Appendix 2 Trauma and Orthopaedic Surgery Syllabus

The syllabus provides a description of the knowledge and clinical skills required for the specialty-specific topics in each module and details of the technical skills required for each phase of training.

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.

APPLIED CLINICAL KNOWLEDGE

Standards for knowledge

Each topic for a level or phase of training has a competence level ascribed to it for knowledge ranging from 1 to 4 which indicates the depth of knowledge required:

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

Applied Clinical Knowledge

All T&O surgeons need to understand the scope of their discipline and, ultimately, to varying degrees of depth depending on their specialty interest in future practice. The emphasis here is on knowledge pertaining to acute work whilst acknowledging that most surgeons will also undertake elective work with or without a special interest. Training programmes should aim to deliver education in the generality of T&O.

It is crucial to realise that knowledge changes. This syllabus acknowledges that all T&O surgeons cannot know everything about all aspects of their chosen discipline. With this in mind, trainees (like consultants) must reflect on the need to update and change their knowledge base throughout their career. Trainees must not only acknowledge gaps in their knowledge but must fill them using appropriate means alongside self-awareness, humility and commitment.

This component contains that which underpins training in T&O and is essential both to contextualize skills and attitudes acquired in training and in order to practice as a T&O surgeon.

These are difficult terms to define precisely but it will be expected that a practicing surgeon (level 4) will not only be able to apply specific, detailed knowledge of a given condition or technique but also utilise a broad knowledge of orthopaedics and medicine to view any patient's situation holistically. Most crucially, trainees must demonstrate an appreciation that knowledge changes as research progresses, and so they must also possess and apply the relevant skills to keep themselves up to date.

A trainee must be able to apply the knowledge defined below in the relevant clinical situations. They should demonstrate their competency through the ability to verbalise the knowledge and justify any action or decision.

We have defined the levels for core surgical training /ST1-2 (phase 1), ST3-8 (phases 2 and 3) for all and special interest ST7-8 (phase 3) chosen module.

Competence Levels				
1 = Knows of	**3 = Knows generally**			
2 = Knows basic concepts	**4 = Knows specifically and broadly**			
Topic		**CORE**	**ST3-ST8**	**SPECIALTY INTEREST**
APPLIED CLINICAL (BASIC) SCIENCE				
Anatomy				
Clinical and functional anatomy with pathological and operative relevance		3	4	4
Surgical approaches to the limbs and axial skeleton		2	4	4
Embryology of musculoskeletal system		1	3	4
Structure and function of connective tissue				
Bone		3	4	4
Cartilage - articular, meniscal		3	4	4
Muscle and tendon		3	4	4
Synovium		3	4	4
Ligament		3	4	4
Nerve		3	4	4
Intervertebral disc		3	4	4
Pathology				
Thromboembolism and prophylaxis		3	4	4
Principles of fracture healing		3	4	4
Biology of wound healing		3	4	4
Tendon and ligament injury and healing		2	4	4
Nerve injury and regeneration		2	4	4
Shock - types, physiology, recognition and treatment		4	4	4
Metabolism and hormonal regulation		3	4	4
Metabolic and immunological response to trauma		3	4	4
Blood loss in trauma/surgery, fluid balance and blood transfusion		3	4	4
Osteoarthritis		3	4	4
Osteoporosis		3	4	4
Metabolic bone disease		3	4	4
Rheumatoid arthritis and other arthropathies (inflammatory, crystal, etc.)		3	4	4
Haemophilia		2	4	4
Inherited musculoskeletal disorders		1	3	4
Neuromuscular disorders - inherited and acquired		1	3	4
Mechanisms and classification of failure of joint replacement and of periprosthetic fractures:		1	4	4

Osteonecrosis	2	4	4
Osteochondritis	1	4	4
Heterotopic ossification	1	4	4
Infection of bone, joint, soft tissue, including tuberculosis, and their prophylaxis	2	4	4
Prosthetic infection	2	4	4
Surgery in high risk and immuno- compromised patients	3	4	4
Prostheses and Orthoses			
Principles of design	1	4	4
Prescription and fitting of standard orthoses	1	4	4
Principles of orthotic bracing for control of disease, deformity and instability	1	4	4
Pain			
Anaesthesia - principles and practice of local and regional anaesthesia and principles of general anaesthesia	2	3	3
Pain management programmes and management of complex regional pain syndrome:	2	3	3
Pain and pain relief	3	4	4
Behavioural dysfunction and somatization	1	3	3
Musculoskeletal oncology			
Presentation, radiological features, pathological features, treatment and outcome for common benign and malignant tumours	1	3	4
Principles of management of patients with metastatic bone disease in terms of investigation, prophylactic and definitive fixation of pathological fractures and oncological management	1	4	4
Presenting features, management and outcome of soft tissue swellings, including primary músculo-skeletal malignancy	2	4	4
Biomechanics & Biomaterials			
Bone grafts, bone banking and tissue transplantation	1	4	4
Biomechanics of musculoskeletal tissues	1	4	4
Biomechanics of fracture fixation	2	4	4
Tribology of natural and artificial joints	1	4	4
Design of implants and factors associated with implant failure (wear, loosening)	1	4	4
Biomaterials	1	4	4
Genetics and cell biology			
Application/relevance of modern genomics to orthopaedic disease and treatment	1	4	4
Molecular genomics and molecular biology in T&O	2	3	4

Cell biology in T&O	2	3	4
Cellular and molecular basis of wound healing	2	4	4
Diagnostics			
Musculoskeletal imaging: x-ray, contrast studies, CT, MR, ultrasound, radioisotope studies	3	4	4
Assessment of bone mass and fracture risk	3	4	4
Effects of radiation	3	4	4
Blood tests	4	4	4
Kinematics and gait analysis	1	3	4
Electrophysiological investigations	2	4	4

Clinical Environment			
Theatre Design			
Design of theatres	3	4	4
Equipment Design and Use			
Tourniquets	3	4	4
Sterilisation	3	4	4
Infection prevention and control	4	4	4
Patient warming methods and rationale	3	3	3
Skin preparation	4	4	4
Medical Ethics			
Duty of care	4	4	4
Informed consent	4	4	4
Evidence Management			
Data Analysis			
Data analysis and statistics - principles and applications	2	4	4
Principles of epidemiology	2	4	4
Clinical Trials			
Design and conduct of clinical trials	2	4	4
Quality improvement			
Quality improvement projects including principles, methods and reporting	3	4	4
Audit	3	4	4
Clinical governance	2	4	4

FOOT AND ANKLE			
Basic Science (Regional)			
Anatomy			
Anatomy of the foot and ankle and related structures	3	4	4
Surgical approaches: ankle, subtalar joint, mid-tarsal joint and forefoot and arthroscopic access	2	4	4
Surgical approach to Weber B ankle fractures	3	4	4
Physiology			
Physiology of nerve function around the foot and ankle	2	4	4
Pathology			
Inflammatory, degenerative and infective conditions of the foot and ankle	2	4	4
Instability of the foot and ankle	1	4	4
The neuropathic foot	2	4	4
Deformity			
Acquired and developmental deformities of the foot and ankle	2	4	4
Pain			
Causes of foot pain	2	4	4
Biomechanics & Biomaterials			
Biomechanics of the foot and ankle	2	4	4
Biomechanics of tendon transfer techniques	2	4	4
Biomechanics of the various types of ankle and first ray prostheses including the factors influencing design, wear and loosening	1	3	4
The functional role of orthotic devices	2	4	4
Investigations			
Radiological investigations to assess foot and ankle conditions	2	4	4
Role of diagnostic and guided injections of the foot and ankle	2	4	4
Role of examination under anaesthetic and diagnostic arthroscopy	1	4	4
Neurophysiology in foot and ankle disorders	1	4	4
Critical Conditions			
Compartment syndrome	3	4	4
Diabetic Foot	3	4	4
Necrotising fasciitis	2	4	4
Assessments			
History and examination of the foot and ankle including special clinical tests	3	4	4

