accepted techniques, vary a standard marking plan for subtle differences in the types of cleft lip or palate, perform (in order) nasal dissection, repair of mucosa and muscle, repair of ala base, placement of sutures for nasal suspension, lip closure, use of lengthening flaps, vermilion flap and mucosal balancing.
Secondary repair of cleft lip and nose
OBJECTIVE
Acquire competence in the management of the previously repaired cleft lip and nose deformity.
KNOWLEDGE
BASIC
Should be able to demonstrate knowledge of:
surgical anatomy, pathological anatomy and physiology of the cleft nose
rhinoplasty techniques for reconstruction of cleft nasal deformity
INTERMEDIATE
Should demonstrate knowledge of:
facial morphology and aesthetics
basic cephalometric planning techniques
surgical approaches to the nose
rhinoplasty techniques relevant to cleft nose deformity
ADVANCED
Should be able to demonstrate:
detailed knowledge of soft tissue flap and composite graft techniques for contour and scar modification.
understanding of muscle dissection methods and transposition to correct functional and aesthetic abnormalities,
Knowledge of cleft nasal defect to include familiarity with current literature on the same, and
detailed knowledge of elements of aesthetic rhinoplasty where applicable to cleft rhinoplasty.
CLINICAL SKILLS
BASIC
Should demonstrate ability to correctly elicit patients' concerns and their perceptions of the conditions.

INTERMEDIATE
Should demonstrate ability to:
assessment lip and nose disability including alveolar fistula.
Should demonstrate ability to:
determine the optimum timing of surgery and decide on priorities for treatment
communicate with the MDT,
know when to recruit help of a clinical psychologist.
ADVANCED
Should be able to demonstrate skill in formulating plan for surgical correction of secondary deformities of the cleft lip and nose within the context of the integrated (MDT) care of the patient.
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able perform:
formulation of a design for correction of secondary deformities of the lip and nose
skin markings
dissection of the lip
closure of rhinoplasty incisions
management of the cleft airway
INTERMEDIATE
Should be able to perform:
formulation of designs for correction of secondary deformities of the lip and nose
dissection and suture of lip, degloving of nose, and ala reduction
ADVANCED
Should be able to perform:
design and execute complete revision of complex cleft deformity, including total lip revision and more subtle deformities in later years
(in order) the previous elements specified and proceeding to hump reduction with rasp, management of the septum, infracture, application of splint
full cleft rhinoplasty
Primary repair of cleft palate
OBJECTIVE
Competence in the assessment, surgical management and aftercare of primary cleft palate.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
anatomy, embryology and basic genetic of facial clefting and associated anomalies (as for Module 1)
knowledge of sequencing of procedures for cleft palate repair
INTERMEDIATE
Should demonstrate knowledge of:
anatomical basis for surgical correction of palatal abnormalities
ADVANCED
Should be able to explain:
detailed mechanisms of speech production, along with implications of various genetic conditions on speech (including Stickler's, 22q11 deletion, and other common disorders

surgical procedures for correction cleft palate with historic and common internationally-performed variations
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
take informed consent for the procedures specified in this module
care skilfully for the pre and post-operative cleft palate patient/child
use the operating microscope
manage a naso-pharyngeal airway
INTERMEDIATE
Should be able to demonstrate proficiency in managing the child undergoing cleft palate repair of average complexity
ADVANCED
Should be able to demonstrate proficiency to manage a child undergoing complex cleft palate repair including cases with associated disorders (syndromic cases), and cases with wide defects which generate significant postoperative potential airway and wound healing problems.
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
marking up a cleft palate repair
(in order) closure of oral layer, elevation of the oral layer in patients with isolated cleft palate
INTERMEDIATE
Should be able to perform:
(in order) elevation of the oral layer in patients with unilateral and bilateral cleft lip and palate, closure of the nasal layer
suturing of the oral layer in patients with cleft lip and palate.
ADVANCED
Should be able to perform
repair of the palate and associated involved structures according to one of the currently accepted techniques (complete within timely manner)
muscle dissection, and demonstrate the vascular pedicle in repeated fashion
adaptations of the standard procedure for anatomical variation
Secondary speech surgery
OBJECTIVE
To develop competence in the management of speech disorders associated with cleft palate and related disorders
KNOWLEDGE
BASIC
Should be able to demonstrate knowledge of:
the surgical anatomy, pathological anatomy and physiology of palatal function and abnormalities after cleft closure, including the pathophysiology of velopharyngeal incompetence (VPI)
the feeding mechanisms and relationship of infant feeding patterns to later speech development
the physiology of the middle ear, Eustachian tube and causes of deafness in the cleft patient
the clinical and investigative tools for examining speech development

the place of surgical and orthodontic assistance to treatment of speech disorder
INTERMEDIATE
Should be able to describe:
the range of normal speech development mechanisms and how these are at risk in cleft disorders
the impact of chronic otitis media on speech skills at school entry
the techniques used by speech and language therapists inputting into cleft management
the operations available for the amelioration of speech disorders including VPI
ADVANCED
Should be able to describe:
the indications for investigation of speech disorder, methods and limitations
the radiation protection protocols linked to such investigations
adult communication problems related to previous cleft palate repair and previous surgery for VPI
CLINICAL SKILLS
BASIC
Should have ability to:
elicit speech disorders
liaise with Speech Therapists
INTERMEDIATE
Should have ability to:
interpret findings of nasendoscopy,
assess likelihood of patient co-operation with nasendoscopy,
formulate a treatment plan based on the nasendoscopy findings
ADVANCED
Should demonstrate ability to:
interpret an audiogram and tympanometry study
describe the principles of brain stem evoked response audiometry
formulate an appropriate referral based on clinical history and audiogram
TECHNICAL SKILLS AND PROCEDURES
BASIC
Not applicable
INTERMEDIATE
Should be able to perform:
nasendoscopy in the diagnosis of speech disorder
ADVANCED
Should be able to perform:
skilful dissection of a previously repaired cleft palate as part of a correction for speech disorder
pharyngoplasty (various techniques)
Dento-alveolar defect including alveolar bone grafting
OBJECTIVE
To develop competence in the management of alveolar defects associated with cleft lip and palate.
KNOWLEDGE
BASIC:
Should be able to demonstrate knowledge of:

the evolution of secondary dentition
the clinical and investigative tools available to the orthodontist
the related investigations and the basis for treatment of the secondary dentition
the anatomy of various potential sites for cancellous bone graft harvesting
INTERMEDIATE
Should be able to describe:
options for orthodontic treatment
indications for pre-surgical orthodontic treatment
the role of Paediatric Dentists including the basics of oral and dental hygiene
the use of synthetic substitutes in dento-alveolar surgical practice
the methods of assessment of success of bone grafting
ADVANCED:
Should be able to describe:
overview of surgical aspects of stomatological practice
principles of restorative dentistry, and role of such care within the holistic management of patients
CLINICAL SKILLS
BASIC
Should be able to make clinical assessment of the secondary dentition
Should demonstrate ability to function and communicate within the framework of the Cleft MDT
INTERMEDIATE
Should be able to:
liaise appropriately with Orthodontic colleagues
liaise with and refer to Paediatric and Restorative Dental colleagues
ADVANCED
Should be able to devise complete management plan for the preoperative and postoperative care of the patient undergoing alveolar bone grafting
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform harvest of iliac bone graft.
INTERMEDIATE
Should be able to perform low scar access when harvesting iliac bone graft
ADVANCED
Should be able to perform closure of an alveolar fistula with appropriate technique.
Orthognathic surgery / Working with the Cleft MDT
OBJECTIVE
To acquire knowledge of the management of residual cleft deformity in adults including principles of orthognathics and related assessment / investigation
To develop skills in participation in the Cleft MDT, including working with allied disciplines as a team member and team leader.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
the range of residual deformities that pertain at the cessation of facial growth
the nasal septal deformities associated with clefting

the self-image problems extending into adult life
National guidelines for the diagnosis, treatment and follow up of cleft patients
INTERMEDIATE
Should demonstrate understanding of:
Principals of orthognathics including distraction osteogenesis
the role of the orthodontist in cleft care
the surgical principles of orthognathic appliances and their use in practice, and
NICE Improving Outcomes guidance and Peer review.
ADVANCED
Should demonstrate knowledge of:
the surgical anatomy and pathological anatomy of the residual deformities of facial growth,
the principal methods of use in orthognathics including distraction osteogenesis,
methodology for research and audit with respect to cleft practice in local, national and international settings.
Should demonstrate knowledge of:
impact of disfigurement and altered appearance, what it involves psychologically and socially, and the impact of an individuals' body image on their life and that of their family,
the processes by which an individual can successfully adjust to disfigurement and explain how the multidisciplinary team can assist with that process.
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
assemble appropriate professionals to solve adults, concerns
communicate and refer within the specialist MDT
INTERMEDIATE
Should demonstrate ability to:
undertake orthodontic measurement of mid-facial growth
develop and record management plan for the patient and discuss rationale for management of common scenarios with patients and colleagues
analyse and develop diagnostic and surgical planning within the context of an MDT
lead clinical discussion of cleft-related disorders for neonate, infant, pre-school, and later ages following consultations
ADVANCED
Should demonstrate ability to:
undertake appropriate referral and liaison with Orthodontists
to plan a program of orthognathic surgery including distraction osteogenesis
to discuss complex treatment scenarios with patients including discussion of all options, advantages and disadvantages and take informed consent
to lead whole clinic process for an entire MDT session
TECHNICAL SKILLS AND PROCEDURES
BASIC
Not applicable
INTERMEDIATE
Not applicable
ADVANCED
Not applicable

Complex wound
OBJECTIVE
Overall competence in the diagnosis and management of the complex wound excluding burn injury
KNOWLEDGE
BASIC
Should be able to describe:
the principles of management of non-burn conditions managed by the burn team (including cold injuries, TENS and purpura fulminans)
INTERMEDIATE
Should demonstrate knowledge of detailed management of non-burn conditions managed by the burn team (including cold injuries, TENS and purpura fulminans)
ADVANCED
Should be able to discuss the controversies regarding the management of non-burn conditions managed by the burn team
CLINICAL SKILLS
BASIC
Should demonstrate proficiency in:
clinical assessment of the non-burn injury
liaison with other specialities
working and communicating within the relevant multidisciplinary team (MDT)
INTERMEDIATE
Should be able to:
devise management plans and treatment algorithms for the conditions covered in this module
apply psychological assessment tools for evaluation of psychological needs (patient questionnaires).
ADVANCED
Should be able to
deploy skills of analysis and diagnostic synthesis, judgement, and surgical planning to the complex wound patient
advise regarding timing of reconstruction and effect of growth on reconstructive surgery in paediatric cases,
provide detailed advice on the treatment pathway, including interpretation of special investigations, within the context of the relevant MDT,
demonstrate skills needed to arrange patient-centred care with patient as partner in the process, providing realistic information and guiding patient decision-making regarding choices available and timing of those treatments.
manage and lead the multi-disciplinary teams in respect of provision of psycho-social care, to arrange the care pathway that supports an individual to successfully adjust to disfigurement through giving the individual and family specific life-skills. These include the patient being provided with information about their condition and its treatment, developing a positive outlook/belief system, learning to cope with their feelings, exchanging experiences with others who've "been there" and social skills training to manage other people's reactions.
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to stabilise the complex wound patient for safe transfer to specialist centre
Should be able to apply negative pressure dressing
INTERMEDIATE

Should be able to perform primary debridement and application of temporary wound dressings in theatre
ADVANCED
Should be able to
debride complex wound

Craniofacial General Principles
OBJECTIVE
Principles of the MDT and the 'Craniofacial Assessment'
e.g. Psychology of facial difference and speech and language assessment
Anatomy & Embryology of the craniofacial complex
Cephalometrics and facial analysis
Trauma
Emergency procedures
Surgical approaches to the craniofacial complex
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
embryology of the pharyngeal arch development and syndromes arising from developmental pathology, and should be to demonstrate proficiency in the descriptive anatomy of head and neck
multidisciplinary assessment of 'The Craniofacial Patient' (parameters including visual, audiological, airway, speech, feeding, psychological and neurological)
content of the Paediatric Intermediate Life Support Course or equivalent course as currently approved by the Resuscitation council of the UK. Know how to resuscitate a child
criteria that would constitute grounds for admission to Intensive Care Unit
issues of non-accidental injury and child protection, and the referral pathways for protection of the 'at-risk' child
emergency diagnosis of elevated intracranial pressure (ICP) and/or intracranial haemorrhage
Should be able to describe the management of extravasation injuries
INTERMEDIATE
Should be able to demonstrate knowledge of:
technique of intermaxillary fixation
cephalometrics: skeletal and dental occlusal relationships, SNA angle, SNB angle, facial reference points
cephalometric characteristics of craniofacial syndromes e.g. Crouzon syndrome, Treacher Collins syndrome (TCS) and hemifacial microsomia (HFM), definition of anterior open bite, cross bites etc.
distraction osteogenesis: history and application: mandible, alveolus, midface, orbit and cranium
ADVANCED
Should be able to demonstrate knowledge of:
anatomy of surgical approaches to craniofacial skeleton and relevant local flaps (temporalis, superficial temporal etc)
facial analysis: choice of camera systems, CT, MRI and software analysis in surgical planning
Craniofacial Radiology – recognition of tumour and threats to neurological function

the multidisciplinary assessment of 'The Craniofacial Patient': specific tests – VEPs, sleep studies and psychological assessment scales
impact of disfigurement, the consequences of an altered appearance, what it involves psychologically and socially, and the impact of an individual's body image on their life and that of their family
the processes by which an individual can successfully adjust to disfigurement, and how the multidisciplinary team can assist with that process
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
care for the pre and post-operative patient/child undergoing craniofacial surgery including assessment for anaesthetic risk factors, postoperative fluid management, antibiotic prescribing,
manage the airway both in the peri-operative environment, and post-operatively.
take informed consent for the procedures covered in this module,
present cases within the Craniofacial MDT
INTERMEDIATE
Should demonstrate ability to:
counsel parents of new patients including those following antenatal scan diagnosis for relevant syndromes.
apply psychological assessment tools for evaluation of psychological needs (patient questionnaires),
plan appropriate treatment schedule within the context of the craniofacial MDT
ADVANCED
Should demonstrate ability to:
formulate a management plan within the MDT as a fully integrated member/leader of the team and be able to communicate with patients/families
manage and lead the multi-disciplinary teams in respect of provision of psycho-social care
arrange the care pathway that supports a child and his/her family to successfully adjust to disfigurement through giving the individual and family specific life-skills. These include, where appropriate, the patient being provided with information about their condition and its treatment, developing a positive outlook/belief system, learning to cope with their feelings, exchanging experiences with others who've "been there" and social skills training to manage other people's reactions
maintain and demonstrate the skills articulated in APLS/PALS
recognise signs of non-accidental injury, risk factors, family pathology
TECHNICAL SKILLS AND PROCEDURES
BASIC
Trauma:
Should be able perform tracheostomy (emergency and percutaneous) and nasal packing for epistaxis
INTERMEDIATE
Should be able to perform
intermaxillary fixation
emergency management of retrobulbar haemorrhage
emergency management of elevated ICP and/or intracranial haemorrhage,
various surgical approaches to the craniofacial skeleton: coronal and upper and lower buccal sulcus incisions.
ADVANCED

