JRCPTB

Joint Royal Colleges of Physicians Training Board

Curriculum for Sport and Exercise Medicine Training

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ROYAL COLLEGE of PHYSICIANS of EDINBURGH
ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF GLASGOW
Royal College of Physicians

Contents

1. Introduction 3
2. Purpose 3
   2.1 Purpose of the curriculum 3
   2.2 Training pathway 11
   2.3 Duration of training 11
   2.4 Generic Professional Capabilities and Good Medical Practice 12
3. Content of Learning 14
   3.1 Capabilities in practice 14
   3.2 Generic capabilities in practice 15
   3.3 Specialty capabilities in practice 19
   3.4 Presentations and conditions 28
   3.5 Practical procedures 36
4. Learning and Teaching 37
   4.1 The training programme 37
   4.2 Teaching and learning methods 39
   4.3 Academic training 42
5. Programme of Assessment 42
   5.1 Purpose of assessment 42
   5.2 Programme of Assessment 42
   5.3 Assessment of CiPs 43
   5.4 Critical progression points 45
   5.5 Evidence of progress 48
   5.6 Decisions on progress (ARCP) 50
   5.7 Assessment blueprint 51
6. Supervision and feedback 52
   6.1 Supervision 53
   6.2 Appraisal 54
7. Quality Management 55
8. Intended use of curriculum by trainers and trainees 56
9. Equality and diversity 57

1. Introduction

The purpose of the Sport and Exercise Medicine (SEM) curriculum is to produce doctors with the generic professional and specialty specific capabilities in two major priority healthcare domains. Firstly, specialists in SEM will lead and deliver comprehensive musculoskeletal (MSK) services, managing school aged children, adults and older adults, including those with additional co-morbidities and a chronic disease burden.

Secondly, SEM consultants will have the knowledge and the understanding of the practical application of exercise medicine in chronic disease at an individual and population level. Once they have completed specialist training, SEM consultants will work in community and/or hospital based environments for MSK medicine and lead on embedding exercise medicine and physical activity within clinical pathways for the prevention and management of chronic disease. The curriculum needs to have sufficient flexibility to train doctors entering the programme following training in internal medicine, general practice and ACCS.

The curriculum for SEM has been developed with input of trainees, consultants actively involved in delivering teaching and training across the UK, service representatives, the Faculty of Sport and Exercise Medicine (FSEM) and SAC lay persons. This has been through the work of JRCPTB, the SEM Specialist Advisory Committee and the FSEM.

We are an expanding speciality, due to the increasing evidence that demonstrates SEM specialists leading community and intermediary MSK teams improves patient experiences, reduces variation of care and improves cost effectiveness aligning with Getting it Right First Time (GIRFT) principles and outcomes.

The need to embed exercise medicine in community and secondary care settings, again led by SEM specialists is increasing annually. This curriculum will train a future workforce with the generalist skills and competencies to lead and develop the teams required to deliver the increasing demand for both MSK and exercise medicine.

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

2. Purpose

2.1 Purpose of the curriculum

The Shape of Training (SoT) review was a catalyst for reform of postgraduate training of all doctors to ensure it is more patient focused, more general (especially in the early years) and with more flexibility of career structure. For physician training, the views and recommendations of SoT were similar to those of the Future Hospital Commission and the Francis report. With an ageing population, elderly patients exhibit co-morbidities and

increasing complexity so acute medical and palliative medicine services need a revised approach to training the physician of the future in order to meet these needs.

A further driver for change was the GMC review of the curricula and assessment standards and introduction of the GPC framework. From May 2017, all postgraduate curricula should be based on higher level learning outcomes and must incorporate the generic professional capabilities. A fundamental component of the GPCs is ensuring that the patient is at the centre of any consultation and decision making.

The new Sport and Exercise curriculum will define explicitly what a consultant can do within an NHS or military setting. After completing training, it will be possible for a consultant to be employed anywhere within the 4 nations.

The new curriculum will give a more clearly defined role for a newly qualified specialist, it has been recognised that the old curriculum was not focused, so consultants had less purpose or identity. The opportunity to re-write the curriculum has been seen to be an excellent opportunity to clearly state how a new consultant will fit into the NHS as a whole, and the speciality welcomes this.