Treatments			
Operative			
Prosthetic replacement in the foot and ankle	1	3	4
Arthroscopy of the foot and ankle	1	4	4
Amputations in the foot and ankle	2	4	4
Arthrodesis in the foot and ankle	1	4	4
Excision arthroplasty	1	4	4
First ray surgery	1	4	4
Lesser toe surgery	1	4	4
Ligament reconstruction in the foot and ankle	1	4	4
The rheumatoid foot and ankle	1	4	4
The neuropathic foot	1	4	4
Management of tendon, ligament and nerve injuries	1	4	4
Non operative			
Footwear modifications, orthoses and total contact casting	1	4	4
Rehabilitation of the foot and ankle	2	3	4
Complications			
Management of failed arthroplasty and management of failed soft tissue surgery	1	3	4

KNEE			
Basic Science (Regional)			
Anatomy			
Anatomy of the knee joint and related structures	3	4	4
Surgical approaches to the knee and arthroscopic access	2	4	4
Physiology			
Physiology of nerve function around the knee.	2	4	4
Pathology			
Inflammatory, degenerative and infective conditions of the knee	3	4	4
Instability of the knee, including the patellofemoral joint	2	4	4
Deformity			
Acquired and developmental deformities of the knee	2	4	4
Pain			
Causes of the painful knee	3	4	4
Neoplasia			
Benign and malignant conditions in the knee and surrounding structures	2	4	4
Biomechanics & Biomaterials			
Biomechanics of the knee	1	4	4

Biomechanics of knee arthroplasty	1	4	4
Investigations			
Radiological investigation to assess the knee	3	4	4
Diagnostic aspiration	3	4	4
Therapeutic injection	3	4	4
Examination under anaesthetic and arthroscopy	2	4	4
Neurophysiology in knee disorders	1	4	4
Critical Conditions			
Neurovascular injuries	3	4	4
Primary and secondary musculo-skeletal malignancy around the knee	2	4	4
Assessments			
History and examination of the knee joint including special clinical tests	3	4	4
Treatments			
Operative			
Arthroplasty of the knee	2	4	4
Arthroscopy of the knee	2	4	4
Ligamentous instability of the knee	2	4	4
Patello-femoral disorders	1	4	4
Meniscal pathology	2	4	4
Degenerative and inflammatory arthritis	2	4	4
Principles of revision surgery for failed arthroplasty	1	4	4
Therapeutic injection of the knee	3	4	4
Techniques available to repair and replace articular cartilage	1	4	4
Management of tendon, ligament and nerve injuries	1	4	4
Non operative			
Orthoses	1	4	4
Rehabilitation of the knee	1	3	4
Complications			
Failed arthroplasty and soft tissue surgery	1	3	4

HIP			
Basic Science (Regional)			
Anatomy			
Anatomy of the hip and pelvic region and related structures	3	4	4
Surgical approaches to the hip including arthroscopic access	2	4	4

HIP			
Physiology			
Physiology of nerve function affecting the hip	2	4	4
Pathology			
Inflammatory, degenerative and infective conditions of the hip	3	4	4
Impingement disorders	1	4	4
Primary and Secondary Tumours around the Hip			
Deformity			
Acquired and developmental deformity around the hip	1	4	4
Pain			
The painful hip	3	4	4
Biomechanics & Biomaterials			
Biomechanics of the hip	1	4	4
Biomechanics of hip arthroplasty	1	4	4
Investigations			
Radiological investigations to assess the hip	3	4	4
Diagnostic and guided injections	2	4	4
Hip arthroscopy	1	4	4
Neurophysiology in hip disorders	2	4	4
Assessments			
History and examination of hip including special clinical tests	3	4	4
Treatments			
Operative			
Arthroplasty of the hip	2	4	4
Arthroscopy of the hip	1	4	4
Soft tissue surgery, osteotomy and arthrodesis of the hip	1	3	4
Management of tendon, ligament and nerve injuries	1	4	4
Non-operative			
Orthoses	1	4	4
Complications			
Failed arthroplasty and soft tissue surgery	1	3	4

SPINE			
Basic Science (Regional)			
Anatomy			
Development of the spine, spinal cord and nerve roots	2	3	4
Anatomy and principles of surgical approaches: anterior and posterior at each level and endoscopic access	1	3	4
Physiology			
Physiology of nerve function affecting the spinal cord and emerging nerves	2	4	4
Spinal shock and it's physiological consequences	2	4	4
Pathology			
The aging spine and degenerative disease	2	4	4
Acute and chronic infections of the spine	1	4	4
Metabolic conditions affecting the spine	2	4	4
Neuromuscular conditions affecting the spine	1	4	4
Deformity			
Deformities of the spine, paediatric and adult, including coronal and sagittal plane deformities	1	4	4
Pain			
Causes of the acutely painful back, including referred pain e.g. acute prolapsed disc	1	4	4
Neoplasia			
Primary and secondary tumours of the spine	1	4	4
Biomechanics & Biomaterials			
Biomechanics of the spine	1	3	4
Spinal instability as applied to trauma, tumour, infection and spondylolysis/listhesis	1	3	4
Sagittal balance and the aging spine	1	3	4
Spinal instrumentation and internal fixation devices	1	3	4
Investigations			
Radiological investigations (and their interpretation) used to assess common spine conditions	2	4	4
Role of diagnostic and therapeutic injections	1	4	4
Role of biopsy including routes and complications	1	4	4
Blood tests	2	4	4
Electrophysiological studies (including cord monitoring)	1	3	4

SPINE			
Critical Conditions			
Cauda equina syndrome	3	4	4
Spinal trauma - assessment, immediate care and appropriate referral	2	4	4
Infections e.g. tuberculosis	1	4	4
Important complications of inflammatory spinal conditions - rheumatoid instability and ankylosing spondylitis	1	3	4
Metastatic spinal cord compression	2	4	4
The painful spine in the child	1	3	4
Assessments			
History and examination of the painful and injured spine including special clinical tests	3	4	4
Assessment for non-spinal conditions presenting as back pain (e.g. renal colic or vascular)	3	4	4
Recognition of somatisation, non-organic drivers of back pain and barriers to recovery (including yellow flags)	2	4	4
Treatments			
Operative			
Indications, options and complications for compressive conditions including radicular, stenotic and myelopathic	1	4	4
Indications, options and complications of instability of the spine	1	4	4
Principles of management of tumours around the spine	1	4	4
Principles of management of deformity of the spine	1	4	4
Principles of the application of spinal bracing	1	4	4
Scoliosis and Kyphosis deformity, Idiopathic & congenital	1	4	4
Painful spine conditions, including kyphosis**,** spondylolysis and spondylolisthesis	1	4	4
Non operative			
Non-operative treatment of disorders, such as low back pain, sciatica	1	4	4
Management of spinal fractures including osteoporotic fractures	1	4	4
Principles of interventional radiology in the management of spinal problems e.g. vertebroplasty	1	4	4
Care of the spinal cord injury patient from initial assessment to principles of rehabilitation	2	4	4
Complications			
Assessment and management of complications of spinal surgery (e.g. haematoma, neurological deterioration, failed biomechanics)	2	4	4

HAND			
Basic Science (Regional)			
Anatomy			
Anatomy of the wrist and hand and related structures including forearm rotation	3	4	4
Surgical approaches in the hand and wrist and arthroscopic access	2	4	4
Physiology			
Physiology of nerve function around the hand	2	4	4
Pathology			
Inflammatory, degenerative and infective conditions of the hand and wrist	2	4	4
Dupuytren's disease	2	4	4
High pressure injection injury	2	4	4
Infection	2	4	4
Deformity			
Acquired and developmental deformity around the hand and wrist	1	3	4
Pain			
Complex Regional Pain Syndrome	2	4	4
Neurectomy	2	4	4
Biomechanics & Biomaterials			
Biomechanics of the hand and wrist	1	3	4
Biomechanics of hand and wrist arthroplasty	1	3	4
Investigations			
Radiological investigations to assess the hand and wrist	3	4	4
Neurophysiology of the hand and wrist	2	4	4
Diagnostic and guided injections	2	4	4
Examination under anaesthetic and arthroscopy	2	4	4
Critical Conditions			
Compartment syndrome	3	4	4
Assessments			
History and examination of the hand and wrist including special clinical tests	3	4	4
Common clinical hand function tests	2	4	4
Treatments			
Operative			
Prosthetic replacement in the hand and wrist	1	3	4