Should be able to perform
Orthognathic surgery relating to craniofacial syndromes.
How to perform a Le Fort I +/- distraction osteogenesis, the sagittal split osteotomy, bimaxillary surgery, segmental orthognathic surgery, palatal expansion and segmental alveolar transport.
Distraction osteogenesis of the craniofacial skeleton.
Indications compared to traditional techniques.
Device selection and application of chosen distraction device at all levels of the craniofacial skeleton. Knowledge of outcome studies.
Implants and prostheses.
Choice of alloplast for inlays and onlays. Osseointegrated implant choice, sites and design in conjunction with maxillofacial prosthetist.
Surgical approaches to the craniofacial skeleton: McCord lid swing, transconjunctival, transbleph, transcaruncular, Weber-Ferguson and open rhinoplasty, transbuccal. Levels of Craniofacial access.
Craniofacial aesthetic surgery.
Endoscopic techniques, subperiosteal surgery, genioplasty, advanced rhinoplasty.
Craniosynostosis
OBJECTIVE
Management of single suture and syndromic craniosynostosis
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
surgical anatomy, pathological anatomy and pathophysiology of craniosynostosis
common phenotypes and head shapes
positional vs synostotic plagiocephaly: torticollis
INTERMEDIATE
Should demonstrate knowledge of:
basic clinical genetics of craniosynostosis syndromes
recognition of different syndromic craniosynostoses (Apert, Crouzon)
strategies for the management of intracranial hypertension and its multifactorial influences
ADVANCED
Should demonstrate detailed knowledge of:
protocols of surgical management (Multidisciplinary: ENT, Ophthalmology, Neurosurgery etc)
indications for intervention: crisis, urgent, elective, aesthetic – both functional and psychological
indications and applications of distraction osteogenesis
indications for FOR/Le Fort III, Monobloc and bipartition osteotomies, distraction vs bone graft techniques
CLINICAL SKILLS
BASIC
Should be able to:
explain to parents the challenges of these conditions at different stages of life from birth to adolescence
describe the impact on the family of the birth of a child with a craniofacial anomaly and provide or arrange support
INTERMEDIATE
Should have ability to

manage globe subluxation
manage the compromised airway
recognise elevated ICP
recognise complications of transcranial surgery
apply psychological assessment tools for evaluation of psychological needs (patient questionnaires)
ADVANCED
Should demonstrate ability to
formulate plan for surgical correction of problems arising in patients with craniosynostosis
deploy the skills of the MDT appropriately
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to:
close a coronal incision
INTERMEDIATE
Should be able to perform:
harvesting techniques for autologous grafts including iliac crest bone, rib, costochondral and cranial bone.
canthopexies, canthoplasties and eyelid balance, and
coronal flaps
ADVANCED
Should be able to perform:
major segmental osteotomies and advancements of the craniofacial complex,
distraction osteogenesi,
cranioplasties,
fronto-orbital surgery,
frontofacial surgery
Craniofacial tumours in adults and children
OBJECTIVE
Acquire competence in the management of adults with transcranial tumours (orbital, nasal, frontofacial, skull base) including SCC, BCC, melanoma.
Acquire competence in the basic principles of management of children with transcranial tumours
Acquire competence in the management of adults with transcranial tumours (orbital, nasal, frontofacial, skull base) including SCC, BCC, melanoma and olfactory neuroblastoma.
Acquire competence in the management of children with transcranial tumours (orbital, nasal, frontofacial, skull base) including orbitofacial NF, fibrous dysplasia / Cherubism /McCune Albright, teratomas, vascular lesions and anomalies , juvenile nasopharyngeal angiofibroma, haemangiomas, vascular malformations, dermoid cysts, nasal gliomas, ossifying fibromas, sarcomas including nerve and nerve sheath tumours
KNOWLEDGE
BASIC
Should be able to describe common adult tumours e.g. BCC, SCC, melanoma, and their pathology, natural history and treatment protocols
INTERMEDIATE
Should demonstrate knowledge of:

other adult tumours – e.g. neurofibromatosis, neuroblastoma with their pathology, natural history and treatment protocols,
common paediatric tumours e.g. neurofibromatosis, fibrous dysplasia, teratomas and their pathology, natural history and treatment protocols,
differences in clinical behaviours between adult and paediatric tumours
adjunctive techniques e.g. interventional radiology and IMRT and chemo-irradiation,
complex craniofacial vascular anomalies and malformations
role of the surgeon in the MDT
role of palliation in adults and children
management of end of life
ADVANCED
Should demonstrate knowledge of:
applied surgical anatomy, segmental resection and reconstruction (alloplastic, autologous, microsurgical), functional preservation, aesthetic techniques,
rare transcranial tumours and related contemporary literature
management of the facial nerve in adult and paediatric tumours with indications for facial nerve sacrifice and rehabilitation
CLINICAL SKILLS
BASIC
Should be able to present cases to the MDT
INTERMEDIATE
Should demonstrate ability to diagnose, investigate the conditions covered in this module
Should demonstrate ability to counsel patients and deliver bad news concerning adult and paediatric patients
ADVANCED
Should demonstrate ability to:
formulate treatment plans for the conditions covered in this module
lead decision making in the MDT
co-ordinate the patient treatment pathway
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform reconstructive techniques including grafts and local flaps
INTERMEDIATE
Should be able to perform
elevation ‘workhorse’ free flaps including latissimus dorsi and radial forearm flap (includes these exercises performed as surgical simulation)
manage Le Fort I down-fracture for skull base access
ADVANCED
Should be able to perform:
accessing craniofacial skeleton via various approaches (see module 1)
planning and resecting of craniofacial vascular lesions
various approaches to the orbit (tumours)
reconstruction with free perforator flaps or composite free tissue transfer
operating within a multidisciplinary team

Craniofacial syndromes of tissue deficiency
OBJECTIVE
Acquire competence in the recognition and principles of management of hemifacial microsomia, Treacher Collins syndrome, mandibular deficiencies - Pierre Robin, Romberg's disease, morphoea, craniofacial clefts & encephalocoeles, Binder's syndrome, holoprosencephaly, arrhinia
KNOWLEDGE
BASIC
Should demonstrate knowledge of (with their aetiology, developmental pathology & embryology, natural history)
hemifacial microsomia (HFM)
Treacher Collins syndrome (TCS)
Romberg's disease
Morphoea
Tessier's classification of craniofacial clefts
classification of encephalocoeles
INTERMEDIATE
Should demonstrate knowledge of
principles of intervention (crisis, urgent, elective and aesthetic)
treatment protocols for mandibular deficiencies - Pierre Robin
impact of the tissue deficiency syndromes on the child and the family at different stages of maturity
use of the MDT in the 'craniofacial assessment'
ADVANCED
Should demonstrate knowledge of:
other tissue deficiency syndromes e.g. Craniofacial clefts & encephalocoeles
Binder's syndrome
holoprosencephaly
arrhinia
CLINICAL SKILLS
BASIC
Not applicable
INTERMEDIATE
Should have ability to
manage the compromised airway
undertake 'defensive' surgical treatment planning (allowing for effect of growth on surgical results in children)
ADVANCED
Should have ability to formulate treatment plans for secondary procedures for the conditions covered in this module
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform excision of accessory auricles
INTERMEDIATE
Should be able to perform:
tissue expansion in the head and neck
tarsorrhaphy techniques

fat transfer
Le Fort I or Le Fort II advancements of maxilla
ADVANCED
Should be able to perform
eyelid rebalancing and reconstruction,
mandibular distraction and reconstruction
ear reconstruction – autologous and osseointegrated implant
nasal reconstruction and rhinoplasty
orbital translocation
soft tissue free flaps e.g. dipotassium flaps
Craniofacial overgrowth syndromes
OBJECTIVE
Acquire competence in the management of hemifacial hypertrophy, facial infiltrating lipomatosis, tissue overgrowth secondary to vascular malformations (Beckwith Wiedemann Syndrome, proboscis)
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
hamartomas, teratomas, and dysplasias
INTERMEDIATE
Should demonstrate knowledge of:
planes of facial resuspension
differential diagnosis of overgrowth asymmetries
radiological diagnosis
ADVANCED
Should demonstrate knowledge of
techniques for facial nerve preservation
indications for surgery within the MDT setting
Should demonstrate knowledge of the planes of facial resuspension.
CLINICAL SKILLS
BASIC
Should demonstrate ability to manage patients with reference to:
maintenance of vital functions including airway, feeding etc
preservation of oral, nasal, palpebral sphincters
INTERMEDIATE
Should demonstrate ability to undertake a clinical assessment of the craniofacial conditions covered in this module.
ADVANCED
Should demonstrate ability to
formulate a treatment plan for the conditions covered in this module.
TECHNICAL SKILLS AND PROCEDURES
BASIC
Not applicable
INTERMEDIATE
Should be able to perform emergency procedures (see module 1)
ADVANCED

Should be able to perform
resectional surgery in the absence of malignancy including segmental osteotomies of maxilla and mandible, functional wedge resection of tongue, tarsorrhaphy, eyelid rebalancing with preservation of balanced facial function and aesthetics
tissue reduction with preservation of neuromuscular function

Orbital surgery
OBJECTIVE
Acquire competence in the principles of management of hypertelorism, microphthalmos, frontonasal dysplasia, craniofrontonasal dysplasia, orbital malpositions and dystopias, vertical orbital dystopia, late plagiocephaly and hemifacial microsomia.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
applied anatomy of the orbit and contents
examination of the eye and basic vision
eyelid anatomy and eyelid malposition
growth of the orbit
definition of terms e.g. hypertelorism, dystopia, telecanthus
differential diagnosis/genetics of hypertelorism syndromes
MDT assessment of hypertelorism syndromes
INTERMEDIATE
Should demonstrate knowledge of:
visual physiology, squint & principles of strabismus surgery
medial and lateral canthal fixation methods
orbital Prostheses – types, indications
superior orbital fissure syndrome
orbital apex syndrome
relative afferent papillary defect
retrobulbar haemorrhage
reasons and timing for orbital translocation
ADVANCED
Should demonstrate knowledge of
orbital osteotomies
microphthalmos – orbital expansion (expanders & osteomies)
impact on orbital translocation on vision
use of Box, Bipartition and advancement osteotomies of the orbit
CLINICAL SKILLS
BASIC
Emergencies – see module 1
INTERMEDIATE
Should demonstrate ability to
plan orbital osteotomies
formulate a management plan with respect to both techniques and timing
ADVANCED
Should demonstrate ability to

formulate management plans with Ophthalmology and Neurosurgery in the context of the MDT
plan minimal access and endoscopic approaches
TECHNICAL SKILLS AND PROCEDURES
BASIC
Not applicable
INTERMEDIATE
Should be able to perform split calvarial bone graft harvest and fixation of bone graft
ADVANCED
Should be able to perform
minimal access incisions
box osteotomies
facial bipartition
vertical orbital dystopia correction
orbital reconstruction – autologous or alloplastic
transcranial and subcranial orbital expansion
Mommaerts osteotomies
orbital access approaches (tumours)
Craniomaxillofacial trauma
OBJECTIVE
Acquire competence in the assessment of a patient who has sustained injury and or fractures of the Craniomaxillofacial region.
Develop ability to assess an injured patient presenting either acutely or in the outpatient clinic.
Be alert for the potential for this class of injuries to occur and impact on the patient's airway, and vision.
Awareness of consequences of change in orbital volume.
Understand fracture patterns of the mandible, middle third of the face and orbits including multiple fractures.
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
Understand the principles of surgical management of these injuries.
Understand the principles of intermaxillary fixation techniques, principles of plate osteosynthesis and bone healing.
Understand the principles of extraoral cranial fixation.
Be able to carry out these procedures safely and competently or understand the need to refer to allied disciplines.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
anatomy of scalp, face, nose, ears, eyelids, orbit and contents
anatomy of craniofacial skeleton and temporomandibular joint (TMJ)
anatomy and physiology of parotid and lacrimal apparatus
bone healing
aetiology of facial trauma
priorities of management
assessment of airway and level of consciousness (Glasgow coma scale)

assessment of head injury and cranial nerve function
pharmacology and therapeutics of post-operative analgesia
INTERMEDIATE
Should demonstrate knowledge of:
anatomy of trigeminal nerve and infiltration / nerve block anaesthesia
signs and symptoms of fractures of cranium and facial skeleton
signs and symptoms of TMJ dislocation and fracture dislocation
other fracture complexes
classification of fractures of the craniofacial skeleton
appropriate investigations of facial nerve and duct injury
appropriate investigations of lacrimal apparatus injury
significance of dental occlusion
importance of disruption of the canthal ligaments
ADVANCED
Should demonstrate knowledge of:
physiology of nasal cavity, sight and oculomotor
function
classification of craniofacial fractures
potential complications of cranial, nasal, orbital, middle-third and mandibular fractures
available open and closed techniques of surgical management including intermaxillary fixation
principles of nerve repair and stenting of ducts
understanding the benefits and indications of both open and closed treatments
surgical approaches to the orbit
awareness of need for urgent orbital decompression or release of ocular muscles
available techniques/materials for orbital wall reconstruction
potential complications early / intermediate and late
role of the maxillofacial technician
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
undertake general assessment of the traumatised patient
airway management and emergency treatment of facial trauma
assessment and examination of patient with facial trauma
awareness of additional factors affecting timing of surgery
INTERMEDIATE
Should demonstrate ability to:
assess the nasal bones, cartilages and septum
assess the orbits and contents and ears
assess dental occlusion
perform clinical examination of ears, orbit, eyelids and lacrimal apparatus, teeth, oral cavity, facial skeleton and cranial nerves
ability to correctly interpret physical signs
arrange investigations, selection and interpretation of relevant radiographic imaging of craniofacial fractures
manage epistaxis and septal haematoma
formulate a treatment plan and prioritise management
exercise clinical judgment appropriate to injury and patient needs

liaise as appropriate with Ophthalmology, Oral and Maxillofacial and Neurosurgery colleagues where appropriate
ADVANCED
Should demonstrate ability to:
manage frontal sinus fractures
assess need for removal of damaged teeth/retained roots
prescribe appropriate pain control /prevention of infection
perform local anaesthetic infiltration for pain control / nerve block anaesthesia
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
intra/extra-oral soft tissue handling and suturing techniques
INTERMEDIATE
Should be able to perform:
surgical repair of nerve injury under magnification
techniques of intermaxillary fixation
techniques for approach to the orbital walls
ADVANCED
Should be able to perform:
manipulation of nasal bones and septum
nasal packing and splintage
ability to stent and repair duct
techniques for management of displaced canthal ligaments
safe exposure of fracture sites and reduction of fragments
plate handling skills
selection and use of appropriate allograft materials
bone grafting (variety of donor sites)
approach and expose frontal bone fractures
Ear deformities and ear reconstruction
OBJECTIVE
Competence in the diagnosis and principles of management of all aspects of ear deformities and ear reconstruction
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
anatomy and embryology of the external, middle and inner ear,
pathophysiology of skin and cartilage wound healing, soft tissue tumours of the ear including haemangioma, problem scarring including keloid and principles of management of scarring
various classifications of ear deformities including acquired ear deformities
INTERMEDIATE
Should demonstrate knowledge of:
principles of osseointegration
local and regional flaps around the ear including the scalp
development of the mandible and syndromes associated with ear deformities
different techniques of correcting the prominent ear
principles of tissue expansion

ADVANCED
Should demonstrate knowledge of:
various techniques of reconstructing microtia, macrotia, complex ear deformities such as constricted ears, sports induced trauma, different techniques of ear reconstruction following partial/total loss, with and without cartilage loss, timing of microtia surgery
techniques to correct ear lobe deformities
CLINICAL SKILLS
BASIC
Should demonstrate ability to undertake:
clinical assessment of the ear and identifying anatomical variations from the norm
clinical assessment of problem scarring and soft tissue tumours and formulating a plan of management
INTERMEDIATE
Should demonstrate ability to:
differentiate and classify the various ear deformities and identify the anatomical deficiencies or variations of the ear
plan surgical procedures for prominent ear, cryptotia, deformities of the ear with minimal loss of the auricular tissue
plan and interpret relevant investigations for the ear sinus, congenital ear deformities
ADVANCED
Should demonstrate ability to
assess complex ear deformities including those of the earlobe and syndromic patients, formulate a plan of management
assess the soft tissue cover and need for tissue expansion/flap cover
assess facial nerve function and mandibular deformities as well as occlusion of teeth
assess the suitability of patient for autogenous versus prosthetic ear reconstruction
assess and manage complications of ear corrections and ear reconstructive procedures
communicate effectively with patient and carer
communicate with other team members of the MDT to integrate a time line for reconstruction
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
excision of simple accessory auricles, cysts and small tumours on the ear with direct closure or skin grafting, intralesional steroid injection
repair of split earlobes with local flaps
repair of simple lacerations of the ear with or without cartilage repair
excision of Darwen's tubercle
INTERMEDIATE
Should be able to perform:
correction of prominent ear with and without cartilage mutilation
correction of cryptotia
excision of tumours and repair of defects with local/regional flaps
excision of auricular sinuses
management of complications of corrective surgery
insertion of tissue expander
ADVANCED
Should be able to perform:

correction of complex ear deformities: spectrum of constricted ears, “crumpled” ears, cauliflower ears, acrobatic ears with calcified cartilage framework, macrotia and autogenous reconstruction of ears for anotia/microtia
harvesting rib cartilage, carving cartilage to design framework for ear reconstruction
dissecting skin envelope, temporalis fascial flap raising and insetting, raising other local flaps for skin cover of framework, conchal cartilage graft harvest, carving and insetting into defect
various operations for ear lobe reconstruction
Hypospadias and allied conditions
OBJECTIVE
Acquire competence in the principles of management of hypospadias and allied conditions including management of the family in addition to all aspects of the surgical management and complications.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
embryology of the external genitalia, endocrinology pathology, anatomy of the male genitalia
wound healing
aetiological factors
investigations
management of the family
INTERMEDIATE
Should demonstrate knowledge of:
classification of hypospadias
classification of surgical procedures
surgical techniques available for correction of hypospadias
cause and management of ventral curvature
timing of surgery
management of foreskin
principles of surgical management, post operative management and complications
ADVANCED
Should demonstrate knowledge of hypospadias and allied conditions *including*
recent theories on aetiology.
assessment of outcome, flow rate.
management of complications.
management of salvage patient.
management of BXO including aetiology.
management of buried penis.
management of cryptohypospadias (ventral curvature without hypospadias)/Peyronies disease
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
assess presence and severity of hypospadias, presence of ventral curvature
asses whether foreskin is suitable for reconstruction
manage the child/family unit so that all are comfortable with the reconstructive process
discuss the pro/cons of timing of surgery and reasons for operating
INTERMEDIATE