There is overwhelming evidence that a physically inactive population creates a high burden on health services (1). MSK conditions are a leading cause of inability to work, accounting for 9.5 million working days lost and a cost to society of £7.4 billion annually (2). Approximately 30% of GP consultations relate to MSK disorders. An MSK physician is able to manage 90% of patients without onward referral to orthopaedic surgeons or rheumatologists (3). An SEM trained doctor is the ideal person to lead and govern a multidisciplinary team (MDT) providing MSK Medicine services within the NHS, helping to manage patients in the community and secondary care, and enabling patients to return to work earlier (3). As our population ages, and patients live longer, the prevalence and burden of symptomatic osteoarthritis can be expected to rise. These patients can be effectively managed by an MSK multi-disciplinary team (MDT). Latest NICE guidelines suggest that patients who have traditionally required certain procedures performed by orthopaedic surgeons in a hospital setting, such as knee arthroscopy and spinal injections, may be better managed using a non-interventional approach, again ideal for a community MSK service setting. This also ties in with the Getting it Right First Time (GIRFT) project, to ensure patients see the correct specialist to manage their problem (4).

Consultants in SEM will help to underpin other agencies and health care professionals that provide care to patients, such as hospital and community physiotherapists, podiatrists and General Practitioners working in MSK clinics. It is recognised that the population burden of MSK conditions and chronic disease is so large it cannot be delivered purely by specialists. The expanding roles of allied health professionals provide a large workforce. SEM consultants will be trained to provide the structure for leadership, training and governance required to support the workforce delivering diagnostic and treatment services to the patients. This would involve SEM consultants leading and working alongside the wider team comprising doctors in training from SEM, rehabilitation and rheumatology, General Practitioners who have developed a special interest in MSK medicine, other health care professionals who have the diagnostic and treatment skills to work as independent

practitioners, including Extended Scope Physiotherapists and Specialist Nurse Practitioners. The experiential learning of the SEM consultant curriculum will provide both the professional skills of leadership, management, governance, Quality Improvement and service development that are not routinely delivered in the training programmes of these allied professionals with the unique combination of clinical skills covering the breadth of MSK and exercise medicine required by a holistic service.

Physical activity is a powerful tool in the prevention and treatment of disease. In the United Kingdom 30% of the population are classified as being physically inactive and thus at risk of developing a non-communicable disease (5). Heart disease, diabetes, stroke, obesity, osteoporosis, frailty, dementia, certain cancers, osteoarthritis and low back pain are some of the most recognisable conditions for which there is a link to physical inactivity, and as the population continues to age these problems are becoming more prevalent. The curriculum aims to enable SEM doctors to work with specialists in other clinical areas to help manage chronic disease and to work with non-medical agencies to improve the physical environment and access to physical activity programmes in order to help the United Kingdom meet the WHO goals for increased physical activity (1). SEM does not need to be delivered in a traditional secondary care model.

SEM specialist care can be provided closer to patient's homes, responding to patient needs, and helping the NHS to deliver the 5 year forward view, which has a focus on helping with diabetes prevention, preventing childhood obesity and managing patients with cancer, all of which can be achieved through exercise promotion. Working closely with Public Health England, SEM specialists have led on the development of sustainable pathways embedding physical activity to improve patients' outcomes (6). This curriculum will provide a workforce to lead and deliver the future increased needs across the population.

This curriculum will ensure that the trainee develops the full range of generic professional capabilities and underlying knowledge and skills, specifically focusing on their application in the practice of SEM. This will require additional development of some of the generic capabilities than is needed in other specialities due to the fact that extensive multidisciplinary work will occur across multiple settings.

The objectives of the curriculum are:

- To outline a range of specific professional capabilities that encompass all knowledge, skills and activities needed to practice SEM at consultant level;
- To set expected standards of knowledge and performance of professional skills and activities at each stage;
- To suggest indicative training times and experiences needed to achieve the required standards;

SEM consultants will support the medical specialties in the use of exercise medicine in the management of chronic disease and in the accurate diagnosis and timely management of common and disabling MSK disease. The scope of SEM requires diagnostic reasoning and the ability to manage uncertainty, deal with comorbidities and recognise when further

investigation is required. The GMC's Generic Professional Capability framework will be embedded within the curriculum.