Excision arthroplasty in the hand and wrist	1	4	4
Arthroscopy of the hand and wrist	1	3	4
Arthrodesis in hand and wrist	1	4	4
Biomechanics of tendon transfer techniques	2	4	4
Entrapment neuropathies	3	4	4
The rheumatoid hand and wrist	2	3	4
The congenital hand	1	3	4
Dupuytren's disease	1	4	4
Non-operative			
Rehabilitation of the hand and wrist	2	3	4
Orthoses	1	4	4
Use of splints	2	4	4
Complications			
Failed arthroplasty and soft tissue surgery	1	3	4
Infection	2	4	4

ELBOW			
Basic Science (Regional)			
Anatomy			
Anatomy of the elbow region and related structures	3	4	4
Surgical approaches to the elbow and arthroscopic access	2	4	4
Physiology			
Physiology of nerve function around the elbow	2	4	4
Pathology			
Compressive neurological problems around the elbow	3	4	4
Instability around the elbow	1	3	4
Inflammatory, degenerative and infective conditions of the elbow	3	4	4
Causes of elbow stiffness	1	3	4
Deformity			
Acquired and developmental deformity around the elbow	1	3	4
Pain			
The painful elbow	2	4	4
Biomechanics & Biomaterials			
Biomechanics of the elbow	1	3	4
Biomechanics of elbow arthroplasty	1	3	4

Investigations			
Radiological investigations to assess the elbow	3	4	4
Diagnostic and guided injections	2	4	4
Examination under anaesthetic and arthroscopy	2	4	4
Neurophysiology in elbow disorders	1	4	4
Assessments			
History and examination of the elbow including special clinical tests	3	4	4
Treatments			
Operative			
Arthroplasty of the elbow	1	3	4
Arthroscopy of the elbow	1	3	4
Ligamentous instability	1	3	4
Entrapment neuropathy	2	4	4
Degenerative and inflammatory arthritis	1	3	4
Soft tissue conditions	2	4	4
The rheumatoid elbow	1	3	4
Amputation	1	2	4
Non-operative			
Rehabilitation of the elbow	1	3	4
Orthoses	1	4	4
Complications			
Management of the failed arthroplasty and soft tissue surgery	1	3	4

SHOULDER			
Basic Science (Regional)			
Anatomy			
Anatomy of the shoulder girdle and related structures	3	4	4
Surgical approaches to the shoulder girdle including arthroscopic access	2	4	4
Physiology			
Physiology of nerve function around the shoulder	2	4	4
Pathology			
Impingement and rotator cuff disorders	1	4	4
Instability and labral pathology of the shoulder	2	4	4
Inflammatory, degenerative and infective conditions of the shoulder girdle	3	4	4
Shoulder stiffness	1	4	4
Deformity			
Acquired and developmental deformity around the shoulder	1	3	4
Pain			
The painful shoulder	3	4	4
Biomechanics & Biomaterials			
Biomechanics of the shoulder girdle	1	4	4
Biomechanics of shoulder arthroplasty	1	3	4
Investigations			
Radiological investigations to assess the shoulder	3	4	4
Diagnostic and guided injections	2	4	4
Examination under anaesthetic and arthroscopy	1	4	4
Neurophysiology in shoulder and brachial plexus disorders	1	3	4
Assessments			
History and examination of the shoulder girdle, including special clinical tests	3	4	4
Examination of the brachial plexus	2	4	4
Treatments			
Operative			
Arthroplasty of the shoulder	1	3	4
Arthroscopy of the shoulder	1	4	4
Soft tissue disorders of the shoulder girdle	2	4	4
Arthrodesis, osteotomy and excision arthroplasty	1	3	4
Reconstructive surgery for brachial plexus and other neurological disorders	1	3	4
Amputation	1	2	4

Non-operative			
Rehabilitation of the shoulder	1	3	4
Orthoses	1	3	4
Complications			
Management of failed arthroplasty and soft tissue surgery	1	3	4

TRAUMA			
Basic Science (Regional)			
Anatomy			
Regional anatomy for trauma	3	4	4
Surgical approaches for bone and soft tissue injuries	2	4	4
Approaches for hip fractures	3	4	4
Approaches for Weber B ankle fractures	3	4	4
Physiology			
Physiological response to trauma	3	4	4
Pathology			
Delayed and non-union	2	4	4
Fractures in abnormal bone	3	4	4
Deformity			
Mal-union of fractures	2	4	4
Pain			
Pain relief in trauma patients	3	4	4
Biomechanics & Biomaterials			
Principles of open reduction and internal fixation/external fixation of fractures	2	4	4
Splintage and traction	2	4	4
Principles of casting	3	4	4
Investigations			
Radiological investigations to assess the injured patient	3	4	4
Critical Conditions			
Compartment syndrome	3	4	4
Neurovascular injuries	3	4	4
Physiological response to trauma	2	4	4
Necrotising fasciitis	3	4	4

TRAUMA			
Assessments			
Initial clinical assessment of the polytrauma patient	4	4	4
Priorities of treatment and identification of life/limb-threatening injuries	2	4	4
Ongoing management of polytrauma patient in first week, including prioritisation of treatment and multi-disciplinary care	2	4	4
Assessment of the limb at risk, including decision re limb salvage vs. amputation	2	3	3
Treatments			
The trauma team & multidisciplinary collaboration	3	4	4
Operative			
Management of closed/open diaphyseal fractures	3	4	4
Management of closed/open peri-articular fractures	2	4	4
Management of complex open fractures requiring bone/soft tissue reconstruction	2	4	4
Management of multiple injuries in a polytrauma patient	2	4	4
Management of peri-prosthetic fractures	2	4	4
Amputation	2	4	4
Management of isolated soft tissue injuries	3	4	4
Non-operative			
Non-operative management of fractures	3	4	4
Rehabilitation of the injured patient	3	4	4
Management of psychosocial aspects of are	3	4	4
Complications			
Principles of limb reconstruction in non-unions/mal-unions/bone infection	2	3	4
Specific fracture areas			
Spine			
The acute fracture and dislocation	2	4	4
Spinal shock and cord syndromes	3	4	4
Pelvis			
Pelvic/acetabular fracture stabilisation	2	3	3
Recognition of visceral/neurovascular damage	3	4	4
Shoulder			
Clavicle fractures	2	4	4
Proximal humeral fractures	2	4	4

TRAUMA			
The dislocated shoulder	3	4	4
Brachial plexus and other nerve injuries	1	3	3
Humeral shaft fractures	2	4	4
Elbow			
Proximal ulnar fractures	2	4	4
Distal humeral fractures	2	4	4
Proximal radial injuries	2	4	4
Radius and ulnar shaft fractures	2	4	4
Wrist			
Distal radius fractures	3	4	4
Scaphoid fractures	2	4	4
Carpal injuries	2	4	4
Hand			
Metacarpal & phalangeal fractures	2	4	4
The mangled hand	2	3	4
Fingertip injuries	2	4	4
Nerve injuries	2	4	4
Flexor tendon injuries	2	4	4
Extensor tendon injuries	2	4	4
Proximal femur			
Proximal femoral fractures	3	4	4
Femoral shaft fractures	2	4	4
Knee and lower leg			
Periarticular fractures around the knee	2	4	4
Tibial shaft fractures	2	4	4
Ankle			
Periarticular fractures around the ankle	2	4	4
Weber B ankle fractures	3	4	4
Foot			
Hindfoot injuries	2	4	4
Midfoot injuries	2	4	4
Forefoot injuries	2	4	4
The crushed foot	2	3	4

TRAUMA			
Peri-prosthetic fractures			
Management of fractures around prostheses and implants	2	3	4