Should demonstrate ability to:
assess which operative technique is appropriate for the degree of deformity
analyse outcome including identification of complications
assess the child with foreskin anomaly
ADVANCED
Should demonstrate ability to
identify those patients with suboptimal outcome or complication requiring further investigation or surgery and develop a management plan
assess a patient with foreskin and/or urethral BXO requiring further investigation and/or surgery
assess an hypospadias salvage/cripple patient with a view to surgical correction and develop a management plan
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
meatotomy
circumcision.
trimming of skin envelope following hypospadias repair.
harvesting of foreskin/buccal mucosal full thickness graft, preparation and closure of the donor site.
artificial erection test
closure of GAP hypospadias repair.
foreskin reconstruction.
INTERMEDIATE
Should be able to perform:
meatotomy
trimming of skin envelope following hypospadias repair
closure of GAP hypospadias repair
foreskin reconstruction
distal hypospadias reconstruction
dissection of GAP hypospadias repair
Snodgrass repair – dissection, closure of urethra, raising and inset of waterproofing layer, closure
Snodgraft repair – dissection, inset of graft, and closure as above
reconstruction of midshaft and proximal hypospadias
1st stage Bracka repair – dissection of urethral plate, removal of fibrous bands, dissection of glans wings, inset of graft, application of dressing and post-op management of dressing
2nd stage Bracka – dissection and closure as per Snodgrass
ADVANCED
Should be able to perform:
Snodgrass repair – dissection, closure of urethra, raising and inset of waterproofing layer, closure
Snodgraft repair – dissection, inset of graft, and closure as above
2nd stage Bracka – dissection and closure
closure of simple fistula
closure of complex fistula
operative management of fistula with distal urethral stenosis
operative management of distal/meatal stenosis
operative management of cryptohypospadias/Peyronies

management of BXO – steroids, circumcision, 2 stage recon with buccal mucosal graft
management of complex salvage/cripple patient – Snodgraft, 2 stage Bracka repair with buccal and/or bladder mucosa
harvesting bladder mucosal graft
Epispadias, Anomalies of Female Genitalia, Ambiguous Genitalia and Acquired Perineal Defects
OBJECTIVE
Acquire competence in the principles of management of epispadias, anomalies of female genitalia, ambiguous genitalia and acquired perineal defects.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
anatomy of epispadias/bladder extrophy, incidence, aetiology, MDT principles of management
defects of female genitalia – congenital/acquired
Congenital. Aims of surgical correction – restoration of urinary / faecal and sexual function
age at presentation
Acquired - causes – tumour, infection, trauma, previous DXT, scarring secondary to birth tear / episiotomy
INTERMEDIATE
Should demonstrate knowledge of:
epispadias – aims of management, principles of treatment, principles of two main surgical repairs
female genitalia – congenital absence of vagina (Meyer-Rokitansky Syndrome), incidence, presents with primary amenorrhoea diagnostic test, principles of reconstruction – length, width vagina, durability, sensation
male genitalia reconstruction in Fournier's disease, cancer, trauma, vascular malformation, BXO with emphasis on preservation of adequate length, sufficient skin for unrestricted erection, durability and sensation, preservation of erection and adequate urinary stream
reconstruction of urethra – staged BUMG, bladder mucosa
skin – SSG
scrotum – SSG, Flaps
ADVANCED
Should demonstrate knowledge of:
Methods of female reconstruction post acquired defect – local pedicled flaps – lotus, gracillis, SSG, muscle flaps – gracillis myocutaneous flaps, distant flaps – VRAM
Male reconstruction post acquired defects
Urethra – 2 stage Bracka with BUMG with or without bladder mucosa grafts
Glans – glansectomy and quilted thick SSG for reforming glans over existing corpora
Scrotum – tissue expansion, SSG, flaps – gracillis, Singapore technique
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
arrange appropriate investigations for conditions described in this module
perineal defects including assessment of patient with Fournier's and initial management, identification of potential defect following resection of perineal tumour
INTERMEDIATE

Should be able to plan primary flaps for reconstruction of perineal defect e.g. lotus, gracillis, VRAM
epispadias, female genitalia anomalies and ambiguous genitalia incorporating expectations of the child and the family, analysis of the specific congenital problem and what may be required during reconstruction,
perineal defects
Should be able to
consent patients for reconstruction of perineal defects including graft and flap reconstruction.
ADVANCED
Should demonstrate ability to formulate treatment plan for
ambiguous genitalia – incidence, causes, associated features, investigations – chromosome profile, testosterone / sex steroid profile and approach to parents.
absence of vagina – reconstruction, Frank method – dilators, fasciocutaneous flaps, colonic or intestinal flaps.
SSG – McIndoe method.
Should demonstrate ability to manage:
epispadias, female genital anomalies and ambiguous genitalia
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
SSG, full thickness graft, jumping man, application of topical negative pressure dressing
BASIC
Should be able to perform
SSG, full thickness graft, jumping man, application of topical negative pressure dressing.
INTERMEDIATE
Should be able to perform
reconstruction of perineal defects – local flap reconstruction of vagina/labia including lotus and gracillis, resurfacing penile shaft, groin dissection, coverage of exposed testes
ADVANCED
Should be able to perform:
surgical correction of epispadias, female genital anomalies and ambiguous genitalia be inaccessible to many trainees
reconstruction of perineal defects – external pudendal flap, posterior thigh flap, VRAM for abdominoperineal resection, glansectomy for cancer, free flaps for major perineal defects
Genital Reassignment
OBJECTIVE
Acquire competence in the principles of management of gender reassignment
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
definition of transsexualism
aetiology sex ratio
diagnosis of gender dysphoria
problems associated with gender dysphoria - psychosocial, physical support for surgery, financial support for surgery
MDT

Requirement for NHS Management:
1. Live as other gender for two years
2. Hormones
3. Surgery
INTERMEDIATE
Should demonstrate knowledge of techniques available for male to female reassignment:
penile flap – glans reduced as clitoris, penile skin as flap for vagina, scrotum for labia / clitoral hood – usually two stage
modified McIndoe – SSG or FTSG from penis for vagina
others – bowel for vagina
ADVANCED
Should demonstrate knowledge of techniques available for female to male reassignment
mastectomy
phallus construction with internal urethra and ability to become erect, non hair bearing, sensate, size, erectability and arousability by deep pudendal nerve. Specific options for phallus reconstruction
random pattern abdominal tube pedicle
groin flap
SIEA flap
gracillis flap
radial forearm flap
urethral reconstruction options:
SSG
FTSG
transplantation of urethra
tubed bladder wall
ancillary procedures:
testicular implants
vaginectomy
facial feminising techniques
breast augmentation
CLINICAL SKILLS
BASIC
Ability to demonstrate:
working within an MDT and the ability to assess the psychological state of the patient
INTERMEDIATE
Ability to demonstrate:
develop the skills to arrange patient-centred care with patient as partner in the process (depending on age of patient), providing realistic information and guiding patient decision-making regarding choices available and timing of those treatments
ADVANCED
Ability to manage and lead:
multi-disciplinary teams in respect of provision of psycho-social care. Be able to arrange the care pathway that supports an individual and his/her family to successfully adjust to disfigurement through giving the individual and family specific life-skills. These include the patient being provided with information about their condition and its treatment, developing a positive

outlook/belief system, learning to cope with their feelings, exchanging experiences with others who've "been there" and social skills training to manage other people's reactions
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
raising local flaps
assessment of size of prosthesis needed
insertion of testicular prosthesis
INTERMEDIATE
Should be able to perform
elevation of complex flaps including, groin flap, radial forearm flap, abdominal tubed pedicle, SIEA flap and gracillis flap
ADVANCED
Should be able to perform
specific operations for gender reassignment
Skin / Soft tissue / Microsurgery / Dupuytren's Disease
OBJECTIVE
Acquire competence in the diagnosis and management of soft tissue problems around the hand and upper limb including traumatic loss
Acquire competence in all aspects of care of Dupuytren's disease
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
anatomy, embryology, physiology of skin, blood supply and blood flow
models of skin blood supply
mechanism of action of pharmacology on the microcirculation
elements of wound healing
organisms causing soft tissue infection including, microbiology of infecting organisms, surgical pathology and spread of infection
surgical and pathological anatomy of Dupuytren's disease in the palm and digits
INTERMEDIATE
Should demonstrate knowledge of:
range, indications and principles of operations to treat conditions listed in this module
post-operative complications and their management
hand therapy interventions for wound & scar management, reduction of swelling and management of stiffness
levels of amputation for the upper limb
principles of microvascular surgery
principles of replantation including macroreplantation
sciences of pathogenesis of Dupuytren's disease
ADVANCED
Should demonstrate knowledge of:
recent advances in wound healing including wound healing technology such as vacuum-assisted closure

ancillary investigations including those pertinent to vascular compromise of limb, life or limb-threatening infections
techniques to raise vascularised free tissue transfers including lateral arm flap, latissimus dorsi flap, gracilis flap, toe transfer
management of the mutilating hand injury including rollover injury, gunshot injury
management of extravasation and high-pressure injection injury to the hand
management of thermal injury to the hand including local treatment of scald, flame, chemical & electrical burns and frostbite

CLINICAL SKILLS
BASIC
Should perform:
assessment and non-operative management of the acute surgical patient including targeted hand-related history and hand examination
INTERMEDIATE
Should demonstrate ability to:
devise management algorithms for the conditions covered in this section including investigations
ADVANCED
Should demonstrate abilities of:
analysis and diagnostic synthesis, judgement, surgical planning.
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
nail bed repair
different types of skin grafts including split skin/full thickness skin graft
palmar fasciectomy for Dupuytren's disease
fasciocutaneous flaps around the forearm
variety of flap reconstructions
local flap (transposition, rotation, island),
microsurgical techniques
arterial and venous repair – small and medium vessels
INTERMEDIATE
Should be able to perform:
fingertip reconstruction : heterodigital flap reconstruction including cross-finger flap, thenar flap, Foucher flap, and homodigital neurovascular island flaps
application of mechanical vacuum suction device for appropriate wounds
debridement of complex wounds
fasciectomy for MCPJ contracture (Dupuytren's disease)
fasciectomy with correction of PIPJ contracture
ADVANCED
Should be able to perform:
planning and execution of flap reconstruction
distant flap e.g. groin, posterior interosseous artery flap, radial forearm flap
free tissue transfer – flap elevation
elevation of variety of free tissue transfers e.g. lateral arm flap, latissimus dorsi muscle flap, second toe transfer etc.

includes cadaver based flap elevation as part of simulation exercises
microsurgical techniques
microsurgical free tissue transfer
revascularisation digit or upper limb part
replantation of digit or upper limb segment
fasciectomy for recurrence of Dupuytren's disease
dermofasciectomy for Dupuytren's disease

Fractures and Joint Injuries including Wrist Instability
OBJECTIVE
Acquire competence in the diagnosis and management of all types of fractures of the phalanges, metacarpals, carpus and distal radius.
Acquire competence in the diagnosis and management of the unstable wrist including distal radioulnar joint.
KNOWLEDGE
BASIC
Should be able to demonstrate knowledge of:
pathophysiology of fracture healing including non-union and malunion
principles of operative and non-operative management of hand and wrist fractures
detailed anatomy of:
radio-carpal/DRUJ/MCP/PIP/DIP joints and CMC joint of the thumb
ligamentous anatomy of these joints and how it influences treatment
available imaging techniques and their interpretation:
plain and stress radiographs of the wrist and hand.
other specific views relevant to particular situations
role of: MRI/bone scan / ultrasound / arthrography / arthroscopy for investigating the hand and wrist
INTERMEDIATE
Should be able to demonstrate knowledge of:
detailed management of fractures and dislocations of bones and joints of hand and wrist including carpus and distal radioulnar joint,
normal biomechanics of the osseoligamentous structures of the hand and wrist.
ADVANCED
Should be able to demonstrate knowledge of:
detailed wrist anatomy,
pathophysiology of wrist instability / recognised patterns of instability and their clinical presentation,
investigations for complex joint disorders and wrist instability,
appropriate interventions for wrist instability through knowledge of indications,
indications for diagnostic and therapeutic wrist arthroscopy.
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
clinically assess fractures, dislocations and ligamentous injuries of the hand and wrist,
assess the unstable wrist,
manage common fractures of the hand and wrist,

apply a range of plaster splints.
INTERMEDIATE
Should demonstrate ability to:
manage more complex fractures of the hand and wrist,
manage distal radius and scaphoid fractures by standard techniques.
ADVANCED
Should demonstrate ability to:
clinically assess and manage complex fractures of the distal radius and scaphoid,
manage ligamentous injury of the carpus and distal radioulnar joint,
manage malunion and non-union of fractures of the phalanges, carpus and distal radius.
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
simulation-based exercises of the techniques for fracture fixation: closed reduction with application splint or cast, K-wiring and interosseous wiring, plate and screws, and lag screw
INTERMEDIATE
Should be able to perform:
closed K-wiring for CMC/PIP joint dislocations, phalangeal/metacarpal fractures, distal radius fractures (pins & plaster)
open fixation of metacarpal fractures
open fixation of uncomplicated distal radius fractures
repair of ulnar collateral ligament of MCPJ of thumb (Gamekeeper's thumb)
application of external fixator to upper limb
ADVANCED
Should be able to perform:
open fixation of phalangeal fractures
operative treatment of intra-articular fractures of the PIP joint
open fixation of complex distal radius fractures
scaphoid fracture fixation (acute and for non-union)
vascularised bone grafting for scaphoid non-union
operative stabilisation of acute carpal disruptions, ligament stabilisation procedures for chronic problems of the, scapholunate, lunotriquetral CMC joints and midcarpal instability
ligament stabilisation procedures for chronic problems of the, scapholunate, lunotriquetral CMC joints and midcarpal instability
bone transport
Should be able to use bone substitutes
Osteoarthritis and Inflammatory Arthritis
OBJECTIVE
Acquire competence in the diagnosis and management of all aspects of management of osteoarthritic joints of the hand and wrist. Acquire competence in the diagnosis and management of all aspects of management of inflammatory arthritis of the hand and wrist.
KNOWLEDGE
BASIC
Should be able to demonstrate knowledge of:
pathophysiology of osteoarthritis, inflammatory arthritis and septic arthritis including appreciation of patterns of disease.

imbalances and deformities associated with inflammatory arthritis
pathomechanics of common rheumatoid hand deformities including:
distal radioulnar joint subluxation and carpal translocation
MCPJ subluxation and ulnar drift
digital boutonnière and swan neck
thumb deformity and CMC disease
principles of arthroplasty.
INTERMEDIATE
Should be able to demonstrate knowledge of:
principles and detailed management of the common osteoarthritic disorders of the hand and wrist including the basal joint of the thumb
principles and detailed management of rheumatoid arthritis in the hand and wrist
aetiology, pathomechanics of deformity in inflammatory arthritides including understanding disease patterns
biomechanics of small joint replacement
place of soft tissue reconstruction, joint fusion, replacement, interposition and excision arthroplasty in the treatment of the rheumatoid hand and wrist
planning and prioritising treatment within an MDT setting
ADVANCED
Should be able to demonstrate knowledge of:
principles and detailed management of more complex and osteoarthritic disorders of the hand including secondary osteoarthritis,
surgical and non-surgical management of the wrist, tendons, small joints and imbalance disorders (swan neck and boutonnière) occurring in rheumatoid arthritis,
pathology, mechanisms of deformity and management of other inflammatory conditions (non-rheumatoid) affecting the hand and wrist,
management of Kienbőch's disease and Madelung's deformity.
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
clinically assess the arthritic patient and recognise the typical patterns of disease
demonstrate conservative management techniques including splinting, exercises and understanding of occupational therapy assessment and provision of aids to daily living
undertake external K-wire removal
INTERMEDIATE
Should demonstrate ability to:
undertake detailed examination of the patient with inflammatory arthritis to demonstrate the features of:
distal radioulnar joint subluxation and carpal translocation
MCPJ subluxation and ulnar drift
digital boutonnière and swan neck
thumb deformity and CMCJ disease
diagnose pathology through local anaesthetic joint injection techniques,
undertake treatment by joint injection,
includes simulation-based exercises for joint injection techniques
ADVANCED