Scope of practice

The scope of SEM covers MSK medicine and exercise medicine at a population and individual level. SEM requires diagnostic reasoning and the ability to manage uncertainty, deal with comorbidities and recognise when speciality opinion or care is required from other colleagues within SEM, or from other specialities.

SEM doctors need the ability to work within, and be leaders of, MDTs and systems involving other healthcare professionals, including physiotherapists, exercise therapists, physiologists, psychologists, rehabilitation practitioners and podiatrists, to effectively provide optimal patient care. These groups of patients include, but are not limited to, people with disability, veterans, military personnel, athletes and children. It is expected that SEM doctors will be able to provide care in a military setting, which is where a proportion of existing SEM doctors are working currently.

It is noted that a proportion of SEM doctors also work in a sporting environment. Achieving the high level outcomes within this curriculum will provide the competencies required to work in sports' teams and event medicine settings which encompass disabled and able bodied populations and across all age groups.

SEM specialists will support and promote both population and individual person health through physical activity. SEM specialists will work alongside Public Health specialists to assess and deliver population needs.

SEM need not work primarily in a hospital setting, but can work closer to the patient in the community alongside community based primary care colleagues. Demonstration of involvement with multidisciplinary and multi-professional working throughout training will therefore be required.

Doctors in training will learn in a variety of settings using a range of methods, including workplace-based experiential learning, formal postgraduate teaching and simulation-based education.

All aspects of the curriculum can be adapted to facilitate less than full time (LTFT) training.

The future SEM consultant will not have any notable exclusions to their practise.

High level outcomes; capabilities in practice

The SEM capabilities in practice (CiPs) describe the professional tasks or work within the scope of SEM. Each CiP has a set of descriptors associated with that activity or task. Descriptors are intended to help trainees and trainers recognise the minimum level of

knowledge, skills and behaviours which should be demonstrated for an entrustment decision to be made. By the completion of training and award of a CCT, the doctor must demonstrate that they are capable of unsupervised practice in all CiPs.

The CiPs have been mapped to the GPC domains and subsections to reflect the professional generic capabilities required to undertake the clinical tasks. Satisfactory sign off requires demonstration that, for each of the CiPs, the doctor in training's performance meets or exceeds the minimum expected level for completion of training, as defined in the curriculum.

The SEM CiPs comprise six generic CiPs shared across all physician specialties and 7 specialty CiPs. This will produce specialists with broad generalist skills across the curriculum.

Learning outcomes – capabilities in practice (CiPs)
Generic CiPs
1. Able to successfully function within NHS organisational and management systems 2. Able to deal with ethical and legal issues related to clinical practice 3. Communicates effectively and is able to share decision making, while maintaining appropriate situational awareness, professional behaviour and professional judgement 4. Is focussed on patient safety and delivers effective quality improvement in patient care 5. Carrying out research and managing data appropriately 6. Acting as a clinical teacher and clinical supervisor
Specialty CiPs
1. Leading and managing a multi-disciplinary team. 2. Ability to develop, lead and deliver a comprehensive musculoskeletal service that spans community and hospital settings for adults. 3. Ability to develop, lead and deliver a comprehensive musculoskeletal service that spans community and hospital settings for adolescents and school aged children. 4. Ability to deliver exercise medicine services for adults, encompassing both prevention and management of chronic disease. 5. Ability to deliver exercise medicine services for adolescents and school aged children, encompassing both prevention and management of chronic disease. 6. The ability to promote and support population health through physical activity.

7. Delivering effective resuscitation and early management of the acutely injured and unwell patient in the pre-hospital and hospital environments, including sports related mild traumatic brain injury

Output

It is anticipated that, when fully trained, the doctor will be:

- Safe and competent to manage patients of all ages with both acute and long-term MSK conditions.

- Safe and competent to lead on the delivery of exercise medicine to patients of all ages with a wide variety of chronic and long-term conditions.

- Able to work constructively with a wide range of other medical specialities, a wide range of different professions, and a wide range of other related organisations and agencies, particularly being able to set priorities and to encourage shared responsibility.

- Able to practice in the clinical specialist area associated with the post to which she or he is appointed with an appropriate level of additional knowledge and skill.