PAEDIATRIC ORTHOPAEDIC SURGERY			
Basic Science			
Anatomy			
Embroyology growth of bones, physeal anatomy and its application to fracture types/pathological processes and infection in particular	2	4	4
Anatomy of bones and joints in the growing child and its application to growth and deformity	2	4	4
Conditions in childhood resulting in deformity e.g. spina bifida, cerebral palsy and muscular dystrophy	1	3	4
Genetic aspects of orthopaedic conditions	1	3	4
Normal variants in paediatric orthopaedics	1	3	4
Diseases affecting bones in childhood, including infection	1	3	4
Clinical Assessment			
History and examination of the child	2	4	4
Involving the parents in the assessment	2	4	4
Assessing the child with a disability	1	3	4
Assessing the child with possible non-accidental injury	2	4	4
Investigations			
Indications for and interpretation of plain x-ray, arthrogram, CT, MRI in children	2	4	4
Indications for the use of ultrasound, isotope and nuclear imaging	2	4	4
Critical Conditions			
The painful hip in a child	2	4	4
Painful spine in a child	2	4	4
Compartment syndrome	2	4	4
Neurovascular injury	2	4	4
Primary musculo-skeletal malignancy	2	4	4
Treatment			
Fractures (including non-accidental injury), growth plate injuries and sequelae	2	4	4
Bone and joint infection in a growing skeleton	2	4	4
Common childhood orthopaedic conditions, e.g. irritable hip, anterior knee pain	2	4	4
Slipped upper femoral epiphysis	1	4	4
Legg-Calve-Perthes' disease	1	3	4

Developmental dysplasia of the hip	1	4	4
Congenital Talipes Equino- Varus (CTEV)	1	4	4
Scoliosis and Kyphosis deformity, Idiopathic & congenital	1	4	4
Painful spine conditions, including kyphosis**,** spondylolysis and spondylolisthesis	1	4	4
Forefoot deformities	1	4	4
Congenital hand abnormalities	1	3	4
Osteogenesis imperfecta	2	3	4
Skeletal dysplasias	1	3	4
Tarsal coalitions	1	3	4
Torticollis	1	3	4
Leg length discrepancy	1	4	4
Metabolic and endocrine abnormalities	1	4	4
Syndromes of paediatric orthopaedic importance	1	4	4
Localised disorder of the skin & soft tissue in paediatric orthopaedics	1	4	4
Diseases of the haematopoetic system in paediatric orthopaedics	1	4	4
Juvenile idiopathic arthritis	1	3	4
Musculoskeletal infections	1	4	4
Bone & soft tissue tumours	1	4	4
Cerebral palsy	1	3	4
Spina bifida, neural tube defects including myelomeningocele	1	3	4
Neuromuscular disorders	1	3	4
Non-operatively Treated Orthopaedic Conditions in Childhood			
The treatment of normal variants such as knock knees, flat feet, femoral anteversion	1	3	4
Orthoses	1	3	4
Rehabilitation of the child	1	3	4
Determining physical disability	1	3	4
Screening for congenital abnormalities	1	3	4
Sports medicine in the growing child	1	3	4

Applied Clinical Skills

The Applied Clinical Skills syllabus is a reflection of the procedures that have been recorded in trainee logbooks and, therefore, encountered in routine T&O practice. In all training programmes trainees should have the opportunity to be exposed to a large selection of the procedures.

Recording a surgical skill such as suturing or taking consent in isolation does not tell us sufficiently well how a professional deals with problems in the round. Neither do we want to simply credential individuals to carry out a particular hip replacement or fix a certain type of fracture. We, therefore, want to train and assess the ability of the trainee in the context of the whole patient problem and extrapolate that to dealing with problems in general.

Core competencies
The skills syllabus is not simply a list of procedures with their defined levels of competency, but considers each procedure as a whole from the first encounter with the patient pre-operatively to their management afterwards and onwards to discharge. Skills are captured as a list in the core domains of consent etc. listed below. They are then broken down further within each core domain to explore different elements, some of which may be verbal, involve interpretation or judgment as well as manual ability etc.

Procedures
The required skills remain broadly the same as in previous editions of the curriculum. The Curriculum Development Group recognised a consistent and constant expansion of procedure descriptions in the eLogbook, including some repetition. Therefore, it was decided to group similar procedures into more generic categories which does not detract from the mapping of the syllabus to the eLogbook. It attempts to future-proof it by allowing more flexibility in the detailed description of a procedure.

T&O is a surgical specialty covering a massive spectrum of treatment options. No consultant T&O surgeon can be an expert in all areas of T&O. Similarly, trainees cannot be expected to attain the highest levels of competence for all the procedures covered in the applied clinical skills syllabus. Therefore, this curriculum aims to outline what skills a trainee will need to act as a day-one consultant in the generality of T&O with an emphasis on managing an unselected take. It also defines skills trainees need to acquire in an area of specialty interest.
Level 4 is defined as the ability to manage a complete a procedure, including the most common complications without needing assistance.

Each topic within a stage has a competence level ascribed to it in the areas of clinical and technical skills ranging from 1 to 4:

Standards for clinical and technical skills

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

1. Has observed

Exit descriptor; at this level the trainee:

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

2. Can do with assistance

Exit descriptor; at this level the trainee:

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

3. Can do whole but may need assistance

Exit descriptor; at this level the trainee:

- can adapt to well-known variations in the procedure encountered, without direct input from the trainer
- recognises and makes a correct assessment of common problems that are encountered
- is able to deal with most of the common problems
- knows when help is needed
- requires advice rather than help that requires the trainer to scrub.

4. Competent to do without assistance, including complications

Exit descriptor, at this level the trainee:

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

We have defined the levels for core /ST1-2 (phase 1), ST3-8 (phases 2 and 3) for all and special interest ST7-8 (phase 3) chosen module.

Applied Clinical Skills: Spine

A trainee must be able to demonstrate their competence in the procedures below at the appropriately marked level and stage of training.	
Competence Levels	
0 = No experience expected	3 = Can manage whole but may need assistance
1= Has observed or knows of	4= Able to manage without assistance including potential common complications
2= Can manage with assistance	

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Trauma Spine			
Cervical Spine			
Anterior column reconstruction cervical spine	0	1	4
Anterior fixation fracture / dislocation cervical spine	0	1	4
Application halo / tong traction cervical spine	0	3	4
MUA fracture / dislocation cervical spine	0	1	4
Non-classifiable cervical spine trauma procedure	0	1	4
Posterior column reconstruction cervical spine	0	1	4
Posterior fixation fracture / dislocation cervical spine	0	1	4
Thoracic Spine			
Anterior column reconstruction thoracic spine	0	1	4
Anterior decompression / fixation thoracic spine	0	1	4
Anterior decompression thoracic spine	0	1	4
Posterior column reconstruction thoracic spine	0	1	4
Posterior decompression / fixation thoracic spine	0	1	4
Posterior decompression thoracic spine	0	1	4
Lumbar Spine			
Anterior column reconstruction lumbar spine	0	1	4
Anterior decompression / fixation lumbar spine	0	1	4
Anterior decompression lumbar spine	0	1	4
Posterior column reconstruction lumbar spine	0	1	4
Posterior decompression / fixation lumbar spine	0	1	4
Posterior decompression lumbar spine	0	1	4

Elective Spine			
Cervical Spine			
Cervical disc replacement	0	1	3
Cervical laminectomy	0	1	4
Cervical laminoplasty	0	1	4
Cervical vertebrectomy for myelopathy	0	1	4
Anterior Cervical Discectomy +/-Fusion	0	1	4
C0 to C2 fusion (including the various specific instrumentation techniques	0	1	4
Posterior decompression +/- fixation / fusion (C2 - C7)	0	1	4
Excision cervical / 1st rib	0	1	3
Thoracic outlet release (not excision cervical / 1st rib)	0	1	3
Thoracic Spine			
Anterior column reconstruction thoracic spine e.g. for fracture or tumour	0	1	4
Costoplasty	0	1	4
Excision hemivertebra	0	1	4
Anterior thoracic decompression e.g. thoracic disc, tumour or fracture	0	1	4
Posterior thoracic decompression +/- fixation / fusion	0	1	4
Biopsy thoracic spine	0	1	4
Deformity			
Kyphosis correction - anterior and posterior	0	1	3
Scoliosis correction - anterior release & fusion	0	1	3
Scoliosis correction - posterior fusion	0	1	3
Scoliosis correction – combined anterior release and posterior spinal fusion	0	1	3
Growing rods for scoliosis	0	1	3
Lengthening of growing rods for scoliosis including magnetic rods	0	1	3
Casting for early onset scoliosis	0	1	3
Vertebroplasty/balloon kyphoplasty	0	1	3
Thoracoscopic spinal procedures +/- instrumentation (including vertebral body tethering)	0	1	3
Lumbar Spine			
Anterior column reconstruction lumbar spine	0	1	4
Decompression lumbar spine without fusion (not discectomy alone)	0	2	4
Discectomy open / micro /endoscopic	0	2	4
Excision hemivertebra	0	1	4
Anterior Lumbar Interbody Fusion +/- instrumentation (ALIF)	0	1	4
Decompression lumbar spine with fusion +/- fixation	0	1	4
Posterior Lumbar Interbody Fusion (PLIF) +/- Instrumentation	0	1	4
Transforaminal Lumbar Interbody Fusion (TLIF)	0	1	4
Direct Lateral Interbody Fusion (DLIF)	0	1	4
Less Invasive techniques for lumbar spine fusions	0	1	4