Should demonstrate knowledge of detailed management algorithms for the conditions covered in this module including complex conditions.
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
harvesting of iliac bone graft / radius bone graft,
simulation-based exercises of wrist arthroscopy
INTERMEDIATE
Should be able to perform:
arthrodesis of DIPJ / PIPJ/ MCPJ,
trapeziectomy plus/minus soft tissue ligamentous reconstruction,
total wrist arthrodesis
Darrachs procedure
Suave-Kapandje procedure
diagnostic wrist arthroscopy
ADVANCED
Should be able to perform:
therapeutic wrist arthroscopy e.g. TFCC debridement
limited arthrodesis including STT, 4-corner, radiolunate
variety of procedures for rheumatoid arthritis including MCPJ arthroplasty e.g. Swanson silicone spacer replacement, surface replacement arthroplasty, soft tissue arthroplasty with ligament reconstruction for instability, soft tissue correction for swan neck/boutonnière deformities
joint replacement arthroplasty: PIP / CMCJ / Wrist / DRUJ
Tendon and tendon-related disorders
OBJECTIVE
Acquire competence in the diagnosis and management of all aspects of flexor and extensor tendon injuries and associated reconstruction. Detailed knowledge of the hand therapy and rehabilitation regimens for the same.
KNOWLEDGE
BASIC
Should be able to demonstrate knowledge of:
mechanisms of tendon injury and healing
pathophysiology of related tendon disorders
INTERMEDIATE
Should be able to demonstrate knowledge of:
principles of tendon transfer
biomechanics of the tendons and tendon sheath / pulleys
available suture techniques for repair of the divided tendon including multistrand repair
rehabilitation regimens for flexor and extensor tendon repair
ADVANCED
Should be able to demonstrate knowledge of:
recent advances in basic sciences of tendon injury and repair
basic science and evidence base informing use of different techniques of tendon repair and rehabilitation regimens
the role of the intrinsic muscles in facilitating co-ordinated tendon function
CLINICAL SKILLS

BASIC
Should demonstrate ability to:
clinically assess the injured tendon and other tendon disorders
select use of relevant specialist imaging techniques such as ultrasound
INTERMEDIATE
Should demonstrate ability to:
clinically assess and manage algorithms for the conditions covered in this module
examine the stiff finger and distinguish flexor/extensor adhesions / primary or secondary joint stiffness
ADVANCED
Should demonstrate ability to:
undertake detailed assessment of and advise on complex tendon problems including reconstruction and reanimation of the hand in cases of tendon loss and nerve palsy using individualised tendon transfers
analyse and advise on modifications needed to standard therapy regimens to correct specific problems such as joint contracture
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
extensor tendon repair
flexor tendon repair (Zones III-V)
tendon graft harvest
extensor / flexor synovectomy
trigger digit release
Includes simulation-based exercises related to tendon surgery
INTERMEDIATE
Should be able to perform:
De Quervain's release
flexor tendon repair (multistrand)(Zones I & II)
flexor or extensor tenolysis
tendon transfer (EI-EPL)
tenodesis (EDC replacement in partial EDC rupture)
ADVANCED
Should be able to perform:
late reconstruction of flexor and extensor tendons:
tendon grafting 1 and 2-stage
tendon transfer
radial nerve set
opponensplasty for opposition
intrinsic replacement for claw hand
adductorplasty for key pinch

Nerve and nerve-related disorders
OBJECTIVE
Acquires competence in the diagnosis and management of all aspects of nerve related disorders including nerve compression, nerve palsy and nerve injuries along with associated reconstructive techniques. Acquires detailed knowledge of the rehabilitation regimens for the same.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
topographic anatomy of peripheral nerve including brachial plexus
response of peripheral nerve to injury and repair
pathophysiology of nerve compressive disorders
appropriate outcome assessment instruments
INTERMEDIATE
Should demonstrate knowledge of:
techniques of nerve repair
mechanisms of brachial plexus injury, the patterns of injury and outline treatment options
pathophysiology and classification of CRPS and neuropathic pain problems
ADVANCED
Should demonstrate knowledge of:
appropriate use of nerve grafts and other conduits
techniques of nerve reconstruction, neurotisation, and muscle transfers for reanimation of the upper limb
principles of management and classification systems pertinent to cerebral palsy and tetraplegia
pharmacological and non-pharmacological methods for the relief of nerve-related pain problems
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
clinically assess nerve-related disorders including brachial plexus
apply relevant specialist imaging techniques such as electrophysiological investigation and ultrasound
prevent iatrogenic nerve injury
INTERMEDIATE
Should demonstrate knowledge of:
clinical assessment and management algorithms for the conditions covered in this module
assessment of nerve function using specific equipment used in rehabilitation and assessment (such as Semmes Weinstein filaments)
ADVANCED
Should demonstrate ability to:
clinically assess brachial plexus and obstetrical brachial plexus injury including acute and interval treatment
clinically assess the spastic and tetraplegic upper limb
define the management algorithm of the iatrogenic nerve injury
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:

peripheral nerve repair including digital nerve including simulation-based exercises for microsurgical peripheral nerve repair
nerve graft harvest
carpal tunnel release
cubital tunnel release (simple decompression)
INTERMEDIATE
Should be able to perform:
nerve decompression : cubital tunnel release (transposition / medial epicondylectomy), revision carpal tunnel release
nerve grafting for segmental nerve defect
ADVANCED
Should be able to perform:
nerve decompression
ulna nerve in Guyon's canal
submuscular transposition of ulna nerve (cubital tunnel)
radial nerve in radial tunnel
median nerve in pronator tunnel
transposition of neuroma
wrist denervation
brachial plexus exploration (including OBP)
nerve grafting
neurotisation
intercostal nerve grafting
muscle transfer for reanimation
The Child's Hand, Vascular Disorders and Tumours
OBJECTIVE
Acquire overall competence in the diagnosis and management of children's hand problems with emphasis on congenital hand conditions.
Acquire competence in the management of vascular disorders and neoplastic conditions of the upper limb in both children and adults. Demonstrate knowledge of the aetiology, classification, risk factors and surgical management of these conditions.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
principles of management of children's hand disorders including classification, reconstructive principles and timing of operations for congenital difference
embryology of the upper limb and the mechanisms of malformation
patterns of normal growth and development
management of vascular injury including compartment syndrome
principles of management of soft tissue and bony tumours particularly the more common swellings found around the hand
management of upper limb tumours with reference to surgical oncology including biopsy techniques, excision margins, management of regional lymph nodes, formal amputations
INTERMEDIATE
Should demonstrate knowledge of:

the following conditions of the Child's Hand: trigger digits, polydactyly including thumb duplication, simple syndactyly, epiphyseal injury (Salter Harris)
management of vascular insufficiency syndromes, - haemangiomas and vascular malformations
management of soft tissue and bony tumours including formal amputations, reconstructions
principles of management of skin cancer occurring in the upper limb and management of the regional lymph nodes
ADVANCED
Should demonstrate knowledge of:
the following conditions of the Child's Hand:
complex syndactyly (e.g. Apert's hand)
radial dysplasia (radial club hand), ulnar dysplasia
thumb hypoplasia
upper limb malformations in arthrogryposis
Madelung's deformity
Constriction band syndrome
cerebral palsy, spasticity
use of prosthetics
vascular lesions including vascular malformations
management of acute and chronic vascular insufficiency syndromes including compartment syndrome / Volkmann's ischaemic contracture
classification systems and histopathology relevant to neoplasms of the upper limb including skin cancer, sarcoma and bone tumours
modalities of treatment including non-surgical and surgical options
surgical margins for the commoner tumours
options for reconstruction of the surgically excised defect
adjuvant treatments used in combination with surgery for malignant neoplasms
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
clinically assess and deliver non-operative management of the Child's Hand disorder,
in respect of cancer diagnoses demonstrates the skill set necessary to advise a patient of such diagnosis.
work and communicate within the relevant multidisciplinary team (MDT)
INTERMEDIATE
Should demonstrate ability to apply a working knowledge of the management algorithms to the conditions covered in this module
ADVANCED
Should demonstrate:
skills of analysis and diagnostic synthesis, judgement, and surgical planning
in respect of the Child's Hand, the ability to advise regarding timing of reconstruction and effect of growth on reconstructive surgery previously performed
in respect of vascular disorders shows the ability to advise regarding conservative, non-surgical and surgical treatment options
in respect of neoplastic conditions of the upper limb the shows the ability to provide detailed advice on the treatment pathway, including interpretation of specialist imaging, within the context of the relevant MDT

TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
surgery for uncomplicated traumatic conditions of the Child's Hand
excision of small superficial vascular malformations
ganglion excision (dorsal wrist, volar wrist, DIPJ)
safe biopsy for suspected tumours of the upper limb
INTERMEDIATE
Should be able to perform:
trigger thumb/finger release
simple syndactyly separation
correction of duplicate thumb
correction of polydactyly
reconstruction of vascular defects by vein grafting,
excision of vascular malformations involving multiple tissue layers,
fasciotomies for compartment syndrome,
excision of giant cell tumour of tendon sheath,
excision/curettage enchondroma,
removal of swellings from nerves e.g. Schwannoma
excision of other benign tumours of bone and soft tissue.
ADVANCED
Should be able to perform:
complex syndactyly correction
radialisation radial club hand
application external distraction devices for radial club hand
pollicisation
cleft hand correction
recreation of first web space (various conditions)
excision of major vascular malformations and reconstruction resultant defects
excision of malignant tumours of bone and soft tissue including compartmentectomy and reconstruction of resultant defects.
axillary lymphadenectomy
Basic Sciences – embryology, development, anatomy and physiology / Head & Neck assessment – examination, investigations including imaging and biopsy techniques
OBJECTIVE
To understand the development, anatomy and physiology of the head and neck in relation to its surgery
Competence in the diagnosis, use of imaging and management of head and neck disorders
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
embryology of head & neck
topographical and segmental anatomy of the head & neck
vascular, neuronal and lymphatic supply / drainage of the head & neck
appropriate use of diagnostic imaging
aesthetic units of the face and neck

anatomy of the skin-epidermal and dermal layers and appendigeal structures,
embryology of the skin
histopathological appearance of skin
anatomy of the body surface, in particular the head and neck, hands, nails and feet
vascular, neuronal and lymphatic supply / drainage of the head & neck, trunk and limbs, blood supply of the skin
diagnostic imaging of skin neoplasia X-rays, CT, MRI, USS, PET-CT, and imaging assisted diagnostic biopsy
histology of the skin standard stains
immunocytochemistry and cytogenetic techniques
common benign skin disorders-hidradenitis suppurativa, epidermal cysts, lipomas, vascular and congenital malformations
melanocytic naevi including giant, actinic lesions and epidermal/dermal lesions etc., risks of malignant transformation in chronic lesions, giant melanocytic naevi and Marjolin's ulcers
specific history and diagnostic features (clinical and non-clinical) of benign skin lesions (pigmented and non-pigmented), dysplastic naevi, lentigo maligna, melanoma and non-melanoma skin cancers (basal cell carcinoma and squamous cell carcinoma), dermatofibroma, keratoacanthoma, pilomatrixomata, actinic keratoses, Bowen's disease
clinical features of dermatitis artefacta, folliculitis, pyogenic granuloma, inflammatory skin conditions (hidradenitis and acne vulgaris), fungal skin lesions, lentigines, angiomata
difference between telangiectasia and spider naevi
chronic wounds and pressure sores
INTERMEDIATE
Should demonstrate knowledge of:
range, indications and principles of surgical options for surgical ablation of tumours of the head & neck.
range, indications and principles of surgical options for soft tissue defect reconstruction of the head & neck.
range, indications and principles of surgical options for reconstruction of particular units of the head & neck (nose / eyelids / ears / lips)
concepts and limitations of diagnostic techniques
aetiology and assessment of facial palsy
assessment of facial aesthetics
role and use of the head & neck MDT
anatomy of special sites, the pelvis, epitrochlear and popliteal fossa, the triangular space of the back, the axilla, head and neck lymph node basins
anatomy and access for diagnostic biopsies when required
concepts and limitations of diagnostic techniques, dermoscopy, mapping biopsies, frozen sections
range, indications and principles of surgical options for surgical ablation of tumours of the skin
Mohs' micrographic surgery
sentinel node biopsy
the role of the skin multidisciplinary team
diagnosis of lesions at difficult sites, subungual, large facial lesions, mucosal lesions, metastatic lesions
the range of dressings for open skin lesions/wounds
ADVANCED
Should demonstrate knowledge of:
factors determining appropriate surgical ablation techniques

factors determining decision making in choice of flaps and tissue for soft tissue defect reconstruction
factors determining decision making in choice of flaps and tissue for reconstruction of particular units of the head & neck (nose / eyelids / ears / lips).
fange, indications and principles of surgical options and non-operative techniques in facial reanimation
anatomy in particular for block dissections of the axilla, inguinal, iliac and ilioinguinal regions,
functional and surgical anatomy of the face, head and neck
the surgical options for reconstruction of particular units of the head & neck (nose / eyelids / ears / lips), the trunk, the upper lower and lower limb
the range of dressings available for complex wounds/ulcers
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
take a focused head & neck history related to any head & neck symptom
assess and non-operatively manage acute injury
recognise life-threatening injuries of the airway and major blood vessels
undertake competent examination of the head & neck.
undertake competent examination of cervical lymph nodes.
record diagnostic findings accurately
organise discussion of cases at head & neck MDT meetings.
take focused skin history related to any skin lesion and skin symptoms
use the magnifying glass, lighting, dermoscopy using polarised and non-polarised light
plan non-operative management of small open wounds
use non-operative methods of hemostasis in the acutely bleeding wound/ulcer
recognise life threatening injuries both airway and vascular
undertake resuscitation skills as laid out in ATLS
examine of the head & neck, upper limb, lower limb, abdomen and pelvis
assess lesions on the face, head and neck, hand, arm, trunk and lower limb
examine regional lymph nodes
organise discussion of cases at clinical meetings
accurately record diagnostic findings
use the current minimum dataset for skin cancers
use current databases and audit and peer review tools according to published requirements and guidelines
INTERMEDIATE
Should demonstrate ability to:
interpret significance of cytological and histological biopsy reports
interpret CT and MRI scans of the head and neck.
plan appropriately for further non-standard investigations of head & neck symptoms following inconclusive initial test results
assess the chronic ulcer/wounds
recommend additional investigations to assess symptoms following inconclusive initial results
interpret and discuss cytological and histological biopsy reports
ADVANCED
Should demonstrate skills of analysis and diagnostic synthesis, judgement and surgical planning pertaining to the topics covered in this module

interpret of any scans performed in particular PET, PET-CT and lymphoscintigraphy,
assess and formulate management plan for the large complex wound
formulate appropriate and timely management, investigations, treatment and follow up plan for a patient all types of benign and malignant skin lesions
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
airway management with the skill detailed in ATLS
circulatory support with the skills detailed in ATLS
free-hand and ultrasound guided lesion FNA of the head & neck
free-hand and ultrasound guided core biopsy of the head & neck
airway management using the techniques specified by ATLS
provide circulatory support using the techniques specified by ATLS
free-hand and ultrasound guided lesion biopsy
FNA of suspected lesions, punch biopsy
harvesting of cells for cytological examination for fungus or malignancy
aspiration of seromas or cystic skin lesions
excision biopsy of undiagnosed skin lesions smaller than 1cm in size including those suspicious for malignancy and direct closure techniques
application of the appropriate dressings in open wounds
application of the appropriate dressings in infected skin wounds
INTERMEDIATE
Should be able to perform:
surgical incision / excision biopsy of intra-oral lesions
direct and indirect pharyngolaryngoscopy
examination of head & neck under anaesthesia
surgical incision / excision biopsy of lesions at difficult sites (any size if periorbital, nasal, sole of the foot or hands and larger lesions on the pretibial region),
biopsy of subungual lesions
use of Mohs micrographic surgery
application of a negative pressure dressing
ADVANCED
Should be able to perform
sentinel lymph node biopsy
surgical incision / excision biopsy of intra-oral / laryngeal / pharyngeal lesions
sentinel lymph node biopsy to include interpretation of result
surgical incision / excision biopsy of large suspicious skin lesions (greater than 1cm in size) including large facial lesions
surgically debride and dress large complex wounds
Skin-related neoplasia of the head & neck
OBJECTIVE
Competence in the diagnosis, assessment and management of all types of skin related cancer of the head and neck.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:

epidemiology
histological classification (BCC / SCC / Melanoma / adnexal)
staging of skin cancer
prognostic factors (tumour and patient-related) and implications for patient treatment recommendations
principles of screening programmes within a population.
NICE guidelines in treatment of non-melanoma skin cancers
understanding the MDT
knowledge of reconstructive options
INTERMEDIATE
Should demonstrate knowledge of:
indications for non-surgical treatment
adjuvant therapies including chemotherapy, radiotherapy, endocrine therapy and biological therapies particularly for melanoma.
cancer biology – specifically with regards to hormonal and growth factors / receptors and tumour metastasis
palliative treatment options for skin cancer.
ADVANCED
Should demonstrate knowledge of:
association between specific high risk benign skin conditions with associated increased skin cancer risk
melanoma biology
important adjuvant and neo-adjuvant historical and current trials (clinical/surgical, chemotherapy, radiotherapy, hormonal and biological)
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
take focused skin-related history, eliciting factors associated with benign and malignant skin neoplasia
undertake competent head & neck examination
examine for head & neck lymphadenopathy
initiate appropriate investigations
undertake pre-op. skin prep and draping and prescribe antibiotic prophylaxis
work effectively within the skin cancer multidisciplinary team.
INTERMEDIATE
Should demonstrate ability to:
assess and manage patients presenting with locally advanced disease
interpret CT, MRI & PET scans,
recognise where further pathology or imaging studies may be required and request these appropriately,
develop and record management plan for the patient and discuss rationale for management of common scenarios with patients and colleagues.
ADVANCED
Should demonstrate skills of:
communication of a cancer diagnosis with patients
discussion of complex treatment scenarios with patients including discussion of all options, advantages and disadvantages and take informed consent

analysis and diagnostic synthesis, judgement and surgical planning pertaining to conditions described in this module
communication within the MDT
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
incision biopsy of lesion
excision biopsy of lesion
FNA / core sample of lymph node
Lymph node sampling [in centres where SNB not available]
local flap reconstruction (rotation / transposition / advancement)
split and full thickness skin grafts.
INTERMEDIATE
Should be able to perform:
sentinel lymph node biopsy, dual modality and blue dye only
selective / modified radical neck dissection.
elevation of regional flaps
ADVANCED
Should be able to perform:
radical or extended neck dissection
reconstruction with regional flaps
free flap surgery
reconstruction of specific aesthetic units (nose / eyelids / ears / lips) – see also Module 4 Reconstructive techniques of the head and neck : Advanced technical skills and procedures
Non skin-related neoplasia of the head & neck
OBJECTIVE
Competence in the diagnosis, assessment and management of all types of non-skin related cancer of the head and neck.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
epidemiology
types of cancer – oral cavity, nasopharynx, oropharynx, larynx,
reconstructive options
TNM Staging of skin cancer
prognostic factors (tumour and patient related) and implications for patient treatment recommendations
cancer network guidelines in treatment of non-skin cancers of the head & neck
understanding the MDT
INTERMEDIATE
Should demonstrate knowledge of:
indications for non-surgical treatment
adjuvant therapies including chemotherapy, radiotherapy, endocrine therapy and biological therapies.
cancer biology – specifically with regards to hormonal and growth factors / receptors and tumour metastasis.