- Able to maintain professional knowledge and skills, and able to learn to practice in new clinical areas if or when the need arises.

- Able to contribute effectively to the management and education of members of any teams and services he or she works with, this may include other SEM specialists, GP's with a special interest in MSK or exercise medicine and allied health professionals including, but not limited to, physiotherapists, podiatrists and exercise rehabilitation therapists.

- Able to contribute effectively to wider NHS quality control, service development and quality improvement activities and also broadly linking with local statutory and non-statutory organisations.

- Demonstrate all the attributes of professionalism, particularly recognition of the primacy of patient welfare that is required for safe and effective care of those with

both acute and long-term conditions, ensuring patients views are central to all decision making.

- Continue personal professional development and help to train and educate not only doctors and medical students, but also students and staff from allied health care professionals.

Interdependencies

Many patients with a MSK disorder are likely to have a number of comorbid conditions, so the diversity of the training curriculum in SEM needs to reflect this. Equally, patients requiring input and advice on exercise as a preventative and treatment intervention will almost always have significant comorbidity, such as cardiovascular disease or diabetes.

There is an inevitable clinical interdependency; patients may need input from a disease specialist and a SEM specialist at the same time. Some existing curricula, such as Rheumatology and Rehabilitation Medicine, will cover some of the principles and practice of SEM. Conversely, some of the SEM curriculum will be transferable to those specialities and others.

The diverse range of entry criteria means that trainees will come with different core training backgrounds. Trainees from General Practice will have more experience in community MSK problems and chronic disease management, whereas those from internal medicine will have more experience of acute medical conditions and may need additional training in MSK medicine. A trainee coming from general practice will still require the indicative 4 years of training to develop skills and competencies across the full breadth of the curriculum. It is a competency based curriculum so all trainees could theoretically complete in an accelerated time and assessment of this will be at the annual review.

Some flexibility in tailoring training based on prior experience should be possible within the wider training scheme. Trainees from almost all specialities may have gained some transferrable knowledge and skills, and those most likely to be significant include:

- Rheumatology
- Rehabilitation Medicine
- General Practice
- Public Health Medicine
- Orthopaedic Surgery
- Accident and Emergency Medicine
- General Medicine
- Paediatrics
- Geriatric Medicine

- Neurology
- Radiology

It is our ambition to facilitate flexibility through encouraging transfers when requested by a trainee. Initially the level of transferable experience will be judged on a case-by-case basis, and each trainee would be assessed in terms of actual training received and capabilities achieved up to that point. There will be generic competencies from all specialist curricula that would be potentially transferable. In addition, there are specific clinical components of the curriculum developed with shared language and assessments to facilitate any transfer of competencies, notably with rehabilitation and rheumatology.

The curriculum for SEM incorporates and emphasises the importance of the generic professional capabilities. Common capabilities will promote flexibility in postgraduate training in line with the recommendations set out in the GMC's report to the four UK governments. We believe a flexible approach is essential to deliver a sustainable model for physician training agile enough to respond to evolving patient need.

Flexibility and transferability

The curriculum incorporates and emphasises the importance of the generic professional capabilities (GPCs). GPCs will promote flexibility in postgraduate training as these common capabilities can be transferred from specialty to specialty.

The curriculum will allow trainees to train in academic medicine alongside their acquisition of clinical and generic capabilities, and these skills will be transferable across other specialties.