Investigations and injections			
Biopsy cervical spine	0	1	4
Cervical epidural	0	1	4
Nerve root / facet joint injection cervical spine	0	1	4
Revision cervical discectomy	0	1	4
Caudal epidural injection	0	3	4
Discogram	0	1	4
Lumbar epidural	1	3	4
Facet joint injection lumbar spine	0	1	4
Nerve root injection lumbar spine	0	1	4
Lumbar disc replacement	0	1	3
Osteotomy for spine sagittal plane imbalance	0	1	3
Posterior column reconstruction lumbar spine	0	1	4
Revision lumbar discectomy	0	1	4
Vertebroplasty/balloon kyphoplasty	0	1	4
Sacrococcygeal joint injection / MUA	0	3	4
Sacro-iliac joint injection	0	3	4

Applied Clinical Skills: Shoulder

A trainee must be able to demonstrate their competence in the procedures below at the appropriately marked level and stage of training.	
Competence Levels	
0 = No experience expected	3 = Can manage whole but may need assistance
1 = Has observed or knows of	4 = Able to manage without assistance including potential common complications
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Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Trauma Shoulder			
Clavicle			
ORIF clavicle fracture	0	4	4
ORIF non-union clavicle fracture	0	3	4
SC joint dislocation closed / open reduction	0	2	4
SC joint instability/open stabilisation	0	2	4
Shoulder			
Acromioclavicular joint dislocation acute ORIF	0	3	4
Anterior dislocation shoulder			
Anterior dislocation shoulder closed reduction	2	4	4
Anterior dislocation shoulder open reduction +/- fixation	0	3	4
Fracture proximal humerus			
Fracture proximal humerus hemiarthroplasty	0	3	4
Fracture proximal humerus interlocking IM nail	0	3	4
Fracture proximal humerus ORIF	0	3	4
Glenoid fracture ORIF	0	2	3
Irrigation and debridement native joint for infection - shoulder	0	4	4
Posterior dislocation shoulder			
Posterior dislocation shoulder closed reduction	0	4	4
Posterior dislocation shoulder open reduction +/- fixation	0	3	4
Scapula fracture ORIF	0	2	3
Humerus			
Fracture diaphysis humerus			
Fracture diaphysis humerus non-operative	1	4	4
Non-union ORIF +/- bone grafting	0	3	4
Fracture diaphyseal humerus application of external fixator	0	3	4
Fracture diaphyseal humerus non-union - ORIF +/- bone grafting	0	3	4
Fracture diaphysis humerus IM nailing	0	4	4
Fracture diaphysis humerus ORIF plating	0	4	4
Elective Shoulder			
Clavicle			
Osteotomy and internal fixation of clavicle malunion	0	2	4

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Shoulder			
Arthroscopic arthrolysis for capsulitis of shoulder	0	3	4
Arthroscopic biceps tenodesis	0	2	4
Arthroscopic subacromial decompression	0	3	4
Arthroscopic washout of shoulder joint	0	3	4
Capsular / rotator cuff repair			
Anterior repair for instability arthroscopic	0	2	4
Anterior repair for instability open including capsular shift	0	2	4
Posterior repair for instability including capsular shift	0	2	4
Rotator cuff repair (arthroscopic) +/- acromioplasty	0	2	4
Rotator cuff repair (open) +/- acromioplasty	0	2	4
MUA shoulder	0	4	4
Shoulder arthrodesis	0	1	4
Shoulder arthroplasty			
Hemiarthroplasty shoulder (elective)	0	2	4
Resurfacing hemiarthroplasty of shoulder	0	2	4
Reverse polarity (inverse) shoulder replacement	0	2	4
Shoulder replacement revision	0	1	4
Total shoulder replacement	0	2	4
Shoulder girdle procedures			
Acromioclavicular joint excision - arthroscopic / open / lateral clavicle	0	2	4
Acromioclavicular joint reconstruction (e.g. Weaver Dunn)	0	2	4
Acromioplasty open	0	3	4
Latarjet procedure	0	2	4
Levator scapulae transfer for trapezius palsy	0	1	2
Scapulothoracic fusion	0	1	4
Humerus			
Endoprosthetic replacement for malignant bone tumour - humerus	0	1	4

Applied Clinical Skills: Elbow

A trainee must be able to demonstrate their competence in the procedures below at the appropriately marked level and stage of training.	
Competence Levels	
0 = No experience expected	= Can manage whole but may need assistance
1 = Has observed or knows of	4 = Able to manage without assistance including potential common complications
2 = Can manage with assistance	

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Trauma Elbow			
Elbow			
Application of spanning external fixator	0	3	4
Capitellum ORIF	0	3	4
Coronoid fractures			
Coronoid fracture ORIF	0	3	4
Dislocated elbow +/- fracture:			
Dislocated elbow +/- fracture closed reduction	0	4	4
Dislocated elbow +/- fracture open reduction +/- fixation	0	3	4
Intraarticular distal humerus fracture ORIF	0	4	4
Irrigation and debridement native joint for infection – elbow	0	4	4
Lateral condyle fracture ORIF	0	4	4
Medial condyle / epicondyle fracture MUA / percutaneous wire / ORIF	0	4	4
Olecranon fracture ORIF	0	4	4
Radial head / neck fracture			
Radial head / neck fracture ORIF	0	3	4
Radial head excision	0	4	4
Radial head replacement for fracture	0	3	4
Supracondylar elbow fracture			
Supracondylar elbow fracture MUA +/- percutaneous wires	0	4	4
Supracondylar elbow fracture open reduction	0	4	4
Tendon repairs			
Repair of distal biceps tendon rupture	0	2	4

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Forearm			
Fasciotomy for compartment syndrome	1	4	4
Fracture shaft radius / ulna:			
Fracture shaft radius / ulna IM nailing	0	3	4
Fracture shaft radius / ulna MUA & POP	0	4	4
Fracture shaft radius / ulna ORIF	0	4	4
Galeazzi fracture ORIF	0	4	4
Monteggia fracture ORIF	0	4	4
Elective Elbow			
Elbow			
Arthrolysis elbow (open/arthroscopic)	0	2	4
Arthroscopy elbow diagnostic	0	2	4
Arthoscopy elbow therapeutic	0	2	4
Arthrotomy elbow	0	4	4
Excision radial head +/- synovectomy	0	2	4
OK procedure	0	2	4
Tennis / golfer elbow release	0	4	4
Total elbow replacement			
Total elbow replacement	0	2	4
Total elbow replacement - aseptic revision	0	1	4
Total elbow replacement for trauma	0	1	4
Total elbow replacement revision 1st stage	0	1	4
Total elbow replacement revision 2nd stage	0	1	4
Ulnar nerve decompression / transposition	0	4	4
Forearm			
Forearm malunion correction or other deformity	0	1	4

Applied Clinical Skills: Hand

A trainee must be able to demonstrate their competence in the procedures below at the appropriately marked level and stage of training.	
Competence Levels	
0 = No experience expected	3 = Can manage whole but may need assistance
1 = Has observed or knows of	4 = Able to manage without assistance including potential common complications
2 = Can manage with assistance	