palliative treatment options for head & neck cancer.
hospice care
ADVANCED
Should demonstrate knowledge of:
association between specific high risk benign skin conditions with associated increased skin cancer risk
important adjuvant and neo-adjuvant historical and current trials (clinical/surgical, chemotherapy, radiotherapy, hormonal and biological)
role of HPV virus in cancer aetiology
CLINICAL SKILLS
BASIC
Should to be able to:
take focused history related to non-skin tumours of the head & neck eliciting relevant factors,
undertake competent head & neck examination particularly of oral cavity, pharynx and larynx
undertake competent examination of head & neck lymphadenopathy
initiate appropriate investigations
work effectively within the head and neck cancer multidisciplinary team
INTERMEDIATE
Should demonstrate ability to:
assess and manage patients presenting with locally advanced disease
interpret CT, MRI & PET scans,
recognise where further pathology or radiology may be required and request these appropriately
develop and record management plan for the patient and discuss rationale for management of common scenarios with patients and colleagues
ADVANCED
Should demonstrate ability to:
discuss a cancer diagnosis with patients
discuss a cancer diagnosis with patients
discuss complex treatment scenarios with patients including discussion of all options, advantages and disadvantages and take informed consent
communicate effectively and skilfully
use skills of analysis and diagnostic synthesis, judgement and surgical planning pertaining to the conditions described in this module
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
incision biopsy of lesion (oral cavity / pharynx / larynx)
excision biopsy of lesion (oral cavity / pharynx / larynx)
FNA / core sample of cervical / parotid lymph node
local flap reconstruction (rotation / transposition / advancement)
examination under anaesthesia
INTERMEDIATE
Should be able to perform:
selective / modified radical neck dissection
regional flaps
ADVANCED

Should be able to perform
radical or extended neck dissection
free flap surgery
reconstruction of aesthetic units (nose / eyelids / ears / lips) – see module 4 Reconstructive techniques of the head and neck : Advanced technical skills and procedures
Techniques for reconstruction of the head & neck
OBJECTIVE
Acquire competence in the planning, execution and management of appropriate soft tissue reconstruction of head & neck defects.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
classification of flaps (random versus axial / muscle flap - Mathes and Nahai classification / type of tissue being transferred)
factors affecting outcome in flap surgery (patient related, operative, adjuvant therapy related),
principles of flap surgery (replace “like with like”, reconstructive units, back-up plan and “life boat”, donor site considerations)
principles of microsurgery
anatomy of perforators and angiosomes – relevant to planning of local, regional and distal flaps
anatomy of local, regional and free flaps suitable for head & neck reconstruction
advantages and disadvantages of local, regional and free flaps in the head & neck
appropriate use of local, regional and free flaps in the head & neck
INTERMEDIATE
Should demonstrate knowledge of:
relevant surgical anatomy and neurovascular supply of flaps used in head & neck reconstruction
pre-operative investigations for specific flaps
ability to interpret angiographic abnormalities when planning reconstruction
complications of autologous tissue reconstruction including donor site morbidity
post-operative flap monitoring techniques
airway management of the head & neck
stages of bereavement associated with loss of body image and the clinical and psychological supports that can be put in place to assist the patient cope with that loss
planning and prioritising treatment within the head & neck MDT setting.
ADVANCED
Should demonstrate knowledge of
assessment of outcome
long term outcomes of head & neck reconstruction
flap salvage and options following failure
outline the impact of disfigurement, the consequences of an altered appearance, what it involves psychologically and socially, and describe the impact of an individual’s body image on their life and that of their family
outline the process by which an individual can successfully adjust to disfigurement and explain how the multidisciplinary team can assist with that process

CLINICAL SKILLS
BASIC
Should demonstrate ability to:
take focused history eliciting factors important for decisions regarding suitability / type of reconstruction
clinically assess the soft tissue defect
keep contemporaneous and appropriate record
demonstrate simple management techniques including use of appropriate dressings
plan both local and free flaps appropriately for defect
co-ordinate soft tissue reconstruction in conjunction with ablative team
INTERMEDIATE
Should demonstrate ability to:
counsel patient regarding advantages and disadvantages of reconstruction - specifically setting realistic expectations, reconstruction as a process, template in-patient stay and complications,
take informed consent and participate in joint decision-making
manage patients in post-operative period
manage complications of surgery applicable to the clinic setting
use psychological assessment tools for evaluation of psychological needs (patient questionnaires)
ADVANCED
Should demonstrate ability to
clinically assess complex reconstructive requirements and make decisions on appropriate management
interpret investigations and formulate management plans
undertake patient-centred care with patient as partner in the process, providing realistic information and guiding patient decision-making regarding choices available and timing of those treatments
manage and lead multi-disciplinary teams in respect of provision of psycho-social care
arrange the care pathway that supports an individual to successfully adjust to disfigurement through giving the individual and family specific life-skills. These include the patient being provided with information about their condition and its treatment, developing a positive outlook/belief system, learning to cope with their feelings, exchanging experiences with others who've "been there" and social skills training to manage other people's reactions
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
exposure of vessels
positioning of patient on operating table
protection of pressure areas
prevention of nerve injuries / neurapraxia
skin preparation, draping, antibiotic prophylaxis and thromboprophylaxis.
selection / arrangement of appropriate level of post-operative care.
INTERMEDIATE
Should be able to perform:
pre-operative marking of patient
raising range of pedicled autologous flaps
in-setting of flap

harvesting vein graft
ADVANCED
Should be able to perform:
microvascular anastomoses
flap salvage for failing flaps
flap shaping techniques
flap revision techniques
Reconstruction of specific head and neck sites
OBJECTIVE
Acquire competence in the planning, execution, management and reconstruction of specific head and neck sub-units including eyelids, nose, lips, ears and scalp.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
anatomy of tissues suitable for planning of local, regional and distal flaps to specific sites in the head & neck
vascular anatomy relevant to planning of local, regional and distal flaps to specific sites in the head & neck
recognise the appropriate use, advantages and disadvantages of local, regional and free flaps in reconstruction of specific sites in the head & neck
factors affecting outcome in flap surgery (patient-related, operative, adjuvant therapy-related)
INTERMEDIATE
Should demonstrate knowledge of:
airway management of the head & neck
ability to interpret angiographic abnormalities when planning reconstruction of specific sites in the head and neck
pre-operative investigations for specific flaps
complications of autologous tissue reconstruction including donor site morbidity
post-operative flap monitoring techniques
planning and prioritising treatment within the head & neck MDT setting
ADVANCED
Should demonstrate knowledge of:
long-term outcomes of head & neck reconstruction
assessment of outcome
flap salvage and options following failure
use of osseointegrated implants and head and neck prosthetics
effects of radiotherapy
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
take focused history eliciting factors important for decisions regarding suitability / type of reconstruction for a specific head and neck site
clinically assess specific head and neck defects
keep contemporaneous and appropriate records
effect simple wound management techniques including use of appropriate dressings
plan both local, regional and free flaps appropriate for specific defect

demonstrate soft tissue reconstruction in conjunction with ablative team
INTERMEDIATE
Should demonstrate ability to:
discuss advantages and disadvantages of reconstruction - specifically setting of realistic expectation, reconstruction as a process, template in-patient stay and complications
understand importance of informed consent and joint decision making
take informed consent and joint decision making
manage complications of surgery in pre, peri and post-operative phases
ADVANCED
Should demonstrate ability to
clinically assess complex reconstructive requirements and make decisions on appropriate management for specific sites in the head and neck
interpret investigations to formulate management plan
manage tissues previously treated with radiotherapy
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
exposure of vessels
positioning of patient on operating table
protection of pressure areas
prevention of nerve injuries / neurapraxia
skin preparation, draping, antibiotic prophylaxis and thromboprophylaxis regimens
selection / arrangement of appropriate post-operative care
INTERMEDIATE
Should be able to perform:
pre-operative marking of patient
raising local, regional and pedicled autologous flaps relevant to specific sites of the head and neck
in-setting of flap
ADVANCED
Should be able to perform:
treatment of specific sites of the head and neck following previous radiotherapy
salvage surgery of specific sites of the head and neck
microvascular anastomoses
flap salvage for failing flaps
flap revision techniques
use of osseointegrated implants and facial prosthetics
Facial Reanimation
OBJECTIVE
Competence in the diagnosis of facial palsy and management by both static and dynamic procedures as well as non-surgical treatments
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
epidemiology
anatomy of the facial nerve
aetiological causes of facial palsy

prognostic factors and implications for patient treatment recommendations
range of reconstructive options
INTERMEDIATE
Should demonstrate knowledge of:
non-surgical treatments (Botox, biofeedback, electrical stimulation of facial musculature)
static sling procedures (tendon, fascia, artificial)
dynamic sling procedures (temporalis, masseter)
principles of facial nerve reconstruction (direct suturing, nerve grafting, cross facial nerve grafting)
ADVANCED
Should demonstrate knowledge of:
free muscle transfer techniques (cross facial nerve grafting, gracilis, pectoralis minor, rectus abdominis)
reconstructive aesthetic techniques (endoscopic browlift, facelift, upper & lower blepharoplasties)
use of ancillary surgical techniques (autologous fat transfer, re-positioning parotid ducts etc)
cranial nerve transfers (hypoglossal, accessory)
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
take focused facial nerve related history eliciting factors localising site of injury
undertake competent facial nerve examination
initiate appropriate investigations (CT, MRI, EMG, nerve conduction studies)
INTERMEDIATE
Should demonstrate ability to:
interpret CT, MRI, EMG& nerve conduction studies,
assess and manage patients presenting with locally advanced disease
recognise where further investigations may be required and request these appropriately
develop and record management plan for the patient and discuss rationale for management of common scenarios with patients and colleagues
ADVANCED
Should demonstrate ability to:
undertake analysis and diagnostic synthesis, judgement and surgical planning pertinent to facial palsy
discuss complex treatment scenarios with patients including discussion of all options, advantages and disadvantages and take informed consent
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
exploration, protection and identification of facial nerve branches
direct repair of facial nerve
nerve grafting of facial nerve
techniques of Botox injection of face, techniques of biofeedback and electrical stimulation of facial musculature,
surgical access and identification of deep layers of the face
INTERMEDIATE
Should be able to perform

cross facial nerve grafting
insertion of static slings
dynamic slings (Temporalis, masseter)
ADVANCED
Should be able to perform
free muscle tissue transfer techniques (gracilis, pectoralis minor, rectus abdominis)
cranial nerve transfers (hypoglossal, accessory)
ancillary reconstructive techniques (autologous fat transfer, re-positioning parotid ducts etc)
reconstructive aesthetic techniques (endoscopic browlift, facelift, upper & lower blepharoplasties)

Assessment and primary management lower limb injuries
OBJECTIVE
Acquire competence in the initial combined management of patients with open lower limb fractures in the emergency department.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
resuscitation principles as defined by ATLS
applied anatomy, physiology, pathology and mechanisms of limb injury, blood supply of skin, fat and muscle
angiosomes of lower limb
classification of open fractures, including Gustilo classification
factors influencing fracture healing
timing and rationale for antibiotic use and timing of initial debridement
appropriate pre-operative investigations
role of other members of team including microbiologists, physiotherapy, occupational therapy
importance of specialist centres, MDT and interdisciplinary communication, especially with orthopaedic colleagues
INTERMEDIATE
Should demonstrate knowledge of:
pathophysiology of degloving injuries and their classification
management of specific injuries e.g. crush and degloving
range, indications and principles of surgical options for soft tissue reconstruction: direct closure, skin graft, local and free flaps
options of bone fixation, including internal versus external fixation
ADVANCED
Should demonstrate knowledge of:
role of major trauma centres
management of multiply injured patient
factors determining decision making in choice of flaps and tissue for soft tissue reconstruction
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
take a focused history for lower limb injury
clinically assess and undertake non-operative management of acute injury

recognise life-threatening injuries
examine to including assessment of severity of injury
assess vascular status
assess for the presence of compartment syndrome
INTERMEDIATE
Should demonstrate ability to:
examine neurological status of limb
apply the management algorithms pertinent to the conditions covered in this module
ADVANCED
Should be able to demonstrate skills of analysis and diagnostic synthesis, judgement, surgical planning pertaining to lower limb injury
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
application of appropriate dressings in emergency room
reduction of fracture in emergency department
application of a plaster cast
INTERMEDIATE
Should be able to measure compartment pressures and interpret results
ADVANCED
Should be able to stabilise associated injuries and bleeding
Debridement, stabilisation and compartment syndrome
OBJECTIVE
Acquire competence in the debridement, stabilisation and assessment of wounds and the ability to make a surgical plan for future management. Management of compartment syndrome.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
principles of fracture management
anatomy of lower limb
on-table imaging techniques and their interpretation
safe access incisions
the importance of tissue sampling
temporary wound dressings
pathophysiology of compartment syndrome
INTERMEDIATE
Should demonstrate knowledge of:
anatomy of perforators
principles and management of fractures and the relevance to subsequent soft tissue reconstruction
monitoring and interpretation of results of raised compartment pressures
ADVANCED
Should demonstrate knowledge of:
principles of bone debridement
microbiology of open fracture injuries

characteristics of defects that can be closed primarily at the initial debridement and the techniques available
controversies of delayed diagnosis of compartment syndrome
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
assess fractures clinically
manage wounds in various locations on the lower limb
apply plaster splints
apply temporary dressings – negative pressure and antibiotic bead pouch
measure compartment pressures
INTERMEDIATE
Should demonstrate ability to:
manage more complex fractures
formulate treatment plan for degloving injuries, especially multiplanar degloving
ADVANCED
Should demonstrate ability to recognise those injuries that would benefit from primary amputation
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
appropriate pre-wash and prep
systematic wound debridement under tourniquet control
wound extension along fasciotomy lines
application of temporary dressing
INTERMEDIATE
Should be able to perform:
identification of tissues that can be preserved
adequately debride injured soft tissues to achieve a stable wound approaching elective conditions
release four muscle compartments in leg in cases of compartment syndrome
intraoperative planning of future soft tissue reconstruction in conjunction with orthopaedic team and ensure appropriate bone fixation to facilitate this
ADVANCED
Should be able to perform amputation of non-salvageable limbs
Soft tissue reconstruction
OBJECTIVE
Acquire competence in the planning and execution of appropriate soft tissue cover of open tibial fractures
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
anatomy of perforators and angiosomes – relevant to planning of local flaps
zone of injury
anatomy of free flaps suitable for lower limb reconstruction with the advantages and disadvantages of each, and the appropriate use of each option