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Trauma Hand			
Wrist			
Fracture distal radius – closed non-op	3	4	4
Fracture distal radius external fixation	1	4	4
Fracture distal radius MUA & percutaneous wires	3	4	4
Fracture distal radius ORIF	1	4	4
Application of spanning external fixator	1	4	4
Arterial repair - wrist	0	1	2
Vein repair – wrist	0	1	2
Carpal fracture / dislocation:			
Carpal fracture / dislocation MUA & percutaneous wires	0	3	4
Carpal fracture / dislocation MUA & POP	0	3	4
Carpal fracture / dislocation non-op	0	3	4
Carpal fracture / dislocation ORIF	0	3	4
Irrigation and debridement prosthesis for infection – wrist	0	2	4
Nerve repair - wrist	0	3	4
Replantation of hand	0	0	1
Revascularisation of hand	0	0	1
Scapho-lunate ligament reconstruction	0	2	4
Scaphoid fracture:			
Scaphoid fracture non-operative	2	4	4
Scaphoid fracture MUA & percutaneous wires	0	2	4
Scaphoid fracture non-union ORIF +/- graft (excluding vascularised graft)	0	2	4
Scaphoid fracture non-union using vascularised graft	0	2	3
Scaphoid fracture ORIF	0	2	4
Hand			
1st ray fracture / dislocation			
1st ray fracture / dislocation external fixation	0	2	4
1st ray fracture / dislocation MUA & percutaneous wires	0	4	4
1st ray fracture / dislocation MUA & POP	2	4	4
1st ray fracture / dislocation ORIF	0	2	4
5th Ray fracture / dislocation			
5th ray fracture / dislocation external fixation	0	2	4
5th ray fracture / dislocation MUA & percutaneous wires	0	4	4

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
5th ray fracture / dislocation MUA & POP	2	4	4
5th ray fracture / dislocation ORIF	0	2	4
Fingertip reconstruction			
Fingertip reconstruction - advancement flap	0	2	3
Fingertip reconstruction - cross finger flap	0	2	3
Fingertip reconstruction - homodigital neurovascular island flap	0	2	3
Fingertip terminalisation	2	4	4
Nail bed repair	2	4	4
Hand compartment syndrome decompression	2	4	4
Excision / ablation of ingrowing nail	2	4	4
Infection			
High pressure injection injuries	0	3	4
Infection hand drainage (not tendon sheath)	1	4	4
Infection tendon sheath drainage	1	4	4
IPJ fracture / dislocation (PIPJ and DIPJ):	0	2	4
IPJ fracture / dislocation external fixator	1	2	4
IPJ fracture / dislocation MUA & percutaneous wires	1	4	4
IPJ fracture / dislocation MUA +/- POP	2	4	4
IPJ fracture / dislocation ORIF	0	2	4
IPJ fracture/dislocation MUA and splints	2	4	4
Ligament repair			
Ligament repair hand excluding thumb MCPJ ulnar collateral ligament	0	2	4
Thumb MCPJ ulnar collateral repair	1	4	4
MCPJ fracture / dislocation			
MCPJ fracture / dislocation external fixator	0	2	4
MCPJ fracture / dislocation MUA & percutaneous wires	1	4	4
MCPJ fracture / dislocation MUA +/- POP	1	4	4
MCPJ fracture / dislocation ORIF	0	3	4
Metacarpal fracture (not 1st or 5th) non-op	2	4	4
Metacarpal fracture (not 1st or 5th) MUA & percutaneous wires	1	4	4
Metacarpal fracture (not 1st or 5th) MUA +/- POP	2	5	4
Metacarpal fracture (not 1st or 5th) ORIF	0	3	4
Metacarpal fracture (not 1st or 5th) external fixation	0	3	4

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Neurovascular injuries			
Arterial repair +/- graft hand / digit	0	1	2
Nerve repair hand / digit	1	4	4
Revascularisation finger	0	1	2
Vein repair +/- graft hand / digit	0	1	2
Brachial Plexus			
Exploration / repair / grafting brachial plexus	0	1	2
Exploration of brachial plexus	0	1	2
Repair +/- grafting brachial plexus	0	1	2
Phalangeal Fractures			
Phalangeal fracture non-op	2	4	4
Phalangeal fracture MUA & percutaneous wires	1	4	4
Phalangeal fracture MUA +/- POP	2	4	4
Phalangeal fracture ORIF	0	2	4
Removal foreign body from skin / subcutaneous tissue	3	4	4
Replantation finger	0	1	2
Skin graft			
Free flap	0	1	1
Full thickness skin graft	2	2	3
Pedicle flap	0	2	3
Reversed radial forearm flap	0	2	2
Split skin graft	2	3	4
Transposition flap	0	2	4
Tangential excision of hand burns	0	1	1
Tendon repair			
Spaghetti wrist	0	2	4
Tendon repair extensor	2	4	4
Tendon repair flexor zone 1	0	2	4
Tendon repair flexor zone 2	0	2	4
Tendon repair flexor zone 3-5	0	4	4
Wound closure			
Delayed primary or secondary	1	4	4
Wound debridement	1	4	4

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Elective Hand			
Wrist			
Arthrodesis wrist (includes partial arthrodesis)	0	3	4
Arthroscopy wrist	0	2	4
Carpal tunnel decompression	3	4	4
De Quervain's decompression	1	4	4
Decompression / synovectomy tendons	0	3	4
Denervation wrist	0	2	4
Excision distal ulna	0	4	4
Ganglion excision at wrist	2	4	4
Proximal row carpectomy	0	2	4
Radial shortening	0	2	4
Surgery for chronic carpal instability	0	2	4
TFCC			
Repair TFCC - arthroscopic	0	2	4
Repair TFCC - open	0	2	4
Ulna shortening	0	3	4
Ulnar nerve decompression at wrist	0	3	4
Wrist arthroplasty	0	2	3
Congenital hand operation			
Congenital hand operation - clinodactyly	0	1	3
Congenital hand operation - complex reconstruction of congenital hand deformity	0	1	3
Congenital hand operation - camptodactyly	0	1	3
Congenital hand operation - correction of radial club hand	0	1	3
Congenital hand operation - lengthening procedures	0	1	3
Congenital hand operation - removal supernumerary digits	0	1	4
Congenital hand operation - separation of syndactyly	0	1	3
Dupuytren's contracture operation			
Dupuytrens contracture operation - dermofasciectomy	0	2	4
Dupuytren's contracture operation - primary multiple digits	0	3	4
Dupuytren's contracture operation - primary single digit	0	3	4
Dupuytren's contracture operation - recurrent multiple digits	0	2	4
Dupuytren's contracture operation - recurrent single digit	0	2	4

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Excision synovial cyst	0	3	4
Finger malunion correction or other deformity	0	2	4
Fusion of MCPJ or IPJ	0	3	4
MCPJ replacement	0	2	4
PIPJ replacement	0	2	4
Soft tissue reconstruction hand	0	2	4
Synovectomy	0	3	4
Tendon procedures			
Tendon graft hand	0	2	4
Tendon transfer hand	0	2	4
Tenolysis hand tendon	0	2	4
Tenosynovectomy	0	2	4
Trapezium excision	0	4	4
Trapezium replacement	0	3	3
Trigger finger release	2	4	4
Trigger thumb release	1	4	4

Applied Clinical Skills: Hip

A trainee must be able to demonstrate their competence in the procedures below at the appropriately marked level and stage of training.	
Competence Levels	
0 = No experience expected	3 = Can manage whole but may need assistance
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2 = Can manage with assistance	

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Trauma Hip			
Pelvis			
Acetabular fracture ORIF	0	1	3
Pelvic fracture:			
Pelvic fracture external fixator application	1	3	4
Pelvic fracture ORIF	0	1	3
Sacroiliac joint percutaneous screw fixation	0	1	3
Sacrum ORIF	0	1	3
Hip			
Dislocated hip			
Dislocated hip (no prosthesis) - closed reduction	1	4	4
Dislocated hip (no prosthesis) - open reduction +/- fixation	0	3	4
Dislocated hip hemiarthroplasty - closed reduction	2	4	4
Dislocated hip hemiarthroplasty - open reduction	0	4	4
Dislocated total hip replacement - closed reduction	2	4	4
Dislocated total hip replacement - open reduction	0	4	4
Extracapsular fracture			
Extracapsular fracture CHS / DHS	3	4	4
Extracapsular fracture intramedullary fixation	0	4	4
Extracapsular fracture other fixation	0	4	4
Intracapsular fracture			
Intracapsular fracture bipolar hemiarthroplasty	0	4	4
Intracapsular fracture hemiarthroplasty excluding bipolar	2	4	4
Intracapsular fracture internal fixation	1	4	4
Intracapsular fracture THR	1	4	4