INTERMEDIATE
Should demonstrate knowledge of:
options available for fracture fixation and tailoring soft tissue management accordingly,
planning and prioritising treatment within an MDT setting.
ADVANCED
Should demonstrate knowledge of:
principles and detailed management of more complex injuries, including multilevel and bilateral lower limb injuries
the surgical management of bone and soft tissue reconstruction
principles of circular frames and bone transport
controversies of fasciocutaneous versus muscle flaps for soft tissue coverage of open fractures
angiographic abnormalities when planning reconstruction
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
clinically assess soft tissue defects demonstrating recognition of injury patterns
use simple management techniques including use of appropriate dressings
use appropriate antibiotics at definitive wound closure
plan both local and free flap reconstruction appropriately for defect
co-ordinate soft tissue reconstruction in conjunction with orthopaedic team
INTERMEDIATE
Should be able to:
plan management algorithms for the common injuries covered in this module
plan logical step-by-step planning of complex cases in conjunction with orthopaedic surgeons
ADVANCED
Should demonstrate ability to:
plan management algorithms for the injuries covered in this module including complex injuries
plan management and reconstruction for the more complex soft tissue defect in patients requiring distraction lengthening of the skeleton
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
direct closure
skin graft
temporary dressings – negative pressure and antibiotic bead pouch
exposure of recipient vessels in leg
INTERMEDIATE
Should be able to perform:
nerve repair (direct)
planning and raising appropriate fasciocutaneous flaps, both proximally and distally-based
raising gastrocnemius muscle flap for proximal third/knee defects
performing most steps in the raising and anastomosing of free flaps
harvesting of vein graft
exposure of recipient vessels in leg
ADVANCED
Should be able to perform:
raising and anastomosing ALT, LD and radial forearm free flaps under supervision

harvesting a free fibula flap
nerve repair using sural nerve graft
using interposition vein grafts to perform anastomoses outside zone of injury
Vascular injuries and amputation
OBJECTIVE
Acquire competence in the diagnosis and management of all vascular injuries to the lower limb.
Acquire competence in the recognition and management of patients requiring early and delayed amputations.
Acquire understanding of the impact of amputation level on subsequent rehabilitation and detailed knowledge of the rehabilitation regimens for patients requiring amputation.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
anatomy of vasculature, including well-known variations e.g. peronea magna
response of vessels to injury and repair
primary management of vascular injuries and the devascularised limb
appropriate use of investigations
timing of surgery for acutely ischaemic limb
indications for amputation and the levels
rehabilitation of amputation patients
INTERMEDIATE
Should demonstrate knowledge of:
role of vascular shunts
role of angiography
techniques of vessel repair
challenges for primary amputation
how to deal with the nerves during amputation and the need for a myodesis
role of adductor myodesis for transfemoral amputation
ADVANCED
Should demonstrate knowledge of
methods for secondary amputation for infection, failed reconstruction etc.
how to manage the revascularised limb post-operatively
pharmacological and non-pharmacological methods for the relief of pain, including phantom limb and neuropathic pain
requirements of a good amputation stump to allow proper prosthesis fitting
role of fillet of limb (foot) technique
knowledge of need to reconstruct large veins proximal to trifurcation
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
control bleeding
interpret angiograms
INTERMEDIATE
Should demonstrate ability to:
clinically assess and prepare management algorithms for the conditions covered in this module
counsel a patient for limb amputation

ADVANCED
Should demonstrate ability to
clinically assess complex injuries and make decisions on subsequent management
interpret investigations and formulate management plan in secondary amputation e.g. CT, angiography etc.
manage iatrogenic vessel injury
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
exposure of vessels
insertion of shunts
harvesting vein graft
application of skin graft to amputation stump if required
INTERMEDIATE
Should be able to perform:
vein graft for vascular injury
uncomplicated transtibial amputation
-uncomplicated through knee and transfemoral amputation.
ADVANCED
Should be able to perform
repair of complex vessel defect
continuation to suitable reconstruction of revascularised limb if appropriate
modification of skin flaps for amputation due to complex soft tissue injury
fillet of foot for amputation where soft tissue is deficient
Complications
OBJECTIVE
Acquire competence in the diagnosis and management of both bone and soft tissue complications and recognition of the need for multidisciplinary management
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
consequences of infection following trauma and surgery
complications of free flap surgery
complications following the use of local flaps
those complications which require referral to specialist centres
INTERMEDIATE
Should demonstrate knowledge of the management of all complications following soft tissue reconstruction including recognition of skeletal complications.
ADVANCED
Should demonstrate knowledge of:
basic science and evidence-base underpinning the management of complications
orthopaedic principles of managing delayed union and non-union
CLINICAL SKILLS
BASIC
Should demonstrate ability to:

undertake clinical assessment of complications and in particular recognise a compromised free or local flap, in conjunction with general patient parameters
use relevant adjunctive techniques such as ultrasound
INTERMEDIATE
Should demonstrate ability to:
clinically assess and plan management algorithms for the conditions covered in this module
use a range of free flap monitoring techniques
ADVANCED
Should demonstrate ability to
undertake detailed assessment of, and advise on, complex problems including reconstruction/salvage of the limb if primary reconstruction has failed
analyse and advise on modifications needed to standard therapy regimens to address specific complications
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
washout of haematoma/collection
application of leeches to flap tip with venous congestion
simple debridement of non-viable flap and appropriate application of temporary dressing
INTERMEDIATE
Should be able to take back free flap to theatre with consultant assistance.
ADVANCED
Should be able to perform:
salvage or amputation of limb following flap failure
bone debridement in conjunction with orthopaedic surgeons
raising flaps to assist orthopaedic team for skeletal revision surgery including cancellous bone graft
Paediatric injuries and outcome measures
OBJECTIVE
Acquire competence in the diagnosis and management of children with lower limb injuries
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
principles of management of children's injuries – skeletal and soft tissue – and appreciate differences from adults
normal growth and development, in particular the importance of growth plates
outcome measures such as Sickness Impact Profile (SIP),
short form-36 (SF36) and Enneking score. Recognition of the need for specialist centres for revision surgery
INTERMEDIATE
Should demonstrate knowledge of:
management of open lower limb injuries in children
how to apply outcome measures to practice and interpret published work, including limitations
ADVANCED
Should demonstrate knowledge of:

management of paediatric lower limb injuries and the specific bone and soft tissue considerations needed with regard to growth
controversies regarding paediatric open lower limb injuries
how to plan and undertake an outcome study and audit outcomes for lower limb trauma
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
clinically assess the injured child
communicate and liaise with parents
work and communicate within the relevant multidisciplinary team (MDT)
recognise non-accidental injury
INTERMEDIATE
Should demonstrate ability to plan management algorithms for the paediatric patient with lower limb injury.
ADVANCED
Should demonstrate ability to:
use skills of analysis and diagnostic synthesis, judgement, and surgical planning
in respect of the child, to advise regarding timing of reconstruction and effect of growth on reconstructive surgery previously performed
provide detailed advice on the treatment pathway, including interpretation of specialist imaging, within the context of the relevant MDT
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to stabilise the child with lower limb injury for safe transfer to specialist centre
INTERMEDIATE
Should be able to perform primary debridement and application of temporary wound dressings in theatre
ADVANCED
Should be able to perform appropriate reconstruction of soft tissue defect including all the techniques available
Basic Sciences – including embryology, development, anatomy, physiology and genetics, stem cell biology, biology of scarring and wound healing. Management of abnormal scars Breast assessment – examination, investigations : including imaging and biopsy techniques.
OBJECTIVE
Acquire competence in basic sciences pertinent to the breast and competence in clinical diagnosis and investigation
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
topographical and segmental anatomy of the breast, vascular neural and lymphatic supply/drainage of breast, anatomy of chest wall, abdomen and axilla
lymphatic system physiology
embryology of breast
endocrine physiology and endocrine effects on the breast at puberty, pregnancy, lactation, menopause and in mastalgia
effect of hormonal therapeutics on the breast (OCP, HRT, selective estrogen-receptor modulators & aromatase inhibitors)

INTERMEDIATE
Should demonstrate knowledge of:
developmental abnormalities - accessory nipples, accessory breast tissue
concept and limitations of triple assessment
ADVANCED
Should demonstrate knowledge of:
breast aesthetics (including breast measurements), breast asymmetry, breast hyperplasia, hypoplastic breast syndromes including Poland's syndrome, chest wall deformities, associated limb abnormalities
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
take a focused breast history related to any breast symptom
examine the breast and axilla
request component investigations of triple assessment, and ensure that results are discussed at breast MDT
accurately record diagnostic findings
INTERMEDIATE
Should demonstrate ability to:
arrange non-standard investigations required to assess breast symptoms following inconclusive initial results
interpret mammogram and ultrasound findings
interpret significance of cytological and histological biopsy reports
plan treatment algorithms for conditions in this module
ADVANCED
Should demonstrate skills of analysis and diagnostic synthesis, judgement, and surgical planning
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
free-hand and ultrasound guided lesion FNA
free-hand core biopsy
punch biopsy of skin / nipple
INTERMEDIATE
Should be able to perform:
surgical excision biopsy
ultrasound guided core biopsy
ADVANCED
Should be able to perform vacuum assisted mammatome biopsy
Breast Cancer
OBJECTIVE
Acquire competence in the diagnosis, assessment and management of all types of breast cancer. Includes management of premalignant conditions of the breast and screening for breast cancer.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
epidemiology, histological classification and sub-types of invasive disease and DCIS

staging of breast cancer (UICC – TNM)
prognostic factors (tumour and patient-related) and implications for patient treatment recommendations Breast cancer MDT dataset
male breast cancer,
development of the NHSBSP and current structure
breast screening delivery, patient flow, quality assurances and criticisms/limitations associated with the NHSBSP
principles of screening programmes within a population
INTERMEDIATE
Should demonstrate knowledge of:
indications for primary medical therapy
rationale for neo-adjuvant chemotherapy / endocrine therapy including evidence and limitations
indications and contraindications for mastectomy and BCS and appropriate selection of axillary surgery (SLNB versus ALND)
oncoplastic techniques (therapeutic mammoplasty / IBR/SSM & NSM)
complications of surgery and their management
adjuvant therapies including chemotherapy, radiotherapy, endocrine therapy and biological therapies (NICE clinical guidelines 80 & 81), specifically common regimes, indications, complications and side effects and supporting evidence
cancer biology – specifically with regards to hormonal and growth factors / receptors and tumour metastasis
palliative treatment options for breast cancer
ADVANCED
Should demonstrate knowledge of
breast cancer genetics, specifically identified gene abnormalities and conditions associated with breast cancer (e.g. BRCA 1&2, TP53, Cowdens syndrome, Bananyan Zonanan Syndrome, CHEK2, HNPCC etc)
relevance of family history in breast cancer, the role of the family history clinic and specific referral criteria. (NICE clinical guideline 41)
models for estimating individual risk (Gail model, Bodicea, Klaus, Tyrer-Cuzick)
non-surgical and surgical risk reduction strategies and supporting evidence
management and follow-up of non-malignant high risk breast lesions
current and important adjuvant and neo-adjuvant historical trials (clinical/surgical, chemotherapy, radiotherapy and hormonal)
pregnancy associated breast cancer and its management
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
take a focussed breast history including presenting complaint, family history, elicit risk factors and identify co-morbidities important in treatment planning
examine the breast, nodal basins and relevant distant sites where metastasis suspected
initiate appropriate initial investigations as part of triple assessment
recognise the importance of, and work effectively within, the breast multidisciplinary team
INTERMEDIATE
Should demonstrate ability to:
interpret mammogram and sonographic findings
recognise uncommon presentations of breast cancer (Pagets disease, inflammatory carcinoma)

assess and manage patients presenting with locally advanced disease
recognise where further mammographic views or MRI may be required and request these appropriately
develop and record management plan for the patient and discuss rationale for management of common scenarios with patients in conjunction with dedicated Breast Care Nurse
ADVANCED
Should demonstrate ability to
interpret MRI findings and use these in treatment planning
undertake skilful discussion of cancer diagnosis with patients
discuss complex treatment scenarios with patients including discussion of all options, advantages and disadvantages and take informed consent
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
appropriate pre-op skin prep and draping and antibiotic prophylaxis
palpable excision biopsy, palpable wide local excision
sentinel lymph node biopsy, dual modality and blue dye only
node sample in centres where SNB not employed
simple mastectomy
INTERMEDIATE
Should be able to perform:
wire/radiologically-localised excision of impalpable lesion
skin-sparing mastectomy
axillary lymph node dissection (level 3) both primary and delayed
ADVANCED
Should be able to perform
axillary lymph node dissection for disease recurrence
skin and nipple preserving mastectomy
therapeutic mammoplasty, IBR procedures appropriate to parent specialty
Benign breast conditions
OBJECTIVE
Acquire competence in the diagnosis and management of benign breast conditions
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
pathophysiology and presentation of mastalgia, fibroadenoma, breast cysts, papilloma, benign nipple discharge, duct ectasia, periductal mastitis, mammary duct fistula and breast sepsis (lactational and non-lactational) including microbiology
Phylloides tumour
gynaecomastia
involutional change of the breast
INTERMEDIATE
Should demonstrate knowledge of
relationship between systemic disorders, medication and lifestyle factors with breast symptoms (hyper-prolactinaemia, gynaecomastia, OCP, smoking),
benign pregnancy and lactational lesions of the breast (lactational adenoma, galactocoele).

ADVANCED
Should be able to describe association between specific high-risk benign breast conditions with associated increased breast cancer risk
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
take focussed breast history, eliciting factors associated with benign breast disease
examine breast and axilla
examine systems associated with benign breast disease (endocrine, abdominal)
initiate appropriate investigations / triple assessment where indicated
INTERMEDIATE
Should demonstrate ability to:
formulate management plan of benign breast pathology included in this module
interpret investigation findings and understand how they differ from findings in malignant disease
ADVANCED
Should demonstrate skills of analysis and diagnostic synthesis, judgement and surgical planning for the conditions specified in this module.
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
free hand aspiration / surgical drainage of breast abscess
aspiration of cyst
benign lump excision
INTERMEDIATE
Should be able to perform:
nipple eversion techniques
wire / image guided excision of lesion,
ultrasound guided aspiration abscess,
microdochectomy,
major duct excision,
fistula surgery.
ADVANCED
Should be able to perform
ductoscopy,
minimal access surgery,
nipple eversion techniques.
Breast reconstruction – Implant based techniques
OBJECTIVE
Acquire competence in implant based reconstruction including indications, technique and management of complications
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
indications and contraindications to implant based reconstruction
surgical anatomy of implant / expander based reconstructive procedures

alloplastic materials and tissue interface
dermal xenografts
INTERMEDIATE
Should demonstrate knowledge of:
advantages and disadvantages in comparison to autologous based reconstruction
range of devices available
implant infection and management
implant extrusion
capsular contracture
aetiology, classification, role of DXT and management, - historical development and controversies
ADVANCED
Should demonstrate knowledge of:
staged procedures – single and two stage: advantages and disadvantages
adjunctive biological technologies
outcome of implant based reconstruction
relevant literature
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
assess suitability for implant based reconstruction and alternatives
identify pre-operative factors which can be optimized prior to surgery (smoking, systemic disease)
INTERMEDIATE
Should demonstrate ability to consent patients describing full range of potential complications, and set realistic expectations.
ADVANCED
Should demonstrate ability to select appropriate implants / expanders for patients, recognise post-operative complications and formulate associated management plans.
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to:
orient devices and prepare appropriately
explain issues regarding antibiotics, drains, changing gloves
use electric operating tables
protect pressure areas
prevent nerve injuries / neurapraxia
INTERMEDIATE
Should be able to perform:
creation and closure of sub-pectoral pocket
subpectoral pocket including total sub-muscular cover
two stage reconstruction using TEX and subsequent exchange for FVI.
ADVANCED
Should be able to perform:
preoperative marking of patient
single staged reconstruction using FVI and dermal xenograft sling
inferior dermal sling to achieve implant cover

identification and correction of aesthetic deficiencies as secondary procedures
nipple reconstruction techniques (see under Module 5)
Reconstruction – Autologous tissue based techniques
OBJECTIVE
Acquire competence in autologous tissue based breast reconstruction including indications, technique and management of complications.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
classification of flaps (random versus axial / muscle flap - Mathes and Nahai / type of tissue being transferred)
factors affecting outcome in flap surgery (patient related, operative, adjuvant therapy related)
principles of flap surgery (replace “like with like”, reconstructive units, back-up plan and “life boat”, donor site considerations)
principles of microsurgery
INTERMEDIATE
Should demonstrate knowledge of:
relevant surgical anatomy and neurovascular supply of flaps used in breast reconstruction (LD, Abdominal wall, I/S GAP, TUG, TDAP),
concept of angiosomes, specifically in reconstructions using abdominal free flaps,
indications and contraindications for IBR and DBR – pre-operative factors to be considered in decision making,
tissue effects of DXT.
psychological impact of IBR and DBR, - advantages and disadvantages in comparison with implant based reconstruction,
pre-operative investigations for specific flaps,
complications of autologous tissue reconstruction including donor site morbidity.
ADVANCED
Should demonstrate knowledge of:
long term outcomes of breast reconstruction
assessment of outcome (clinical / PROMs)
reconstruction in prophylactic surgery
partial breast reconstruction
nipple reconstruction techniques
flap salvage and options following failure
lipomodelling in reconstruction (indications, complications and controversies – stem cells, mammographic follow-up)
relevant literature
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
take history eliciting factors important for decisions regarding suitability / type of autologous reconstruction
maintain clear documentation in the notes in the post-operative period
INTERMEDIATE
Should demonstrate ability to:

assess suitability for IBR vs DBR
discuss advantages and disadvantages of reconstruction - specifically setting of realistic expectation, reconstruction as a process, template in-patient stay and complications
describe importance of informed consent and joint decision making
manage complications of surgery in clinic (wound, seroma)
manage patients appropriately in post-operative period
ADVANCED
Should demonstrate ability to:
identify patients not suitable for autologous reconstruction (physical and psychological contraindications)
undertake appropriate post-operative assessment of (free) flaps
plan algorithms for managing complications
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
positioning of patient on operating tissue
protection of pressure areas
prevention of nerve injuries / neurapraxia
skin preparation, draping and antibiotic prophylaxis
selection / arrangement of appropriate level of post-operative care
use of electric operating tables
INTERMEDIATE
Should be able to perform:
pre-operative marking of patient
raising pedicled autologous flaps including latissimus dorsi
in-setting of flap
ADVANCED
Should be able to perform:
preoperative marking up of patient
nipple reconstruction techniques (nipple sharing procedures, local flaps, tattooing)
raising pedicled autologous TRAM or DIEP flap
free-flap techniques
microvascular anastomoses
flap salvage for failing flaps
flap shaping techniques
flap revision techniques
lipomodelling for correction of resectional defects
lipomodelling in breast reconstruction
Pelvic reconstruction
OBJECTIVE
Acquire competence in the principles of management including reconstruction of the pelvic defect.
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
types and basic management of various types of pelvic/genito-urethral malignancy.

effects of gender on defect
principle of management of malignancy of pelvic origin
role of the MDT
range of flaps and techniques available for reconstruction
INTERMEDIATE
Should demonstrate knowledge of techniques available for pelvic defect reconstruction including:
assessment of the nature of the commoner partial defects and the most appropriate flaps
assessment of total perineal defect and the main types of flap.
pros and cons of various flaps for various defects
ADVANCED
Should demonstrate knowledge of techniques available for specific aspects of pelvic and perineal reconstruction such as:
penile amputation for carcinoma
vulval reconstruction with fasciocutaneous flaps
coverage of exposed testis following Fourniers
urethral reconstruction options following malignancy
trauma, including flap, FTSG, transplantation of urethra, tubed bladder wall
CLINICAL SKILLS
BASIC
Ability to demonstrate:
working within an MDT and the ability to assess the psychological state of the patient and possible size/nature of the defect prior to resection
INTERMEDIATE
Ability to demonstrate:
the skills to arrange patient-centred care with patient as partner in the process (depending on age of patient), providing realistic information and guiding patient decision-making regarding choices available and timing of those treatments
ADVANCED
Ability to manage and lead:
multi-disciplinary teams in respect of provision of psycho-social care. Be able to arrange the care pathway that supports an individual and his/her family to successfully adjust to disfigurement and functional problems through giving the individual and family specific life-skills. These include the patient being provided with information about their condition and its treatment, developing a positive outlook/belief system, learning to cope with their feelings, exchanging experiences with others who've "been there" and social skills training to manage other people's reactions
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
raising local flaps
use of quilted SSG for penile amputation
raise and deal with donor site for SSG and FTSG including BUMG
INTERMEDIATE
Should be able to perform:
elevation of complex flaps including, Lotus flap, Singapore flap, Inferiorly based TRAM and VRAM, SIEA flap and gracillis flap

ADVANCED
Should be able to perform specific operations for perineal reconstruction such as:
penile amputation for carcinoma
urethral reconstruction for stricture or trauma
vaginal reconstruction following malignancy
Basic Sciences & Skin Assessment
OBJECTIVE
Acquire competence in the development, anatomy and physiology of the skin in relation to its surgery
Acquire competence in the diagnosis, use of imaging and management of suspicious skin lesions
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
anatomy of the skin-epidermal and dermal layers and appendigeal structures
embryology of the skin
histopathological appearance of skin
anatomy of the body surface, in particular the head and neck, hands, nails and feet
vascular, neuronal and lymphatic supply / drainage of the head & neck, trunk and limbs, blood supply of the skin
diagnostic imaging of skin neoplasia X-rays, CT, MRI, US, PET-CT, and imaging assisted diagnostic biopsy
standard skin stains used for histology
origin of stains used and for what purpose
immunocytochemistry and cytogenetic techniques
common benign skin disorders-hidradenitis suppurativa, epidermal cysts, lipomas, vascular and congenital malformations
melanocytic naevi including giant, actinic lesions and epidermal/dermal lesions etc., risks of malignant transformation in chronic lesions, giant melanocytic naevi and Marjolin's ulcers
specific history and diagnostic features (clinical and non-clinical) of benign skin lesions (pigmented and non-pigmented), dysplastic naevi, lentigo maligna, melanoma and non-melanoma skin cancers (basal cell carcinoma and squamous cell carcinoma), dermatofibroma, keratoacanthoma, pilomatrixoma, actinic keratoses, Bowen's disease
clinical features of dermatitis artefacta, folliculitis, pyogenic granuloma, inflammatory skin conditions (hidradenitis and acne vulgaris), fungal skin lesions, lentigines, angiomata,
difference between telangiectasia and spider naevi,
chronic wounds and pressure sores.
INTERMEDIATE
Should demonstrate knowledge of:
anatomy of special sites, the pelvis, epitrochlear and popliteal fossa, the triangular space of the back, the axilla, head and neck lymph node basins
anatomy and access for diagnostic biopsies when required
concepts and limitations of diagnostic techniques, dermoscopy, mapping biopsies, frozen sections
range, indications and principles of surgical options for surgical ablation of tumours of the skin
staged histological clearance
sentinel node biopsy

the role of the skin MDT
diagnosis of lesions at difficult sites, subungual, large facial lesions, mucosal lesions, metastatic lesions
the range of dressings for open skin lesions/wounds
ADVANCED
Should demonstrate knowledge of:
anatomy in particular for block dissections of the axilla, inguinal, iliac and ilioinguinal regions
functional and surgical anatomy of the face, head and neck
the surgical options for reconstruction of particular units of the head & neck (nose / eyelids / ears / lips), the trunk, the upper lower and lower limb
the range of dressings available for complex wounds/ulcers
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
take focused skin history related to any skin lesion and skin symptoms
use the magnifying glass, lighting, dermoscopy
plan non-operative management of small open wounds
use non-operative methods of hemostasis in the acutely bleeding wound/ulcer
examine of the head & neck, upper limb, lower limb, abdomen and pelvis
assess lesions on the face, head and neck, hand, arm, trunk and lower limb
examine regional lymph nodes
organise discussion of cases at clinical
accurately record diagnostic findings
use the current minimum dataset for skin cancers
use current databases and audit and peer review tools according to published requirements and guidelines
INTERMEDIATE
Should demonstrate ability to:
assess the chronic ulcer/wounds
interpret, CT, PET-CT and MRI scans
interpret and discuss cytological and histological biopsy reports
ADVANCED
Should demonstrate ability to:
interpret any scans performed in particular PET, PET-CT and lymphoscintigraphy
assess and formulate management plan for the large complex wound
formulate appropriate and timely management, investigations, treatment and follow up plan for a patient in respect of all types of benign and malignant skin lesions
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
free-hand and ultrasound guided lesion biopsy
FNA of suspected lesions, punch biopsy
harvesting of cells for cytological examination for fungus or malignancy
aspiration of seromas or cystic skin lesions
excision biopsy of undiagnosed skin lesions smaller than 1cm in size including those suspicious for malignancy and direct closure techniques
application of the appropriate dressings in open wounds

application of the appropriate dressings in infected skin wounds
INTERMEDIATE
Should be able to perform:
surgical incision / excision biopsy of lesions at difficult sites (any size if periorbital, nasal, sole of the foot or hands and larger lesions on the pretibial region)
biopsy of subungual lesions
use of staged histological clearance
application of a negative pressure dressing
ADVANCED
Should be able to perform:
sentinel lymph node biopsy to include interpretation of result
surgical incision / excision biopsy of large suspicious skin lesions (greater than 1cm in size) including large facial lesions
Primary treatment of Skin-related neoplasia
OBJECTIVE
Acquire competence in the diagnosis, assessment and management of all types of primary skin-related neoplasia
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
epidemiology
histological classification (basal cell carcinoma / squamous cell carcinoma / Melanoma / Merkel cell/ porocarcinoma/ adnexal and pre-cancerous lesions
potential differential diagnosis skin lesions
staging of skin cancer (SCC and melanoma), (histological classifications, TMN, AJCC and current)
prognostic factors (tumour and patient related) and implications for patient treatment recommendations
implications of the occupational, family history, sun exposure history and immunosupression
principles of screening programmes within a population
genetic counselling and referral indications
margins of excision for different histological types of basal cell carcinomas, Squamous cell carcinomas, Bowen's disease, in-situ disease, dermatofibroma and benign dysplastic skin lesions.
peer review and NICE guidelines in treatment of melanoma and non-melanoma skin cancers (melanoma, SCC, Sarcoma, Bowen's, actinic keratoses, Kaposi's sarcoma and BCC's) in particular margin recommendations,
the role of the MDT
peer review and MDM documentation
INTERMEDIATE
Should demonstrate knowledge of:
margins of excision of different stages of melanoma, porocarcinoma, Merkel Cell carcinoma, Dermatofibroma sarcoma Protuberans, fibrosarcoma and suprafascial sarcoma
indications for non-surgical treatment (Photodynamic therapy-PDT, Cryotherapy, laser and topical therapies)
indications for sentinel lymph node biopsy and other prognostic investigations
adjuvant therapies including chemotherapy, radiotherapy, endocrine therapy and biological therapies particularly for melanoma

cancer biology – specifically with regards to hormonal and growth factors / receptors and tumour metastasis
palliative treatment options for skin cancer
ADVANCED
Should demonstrate knowledge of:
association between specific high risk benign skin conditions with associated increased skin cancer risk
genetic conditions in skin cancer
melanoma tumour biology
controversies that have existed around sentinel lymph node biopsy, its history, origins and basis of sentinel lymph node biopsy
theories of melanoma spread - incubator versus marker theory
important adjuvant and neo-adjuvant historical and current national and international trials (clinical/surgical, chemotherapy, radiotherapy, laser, hormonal and biological)
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
take focused skin related history
elicit factors associated with benign and malignant skin neoplasia such as familial factors, sun exposure and mechanism of sun damage and skin types
examine head & neck and truncal lymph node basins
initiate appropriate investigations, use diagnostic techniques of clinical features, the diagnostic templates e.g. ABCDE (asymmetry, borders, colour, diameter and evolving)
undertake dermoscopy and methods of recording lesion e.g. photography, diagrams for medicolegal and follow up reasons
work effectively within the skin cancer and allied speciality multidisciplinary teams, (eg head and neck MDM)
INTERMEDIATE
Should demonstrate ability to:
assess and manage patients presenting with locally advanced disease
recognise pathological features of common skin cancers –BCC, SCC and melanoma
interpret lymphoscintigraphy, CT, MRI & PET scans
recognise where further pathology or radiology may be required and request these appropriately
develop and record management plan in line with peer review requirements and discuss rationale for management of common scenarios with patients and colleagues
communicate skilfully
ADVANCED
Should demonstrate ability to:
interpret FNA/USS and distinguish a primary pigmented lesion from a primary melanoma or a metastatic melanoma
formulate management plan using skills of analysis, diagnostic synthesis and judgement
discuss complex treatment scenarios with patients including discussion of all options
take informed consent detailing advantages and disadvantages of proposed treatment
discuss a cancer diagnosis with patients
advanced communication skills, breaking bad news, giving prognostic information to the patient
TECHNICAL SKILLS AND PROCEDURES
BASIC

Should be able to perform:
excision biopsy of lesion and incision biopsy of skin lesions-when indicated
Fine Needle Aspiration-FNA / core sample of lymph nodes
wider excision of skin tumours with the advised margins on the trunk, leg and arm
local flap reconstruction (rotation / transposition / advancement)
optimum placement of incisions allowing for possible secondary surgery and future block dissections
explain the rationale for use of split and full thickness skin grafts and artificial skin replacements
pre-op skin prep and draping and antibiotic and venous thromboembolism prophylaxis
node sample in centres where sentinel lymph node biopsy is not employed
INTERMEDIATE
Should be able to perform:
wider excision of lesions with the advised margin on the skin of the head and neck, face, genitalia and hand
head and neck, truncal and limb sentinel lymph node biopsy, - level I, II and III axillary dissections and inguinal block dissection
regional flaps – various including rotational, advancement, axial pattern
ADVANCED
Should be able to perform:
pelvic or head and neck block dissection
reconstruction with regional and distant flaps
free flap surgery
reconstruction of aesthetic units (nose / eyelids / ears / lips) and special sites – nose, digits, eyes, genitalia and ears
oculoplastic techniques
Treatment of recurrent and chronic skin tumours
OBJECTIVE
Acquire competence in the diagnosis, assessment, investigation and management of all types of recurrent and metastatic skin cancers
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
epidemiology and genetics of skin
basic understanding of familial syndromes
genes/oncogenes associated with skin cancer
margins of excision for metastatic lesions including national guidance
types of cancer – recurrences, new primaries, related malignancies
immunosupressed patients
syndromic patients, i.e., Gorlin's, Cowden's, polyposis coli, melanosis, xeroderma pigmentosum, giant melanocytic naevi, skin conditions in immunocompromised patients
TNM Staging of skin cancer
prognostic factors (tumour and patient related) and implications for patient treatment recommendations
rationale and types of imaging for prognostic and staging information
biopsies, FNA, USS, X-Ray, CT, MRI, PET-CT, SPECT-CT and SNB
cancer network guidelines in treatment of recurrent skin cancers

functioning of the MDT,
INTERMEDIATE
Should demonstrate knowledge of:
indications for non-surgical treatment
anatomy and techniques for excision and closure of block dissections
adjuvant therapies including chemotherapy, radiotherapy, endocrine therapy and biological therapies
Mohs micrographic surgery, isolated limb infusions, ECT, isolated limb perfusion, CO2 laser ablation and minimally invasive techniques including laparoscopic and robotic surgery
Staged Histological Clearance (SHC), isolated limb infusions, ECT, isolated limb perfusion, CO2 laser ablation and minimally invasive techniques including laparoscopic and robotic surgery
cancer biology – specifically with regards to hormonal and growth factors / receptors and tumour metastasis
palliative treatment options for the skin cancer patient
management of the complex wound
hospice care
ADVANCED
Should demonstrate knowledge of
appropriate use of and pitfalls of frozen section,
association between specific high risk benign skin conditions with associated increased skin cancer risk,
important adjuvant and neo-adjuvant historical and current national and international trials (clinical/surgical, chemotherapy, radiotherapy, hormonal and biological),
role of Human Papilloma Virus-HPV, in cancer aetiology
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
take focused skin related history
elicit factors associated with malignant non-skin related neoplasia
examine skin of entire body surface for additional primary tumours
examine all sites for regional lymphadenopathy
initiate appropriate investigations
work effectively within the skin cancer multidisciplinary team
manage the non-operative aspects of the chronic wound including pressure sores
INTERMEDIATE
Should demonstrate ability to:
interpret CT, MRI & PET scans
assess and manage patients presenting with locally advanced disease
recognise where further pathology or radiology may be required and request these appropriately
develop and record management plan for the patient and discuss rationale for management of common scenarios with patients and colleagues
ADVANCED
Should demonstrate ability to:
formulate management plan using skills of analysis and diagnostic synthesis, judgement in particular for the patient with multiple co-morbidities