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Irrigation and debridement native joint for infection - hip	0	4	4
Irrigation and debridement prosthesis for infection - hip	0	4	4
Periprosthetic fracture of hip			
Open reduction and fixation of periprosthetic fracture - hip	0	3	4
Revision THR for periprosthetic fracture of hip	0	2	4
Femur			
Diaphyseal femur fracture application of external fixator	0	3	4
Diaphyseal femur fracture intramedullary nailing	0	4	4
Diaphyseal femur fracture plate/screw fixation	0	4	4
Diaphyseal femur fracture spica cast application	0	3	4
Fasciotomy for compartment syndrome	1	4	4
Femoral non-union			
Femoral non-union (application of frame) +/- bone grafting	0	2	4
Femoral non-union (without frame) +/- bone grafting	0	2	4
Reconstruction of avulsed proximal hamstrings	0	1	3
Subtrochanteric fracture			
Subtrochanteric fracture intramedullary fixation	0	4	4
Subtrochanteric fracture plate/screw fixation	0	4	4
Elective Hip			
Hip			
Adductor tenotomy - hip	0	3	4
Arthrodesis hip	0	2	4
Arthroscopy hip - diagnostic	0	1	2
Arthroscopy hip - therapeutic	0	1	2
Arthrotomy hip	0	2	4
Aspiration / injection hip joint	0	3	4
Excision arthroplasty hip (e.g. Girdlestone)	0	4	4
Femoral head AVN			
Core decompression of femoral head for AVN	0	3	4
Vascular graft femoral head for AVN	0	1	2

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Femeroacetabular impingement			
Open hip debridement for femeroacetabular impingement syndrome	0	1	4
Iliopsoas release / lengthening	0	1	4
Osteotomy pelvis - not for DDH	0	1	3
Arthroscopic hip debridement for femeroacetabular impingement syndrome	0	1	2
Revision THR			
1 stg of 2 stg rev infected THR - removal of prosthesis/Girdlestones +/- insertion of cement spacer / antibiotic beads	0	1	4
2 stg of 2 stg rev infected THR - removal of spacer/beads	0	2	4
Single stage revision THR acetabular component	0	2	4
Single stage revision THR both components	0	2	4
Single stage revision THR femoral component	0	2	4
Total Hip Replacement			
THR cemented	1	4	4
THR hybrid	1	4	4
THR surface replacement arthroplasty	1	2	4
THR uncemented	1	4	4
Femur			
Endoprosthesisosthetic replacement for malignant bone tumour - femur	1	2	4
Femoral malunion correction or other deformity	0	2	4
Osteotomy corrective (not for DDH)	0	2	4

Applied Clinical Skills: Knee

A trainee must be able to demonstrate their competence in the procedures below at the appropriately marked level and stage of training.	
Competence Levels	
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2 = Can manage with assistance	

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Trauma Knee			
Knee			
Acute arthroscopy for knee trauma	0	3	4
Application of spanning external fixator	0	4	4
Intraarticular fracture distal femur ORIF	0	3	4
Irrigation and debridement native joint for infection (open or arthroscopic) - knee	1	4	4
Irrigation and debridement prosthesis for infection - knee	1	4	4
Knee MUA +/- POP	2	4	4
Patella fracture			
Patella dislocation closed reduction +/- open repair	1	4	4
Patella fracture ORIF	0	4	4
Patellectomy	0	4	4
Periprosthetic fracture of knee			
Open reduction and fixation of periprosthetic fracture - knee	0	2	4
Revision TKR for periprosthetic fracture of knee	0	2	4
Soft tissue repair			
Acute ligament repair	0	3	4
Patella tendon repair	0	4	4
Quadriceps tendon repair	0	4	4
Supracondylar fracture (not intraarticular)			
Supracondylar fracture (not intraarticular) DCS / blade plate etc.	0	4	4
Supracondylar femur fracture (not intraarticular) external fixation	0	4	4
Supracondylar femur fracture (not intraarticular) Intramedullary fixation	0	4	4
Supracondylar femur fracture (not intraarticular) MUA & POP	0	4	4
Tibial plateau fracture			
Repair of tibial spine	0	3	4
Tibial plateau fracture arthroscopically assisted fixation	0	2	4
Tibial plateau fracture ORIF with plates & screws	0	4	4
Tibial plateau fracture treatment with circular frame	0	2	4
Tibia & Fibula			
Diaphyseal tibial fracture external fixation (including frame)	1	3	4

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Diaphyseal tibial fracture intramedullary nailing	1	4	4
Diaphyseal tibial fracture MUA & POP	1	4	4
Tibial shaft plating	0	3	4
Fasciotomy for compartment syndrome	2	4	4
Tibial non-union			
Tibial non-union circular frame management	0	2	3
Tibial non-union intramedullary nailing +/- bone grafting	0	2	4
Tibial non-union ORIF +/- bone grafting	0	2	4
Elective Knee			
Knee			
Arthroscopic partial meniscectomy	1	4	4
Arthroscopic procedures	1	4	4
Arthroscopic excision of Hoffa's fat pad	0	4	4
Arthroscopic lateral release	0	4	4
Arthroscopic menisectomy	0	4	4
Arthroscopic removal loose bodies knee	0	4	4
Arthroscopic synovectomy	0	3	4
Arthroscopy knee diagnostic	1	4	4
Meniscal repair (arthroscopic)	0	2	4
Aspiration / injection knee joint	2	4	4
Cartilage regeneration procedures			
Abrasion arthroplasty / microfracture - knee	0	2	4
Mosaicplasty - knee	0	2	4
Osteochondral allografting - knee	0	2	4
Autologous chondrocyte implantation	0	2	4
Knee arthroplasty			
Patella resurfacing alone	0	1	4
Patello-femoral joint replacement	0	1	4
TKR	1	4	4
Unicompartmental knee arthroplasty	0	3	4
MUA knee	2	4	4
Osteotomy distal femoral	0	2	4
Osteotomy proximal tibial	0	2	4
Patella realignment	0	3	4

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Patella tendon decompression (open / arthroscopic)	0	3	4
Release contracture knee	0	2	4
Revision TKR			
1 stg of 2 stg rev infected TKR - removal of prosthesis +/- insertion of cement spacer / antibiotic beads	0	2	4
2 stg of 2 stg rev infected TKR - removal of spacer/beads	0	2	4
Revision TKR for periprosthetic fracture of knee	0	2	4
Single stage revision TKR	0	2	4
Soft tissue reconstruction			
ACL reconstruction - arthroscopic	0	2	4
ACL reconstruction - open	0	2	4
Reconstruction of posterolateral corner of knee	0	2	4
PCL reconstruction	0	2	4
Revision ACL reconstruction	0	1	4
Tibia & Fibula			
Endoprosthetic replacement for malignant bone tumour - tibia	1	2	3
Tibia or fibula malunion correction or other deformity	0	2	4
Tibial lengthening	0	1	3

Applied Clinical Skills: Foot and Ankle

A trainee must be able to demonstrate their competence in the procedures below at the appropriately marked level and stage of training.	
Competence Levels	
0 = No experience expected	3 = Can manage whole but may need assistance
1 = Has observed or knows of	4 = Able to manage without assistance including potential common complications
2 = Can manage with assistance	

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Trauma Foot and Ankle			
Ankle			
Ankle fracture / dislocation:			
Ankle fracture / dislocation MUA & POP	3	4	4
Ankle fracture / dislocation ORIF	2	4	4
Application of spanning external fixator	1	4	4
Irrigation and debridement native joint for infection - ankle	1	4	4
Irrigation and debridement prosthesis for infection - ankle	0	2	4
Pilon fracture			
Pilon fracture ex-fix	1	4	4
Pilon fracture ORIF	0	2	4
Pilon fracture treatment with circular frame	0	2	4
Foot			
Amputation toe / ray for trauma	0	3	4
Calcaneal fracture	0	2	4
Calcaneal fracture ex-fix	0	2	4
Calcaneal fracture ORIF	0	2	4
Metatarsal fracture ORIF	0	3	4
Phalangeal fracture MUA +/- K wire +/- ORIF	1	3	4
Removal foreign body from skin / subcutaneous tissue	2	4	4
Talar subtalar or midtarsal fracture / dislocation			
Lisfranc fracture ORIF	1	3	4
Midtarsal fracture / dislocation ORIF	0	3	4
Subtalar fracture / dislocation ORIF	0	3	4
Talar fracture / dislocation ORIF	0	3	4
Tarsometatarsal arthrodesis	0	2	4
Achilles tendon repair	1	4	4
Tendon repair in foot	0	4	4

Elective Foot and Ankle			
Ankle			
Arthrodesis ankle (open /arthroscopic)	0	2	4
Arthroplasty ankle	0	2	4
Arthrotomy ankle	0	4	4
Aspiration / injection ankle joint	0	4	4
Arthroscopic procedures			
Arthroscopy ankle diagnostic	0	3	4
Arthroscopy ankle therapeutic	0	2	4
Ligament repair / reconstruction			
Ankle - lateral ligament reconstruction	0	2	4
Ankle - medial ligament repair	0	2	4
Tendon procedures			
Decompression tendons at ankle	0	3	4
Gastrocnemius lengthening	0	3	4
Tendo-achilles reconstruction for neglected rupture	0	2	4
Tendo-achilles lengthening	0	2	4
Foot			
Akin osteotomy of proximal phalanx great toe	0	3	4
Amputation toe/ray	0	3	4
Ankle chielectomy	0	2	4
Aspiration / injection foot joint	0	3	4
Arthrodesis procedures			
Ankle	0	2	4
Hindfoot	0	2	4
Midtarsal	0	2	4
OSTEOTOMY			
Calcaneal osteotomy	0	2	4
Excision Haglund's deformity	0	2	4
Excision of accessory navicular	0	2	4
Excision of tarsal coalition	0	2	4
Pantalar arthrodesis	0	2	4
First metatarsal osteotomy			
First metatarsal osteotomy - basal	0	4	4
First metatarsal osteotomy – distal	0	4	4
First metatarsal osteotomy – scarf	0	4	4
First MTPJ procedures			
First MTPJ arthrodesis	0	3	4
First MTPJ cheilectomy	0	4	4

First MTPJ excision arthroplasty	0	3	4
First MTPJ replacement arthroplasty (silastic or other)	0	1	4
First MTPJ soft tissue correction	0	4	4
Forefoot reconstruction	0	2	4
Ingrowing toenail operation	2	4	4
Lesser metatarsal osteotomy	0	2	4
Correction of interphalangeal joint deformity of lesser toes	0	3	4
Soft tissue procedures			
Excision of Morton's neuroma	0	3	4
Correction of over-riding 5th toe'	0	2	4
Lesser toe tenotomy	0	3	4
Plantar fascia release	0	2	4
Tendon transfer foot	0	2	4
Tibialis posterior reconstruction	0	2	4

Topic	**CORE**	**ST3-ST8**	**SPECIALTY INTEREST**
Paediatric Orthopaedics			
The Upper Extremity			
Elective			
Repair of congenital pseudarthrosis of the clavicle	0	1	4
Release of congenital constriction band	0	1	2
Release of simple syndactyly	0	1	2
Release of congenital trigger thumb	1	3	4
Excision of duplicate thumb	0	1	2
Transfer of tendon for wrist flexion deformity	0	1	2
Supracondylar humeral osteotomy for correction of cubitus varus	0	1	2
Correction of thumb-in-palm deformity in cerebral palsy	0	1	2
Trauma			
Closed reduction and intramedullary fixation of humeral shaft fracture	1	3	4
Closed reduction and percutaneous pinning of supracondylar fracture of the humerus	1	4	4
Open reduction of supracondylar fracture of the humerus	1	4	4
Open reduction and internal fixation of displaced lateral condyle fracture of the humerus	1	3	4
Open reduction and internal fixation of fractures of the medical epicondyle	1	3	4
Closed, percutaneous, and open reduction of radial head and neck fractures	1	2	4
Intramedullary fixation of forearm fractures	1	3	4
The Pelvis and Hip			
Anterior drainage of the septic hip	1	4	4
Anterior approach to a developmentally dislocated hip	1	2	4

Topic	CORE	ST3-ST8	SPECIALTY INTEREST
Anteromedial approach to a developmentally dislocated hip	1	2	4
Innominate osteotomy of Salter	0	1	4
Pericapsular iliac osteotomy of Pemberton	0	1	4
The pericapsular pelvic osteotomy of Dega	0	1	4
Shelf arthroplasty	0	1	4
Triple innominate osteotomy	0	1	4
Ganz periacetabular osteotomy	0	1	4
Chiari medial displacement osteotomy of the pelvis	0	1	4
Anterior osteotomy for bladder exstrophy	0	1	2
Staheli shelf procedure	0	1	4
Arthrodesis of the hip joint	0	1	4
Percutaneous in situ cannulated screw fixation of slipped capital femoral epiphysis	1	4	4
Adductor and iliopsoas lengthening	0	1	4
Hamstring tenotomy	0	1	4
The Femur			
Planning an intertrochanteric osteotomy	0	2	4
Proximal femoral varus osteotomy in children	0	1	4
Valgus osteotomy for developmental coxa vara	0	1	4
Valgus osteotomy for hinged abduction in Perthes' disease	0	1	4
Proximal femoral rotational osteotomy	0	1	4
Southwick biplane intertrochanteric osteotomy for slipped capital femoral epiphysis	0	1	4
Osteotomy at the base of the femoral neck for slipped capital femoral epiphysis	0	1	4
Transfer of greater trochanter	0	1	4
Closed intramedullary shortening of the femur	0	1	4
Intramedullary fixation for femoral deformity in osteogenesis imperfecta	0	1	4
Closed reduction and spica cast application for the treatment of femoral shaft fracture	1	4	4
Flexible intramedullary nailing of femoral shaft fractures	1	4	4
Closed reduction and external fixation of femoral shaft fracture	1	4	4
Lengthening of the femur with rotational and angular correction with an external fixator	0	2	4
Distal angular femoral osteotomy	0	1	4
Percutaneous distal femoral epiphysiodesis	1	2	4
Hemiepiphysiodesis using plates and screws or staples	1	2	4
Surgical resection of partial growth plate arrest	0	1	4
Distal hamstring lengthening and posterior capsulotomy	0	1	4
Rectus femoris transfer	0	1	4

The Knee			
Proximal patellar realignment (Insall technique)	0	1	4
Semitendinosus tenodesis of patella for recurrent dislocation	0	1	4
Surgical repair of irreducible congenital dislocation of the knee	0	1	4
The Tibia			
Angular osteotomy of proximal tibia	0	1	4
Double osteotomy with elevation of the tibial plateau for Blount disease	0	1	4
Realignment, and intramedullary fixation for tibial deformity in osteogenesis imperfecta	0	1	4
Tibial lengthening with an external fixator	0	1	4
Management of congenital pseudoarthrosis of the tibia	0	1	4
Proximal tibial and fibular epiphysiodesis	0	1	4
Percutaneous epiphysiodesis of the proximal tibia	0	1	4
Hemiepiphysiodesis of the proximal tibia to angular deformity	0	2	4
Supramalleolar rotation osteotomy of the distal tibia and fibula	0	1	4
Wedge osteotomy for angular deformities of long bones	0	1	4
Screw epiphysiodesis for ankle valgus	0	1	4
The Foot			
Cast treatment of congenital clubfoot: the Ponseti method	1	2	4
Achilles tenotomy as part of Ponseti	1	2	4
Surgical correction of clubfoot	0	2	4
Resection of calcaneonavicular coalition	0	1	4
Excision of talocalcaneal coalition	0	1	4
Osteotomy of calcaneus for valgus	0	1	4
Calcaneal lengthening osteotomy for the treatment of hindfoot valgus deformity	0	1	4
Triple arthrodesis	0	1	4
Grice extraarticular subtalar arthrodesis	0	1	4
Proximal metatarsal osteotomy and bunionectomy	0	1	4
Open lengthening of achilles tendon	0	1	4
Percutaneous lengthening of Achilles tendon	0	1	4
Split posterior tibial tendon transfer	0	1	4
Transfer of the posterior tibial tendon to the dorsum of the foot	0	1	4
Anterior tibialis transfer	0	1	4
Butler procedure for overlapping fifth toe	0	1	4
Flexor tenotomy for curly toe deformity	1	2	4
Symes amputation	0	1	4
Boyd amputation with osteotomy of the tibia for fibular deficiency	0	1	4