discuss complex treatment scenarios with patients including discussion of all options, advantages and disadvantages and take informed consent
discuss a skin cancer diagnosis and prognosis with patients
communicate skilfully with patients and with other members of the clinical team
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
incision biopsy of lesions
excision biopsy of lesions
FNA / core sample of lymph nodes
undertaking local flap reconstruction (rotation / transposition / advancement)
INTERMEDIATE
Should be able to perform:
cervical sentinel lymph node biopsy
regional lymph node dissections of the axilla and groin
hernia repair
regional flaps, pedicled reconstructions
use of dermal substitutes for wound resurfacing
ADVANCED
Should be able to perform:
pelvic and head and neck dissections
free flap surgery
reconstruction of aesthetic units (nose / eyelids / ears / lips)
isolated limb perfusion
mapping biopsy techniques Staged Histological Clearance (SHC)
Reconstructive techniques for skin surgery
OBJECTIVE
Acquire competence in the planning, execution and management of appropriate soft tissue reconstruction of skin defects
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
anatomy of perforators and angiosomes – relevant to planning of local, regional and distal flaps
anatomy of local, regional and free flaps suitable for head & neck reconstruction
classification of flaps (random v axial / muscle flap - Mathes and Nahai / type of tissue being transferred)
advantages and disadvantages of local, regional and free flaps in the patient post skin tumour excision
use of local, regional and free flaps in the head & neck/upper limb/leg/chest and trunk
factors affecting outcome in flap surgery (patient related, operative, adjuvant therapy related)
principles of flap surgery (replace “like with like”, reconstructive units, back-up plan and “life boat”, donor site considerations)
principles of microsurgery
INTERMEDIATE
Should demonstrate knowledge of:
planning and prioritising treatment within the head & neck MDT setting

interpreting angiographic abnormalities when planning reconstruction, surgical anatomy and neurovascular supply of flaps used in head & neck reconstruction
indications for preoperative investigations for specific flaps
airway management according to techniques specified in ATLS
post-operative flap monitoring techniques
complications of autologous tissue reconstruction including donor site morbidity
use of common skin substitutes
ADVANCED
Should demonstrate knowledge of:
factors determining decision making in choice of flaps and tissue for soft tissue defect reconstruction
factors determining decision making in choice of flaps and tissue for reconstruction of particular units of the head & neck (nose / eyelids / ears / lips), factors determining appropriate surgical ablation techniques
range, indications and principles of surgical options and non-operative techniques
long term outcomes of different types of reconstructions
assessment of outcome
flap salvage and options following failure
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
clinically assess the soft tissue defect
take history, eliciting factors important for decisions regarding suitability / type of reconstruction
perform contemporaneous and appropriate record keeping
manage uncomplicated wounds using a range of dressings
plan both local and free flaps resurfacing of soft tissue defects
co-ordinate soft tissue reconstruction in conjunction with ablative team
manage the patient following Staged Histological Clearance (SHC)
INTERMEDIATE
Should demonstrate ability to:
discuss advantages and disadvantages of reconstructive options with patients specifically setting realistic expectations, advising on reconstruction as a process detailing possible complications
take informed consent from patients and participate in joint decision making
arrange appropriate level of post-operative care
manage complications of surgery appropriately in post-operative period and in the clinic
use of common skin substitutes
ADVANCED
Should demonstrate ability to:
clinically assess complex reconstructive requirements and formulate appropriate management plan
interpret investigations as part of formulating management plan
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
positioning of patient on operating table
protection of pressure areas

prevention of nerve injuries / neurapraxia
pre-operative marking of patient, skin preparation, draping, antibiotic prophylaxis and thromboprophylaxis
split skin grafting, full thickness skin grafting
range of local flaps
INTERMEDIATE
Should be able to perform:
reconstruction of the scalp and management of chronic scalp wounds and the unstable scalp
raising pedicled autologous flaps
in-setting of flap
harvesting chondrocutaneous, cartilage, composite grafts and vein grafts
use of common skin substitutes
ADVANCED
Should be able to perform:
3D reconstruction of specialised structures
reconstruction of the periorbital structures/ear and nose
microvascular anastomoses
flap salvage for failing flaps
flap shaping techniques
flap revision techniques
Scarring, wounds and other surgical conditions of the skin
OBJECTIVE
Acquire competence in the management of the patient with the longer term outcomes of benign and malignant skin conditions / post surgical scarring and chronic wounds
KNOWLEDGE
BASIC
Should demonstrate knowledge of:
skin anatomy
aetiology and related benign conditions
hypertophic scars, keloids, dermatofibroma, epidermal cysts, lentigines, actinic keratoses, xanthelasmata, lipomas
history and examination of the skin
INTERMEDIATE
Should demonstrate knowledge of:
dermoscopy and imaging techniques of the skin
Marjolin's ulcer, pilomatrixoma, DFSP, hidradenitis suppuritiva, acne scarring, inflammatory skin conditions
ADVANCED
Should demonstrate knowledge of:
consequences of nerve resection and other functional deficits after resection of tumour
lymphoedema
complex wounds
psychological and social issues that can affect the skin cancer patient
reconstructive techniques for pressure sores and large complex wounds
CLINICAL SKILLS
BASIC

Should demonstrate ability to:
assess the skin using dermoscope
recognise infection, induration, lymphoedema, seroma, post radiotherapy recurrence in complex scars
INTERMEDIATE
Should demonstrate ability to:
assess surgical scar and deploy non-operative techniques for scar improvement
injection techniques for scar improvement
manage functional and psychological effects of post cancer resection surgery
participate in multidisciplinary management of patients with large, chronic vascular malformations
ADVANCED
Should demonstrate ability to**:**
undertake nerve defect assessments
make decisions and analyse the options for aesthetic improvement in the surgically-scarred cancer patient including advance communications skills
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
debulking of keloids
excision of benign lesions
shave excisions
laser ablation of skin lesions
incision and curettage for active hidradenitis suppuritiva
INTERMEDIATE
Should be able to perform:
botulinum toxin and filler injections
scar release
z-plasty
reconstruction post excision of scars
surgical options of laser
excision or sclerotherapy for vascular malformations
fat grafting
ADVANCED
Should be able to perform
laser resurfacing
rejuvenation of the skin
reconstructive techniques for advanced and crippling hidradenitis suppurativa
reconstruction techniques for pressure sores and large complex wounds, lymphatic reconstruction/anastomosis
surgical excision of lymphoedema
Multidisciplinary team workings, allied professionals, palliative care and follow up regimes, trials, research and national guidelines
OBJECTIVE

Acquire competence working as a member of the multidisciplinary team, knowledge of and ability to consider appropriate referral to other professionals. A full understanding of NICE Improving outcomes guidance and Peer review. An understanding of research and audit in local, national and international settings
KNOWLEDGE
BASIC
Should demonstrate knowledge of
national guidelines (NICE) for the diagnosis, treatment and follow up of BCC, SCC's, Bowen's, Melanoma, dermatofibrosarcoma protuberans and suprafascial sarcoma,
surgical and non surgical options
INTERMEDIATE
Should demonstrate knowledge of
management of the patient with recurrent disease (surgical, non-surgical and radiotherapy options)
stages of bereavement that can be associated with loss of body image and the clinical and psychological supports that can be put in place to assist the patient cope with that loss
ADVANCED
Should demonstrate knowledge of
current trials, ethics, research and pathways to develop trials/research within a service
impact of disfigurement
consequences of an altered appearance, what it involves psychologically and socially, and the impact of an individual's body image on their life and that of their family
process by which an individual can successfully adjust to disfigurement and how the multidisciplinary team can assist with that process
CLINICAL SKILLS
BASIC
Should demonstrate ability in using communication and referral pathways to specialist MDM's
INTERMEDIATE
Should demonstrate ability to:
interpret lymphoscintigraphy, CT, MRI, PET, FNA, USS and pathology minimum dataset
develop and record management plan for the patient and discuss rationale for management of common scenarios with patients and colleagues
apply psychological assessment tools for evaluation of psychological needs (patient questionnaires)
ADVANCED
Should demonstrate ability to:
formulate management plan using skills of analysis and diagnostic synthesis, judgement
discuss complex treatment scenarios with patients including discussion of all options, advantages and disadvantages and taking informed consent
develop the skills to arrange patient-centred care with patient as partner in the process
provide realistic information and guiding patient decision-making regarding choices available and timing of those treatments
manage and lead the multi-disciplinary teams in respect of provision of psycho-social care
arrange the care pathway that supports an individual to successfully adjust to disfigurement through giving the individual and family specific life-skills -these include the patient being provided with information about their condition and its treatment, developing a positive outlook/belief system, learning to cope with their feelings, exchanging experiences with others who've "been there" and social skills training to manage other people's reactions

TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
excision of small skin recurrences / *in transit* metastases
recording surgical procedures
handling of surgical specimens
orientation and appropriate carriage medium for skin specimens
performing FNA.
INTERMEDIATE
Should be able to perform:
treatment of painful metastatic lesions and recurrences by surgical resection/laser resection of metastatic lesions
groin and axillary dissections
fasciotomy for the leg or the upper limb
ADVANCED
Should be able to perform:
head and neck resections
ILI, ILP, CO2 laser
minimally invasive surgical methods of isolated metastases
pelvic resections
Vascular Anomalies
OBJECTIVE
Competence in the assessment, surgical management and aftercare of vascular anomalies
KNOWLEDGE
BASIC
Should demonstrate knowledge of
classification and natural history of the common types of vascular anomalies including haemangiomas and vascular malformations affecting different vessels
diagnostic criteria of main types of vascular anomalies including ability to distinguish high and low flow lesions as originally described by Mulliken
INTERMEDIATE
Should demonstrate knowledge of
abnormalities and syndromes associated with haemangiomas (e.g. PHACE syndrome, Kasabach-Merritt syndrome, Maffucci's syndrome) and vascular malformations (e.g. Sturge-Weber, Klippel-Trenaunay, Parkes-Weber, Hereditary Haemorrhagic Telangiectasia)
indications for radiological investigations and safety issues pertaining to those investigations including MRI, CT and angiography
pharmacological interventions that are or have been used in the treatment of haemangiomas e.g. corticosteroids (systemic and intralesional), propranolol and possible side effects
principles of management of vascular tumours and malformations
problems related to multiple lesions e.g. haemangiomas including visceral or venous malformations
different types of laser treatment for vascular malformations e.g. pulsed dye laser and long pulse Neodynium:YAG laser including the role of topical cooling
role of the MDT in management of Vascular Anomalies
ADVANCED

Should demonstrate knowledge of :
difficult to classify lesions e.g. glomangiomas, rapidly involuting congenital haemangiomas, non-involuting congenital haemangiomas, tufted haemangiomas and haemangioendotheliomas
appearance of different vascular lesions on ultrasound, MRI, CT and angiography
different radiological procedures used for the treatment of vascular anomalies,eg sclerotherapy for venous malformations and lymphatic malformations and embolization of arteriovenous malformations and their potential complications
techniques of surgical excision of difficult lesions such as arteriovenous malformations in conjunction with embolization and problems of surgical treatment in e.g. Klippel-Trenaunay syndrome and the importance of preserving venous drainage
CLINICAL SKILLS
BASIC
Should demonstrate ability to:
correctly diagnose the main types of haemangiomas and vascular anomalies on history and physical signs
advise patients and parents on the natural history of haemangoimas and different vascular anomalies including prognosis of these lesions
INTERMEDIATE
Should demonstrate ability to:
utilise investigations to confirm diagnosis,
demonstrate extent of a vascular anomaly,
formulate a treatment plan utilising medical and non-invasive methods of management in an appropriate and effective way,
liaise as needed with other specialities e.g. radiology, dermatology, ophthalmology ENT
ADVANCED
Should demonstrate ability to:
plan appropriate interventional treatments
advise patients and parents on outcomes and complications of radiological, laser-based and surgical interventions with particular reference to critical anatomical sites including orbit, perioral and parotid areas
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to
use a hand held Doppler for diagnostic purposes.
INTERMEDIATE
Should be able to perform :
debulking of infantile haemangioma
excision of small vascular malformation
injection of steroids into infantile haemangioma
Sarcoma
OBJECTIVE
The purpose of training in sarcoma surgery is to become competent in the diagnosis and management of sarcoma, notably the management of all forms of soft tissue sarcoma.
All plastic surgery trainees are expected to have knowledge and exposure to soft tissue sarcoma diagnosis and management.
KNOWLEDGE

BASIC
Should demonstrate knowledge of:
anatomy of the trunk, pelvis, axilla, and limbs
osseous, muscular and neurovascular anatomy of the trunk and limbs
vascular, neuronal and lymphatic supply / drainage of the head & neck, trunk and limbs, blood supply of the skin
anatomy of perforators and angiosomes- relevant to planning of local flaps
anatomy of free-flaps relevant to reconstruction of extremity and truncal defect following excisional sarcoma surgery
INTERMEDIATE
Should demonstrate knowledge of:
aetiology, incidence and relative anatomical distribution
pathology of primary soft tissue tumours and primary bone tumours
common benign sarcoma like disorders- lipomas, vascular and congenital malformations, fibromatosis including desmoids
specific history and diagnostic features (clinical and non-clinical) of bone and soft tissue sarcomas and their differential diagnoses
patterns of spread of sarcomas
classification of sarcoma
grading and staging systems in current use
Should demonstrate knowledge of:
relevant imaging modalities for different sarcoma
methods for obtaining histological diagnosis
Should demonstrate knowledge of assessment of patients presenting with sarcoma:
guidelines for referral based on clinical suspicion (size symptoms etc.)
diagnostic imaging of sarcoma including X-rays, CT, MRI, USS, PET-CT, and imaging-assisted diagnostic biopsy
importance of correctly positioning biopsy access
histology of the common sarcomas
role of frozen section specimens
immunocytochemistry and cytogenetic techniques
ADVANCED
Should demonstrate knowledge of :
indications for different resection modalities in the management of sarcomas, e.g. marginal, wide, compartectomy etc
current concept of extremity preserving surgery with adjuvant radiotherapy compared with past concepts of compartectomy and amputation to achieve acceptable local recurrence rates
Should demonstrate knowledge of:
options for soft tissue reconstruction dependent of location and analysis of defect
reconstructive options for chest wall defects involving multiple rib resection
reconstructive options for abdominal wall defects
Should demonstrate knowledge of:
role of radiotherapy in the management of sarcoma and therefore advantages and disadvantages of different reconstructive options
role of chemotherapy in the management of soft tissue sarcomas
neo-adjuvant versus adjuvant therapy
follow-up schedule and appropriate imaging

CLINICAL SKILLS
BASIC
Should demonstrate ability to:
elicit a focused history from patients presenting with soft tissue lump,
musculoskeletal pain or imaging suspicious for sarcoma
examine patient, assessing site, size, consistency and fixity of lumps and associated involvement of key anatomical structures
examine extremity neurovascular status
clinically assess soft tissue defects in order to guide reconstructive options
INTERMEDIATE
Should demonstrate ability to:
interpret imaging as part of planning reconstructive options
Should demonstrate ability to:
assess potential donor sites for reconstructive option
plan both local and free flap reconstructions appropriate to defect
formulate logical procedural plan for complex reconstructive surgery
ADVANCED
Should demonstrate ability to:
work as a member of the multidisciplinary team and make appropriate referrals to related professionals.
apply NICE guidelines, improving outcomes guidance and support peer review. support research and audit in local, national and international settings
TECHNICAL SKILLS AND PROCEDURES
BASIC
Should be able to perform:
direct closure of wound
harvesting and insetting of skin grafts
raising of local fasciocutaneous flaps
INTERMEDIATE
Should be able to perform:
raising gastrocnemius flap for coverage of proximal third tibial defects
direct nerve and vessel repair
harvesting of nerve and vein grafts
arterial and venous anastomosis
four compartment fasciotomy for complications of extremity surgery
ADVANCED
Should be able to perform:
marginal excision of soft tissue sarcoma
marginal excision of sarcoma from vital adjacent structures
wide excision of soft tissue sarcoma
skin excision in continuity with soft tissue tumour or elevation of viable skin flaps
access incisions which preserve maximum vascularity to surrounding soft tissues
compartmentectomy
amputation at various levels of extremities involving sarcoma
most steps in the raising and anastomosis of free flaps

Dealing with patients impacted by disfigurement and loss of form and function
OBJECTIVE
To develop an understanding of the meaning of disfigurement, the impact of an altered appearance and what it involves psychologically and socially, and the impact of an individual's body image and life both on them and their family
KNOWLEDGE
BASIC
Demonstrates knowledge of the psycho-social issues that may follow from trauma, disease and surgery including social anxiety, depression, bullying, prejudice isolation and exclusion.
Demonstrates awareness of those parts of the specialty where psychosocial issues can have particular impacts for patients (Burns, Cleft, Craniofacial, Hand, Head & Neck, Genitourinary reconstruction, Oncoplastic Breast, Skin Oncology, Vascular anomalies)
INTERMEDIATE
Demonstrates knowledge of the factors that predict patient ability to cope with surgical treatment
Defines the stages of bereavement associated with loss of body image and the clinical and psychological supports that can be put in place to assist the patient cope with that loss
CLINICAL SKILLS
BASIC
Demonstrates ability to elicit signs and symptoms of distress and anxiety in patient undergoing plastic surgery
Demonstrates ability to make an appropriate referral to a clinical psychologist or other supporting member of the multidisciplinary team
INTERMEDIATE
Provides realistic information and guides patient decision-making regarding choices available and timing of those treatments. Treats the patient as partner in the decision-making process
Demonstrates confidence to elicit psychological and social needs in a range of settings.
TECHNICAL SKILLS AND PROCEDURES
Not applicable