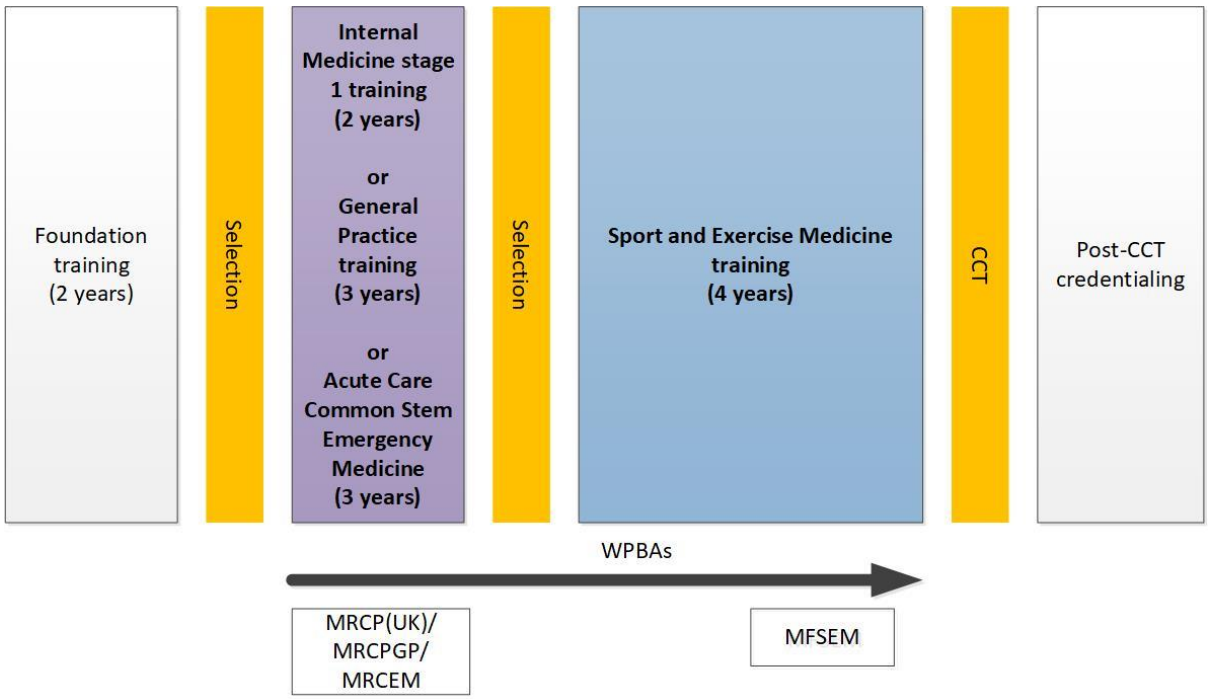
This curriculum allows for flexible training. LTFT trainees should undertake a pro rata share of out of hours duties (including on-call and other out-of-hours commitments) required of their full time colleagues and it is expected that clinical training will be of a duration pro rata with the time recommended for full time trainees, although this should be reviewed in accordance with the Gold Guide.

Furthermore, those undertaking OOP experience in research, education or management will gain generic skills which will be useful in a variety of professional roles.

All these skills will be transferable and will increase future prospects in a many settings and professional subspecialties.

2.2 Training pathway

Sports and Exercise medicine is a group 2 specialty and is entered at ST3 on completion of two years of Internal Medicine (IM) stage 1, 3 years of General Practice training or 3 years of Acute Care Common Stem Emergency Medicine (ACCS). Trainees will take an indicative four year higher specialist training programme and complete the Membership exam of the Faculty of Sport and Exercise Medicine (MFSEM).



2.3 Duration of training

SEM training will be an indicative 4-year training programme, with trainees accepted following completion of 2 years of the Internal Medicine stage 1 curriculum (with full MRCP(UK)). Alternative core programmes will also include completion of General Practice training, or following completion of ACCS training. This flexibility of entry is a key strength of SEM training which requires broad and extensive skills across primary and secondary care and population health. Those currently on the SEM training programme come from all of these specialities, with approximately one third of trainees from each programme (national recruitment data).

There will be a single critical progression point at completion of the fourth year of training (ST6) where trainees will be expected to meet all curriculum requirements and be able to practise independently as a consultant in SEM.

During training, adequate progression will be assessed at the Annual Review (ARCP) and will include passing the requisite exams to demonstrate knowledge and skills that underpin clinical competencies.

There will be options for those trainees who demonstrate exceptionally rapid development and acquisition of capabilities to complete training faster than the current indicative time

although it is recognised that clinical experience is a fundamental aspect of development as a good physician (guidance on completing training early will be available on the JRCPTB website). There may also be a small number of trainees who develop more slowly and will require an extension of training in line the Reference Guide for Postgraduate Specialty Training in the UK (The Gold Guide)[1].

Less than full time training

Trainees are entitled to opt for LTFT training programmes. LTFT trainees should undertake a pro rata share of the out-of-hours duties (including on-call and other out-of-hours commitments) required of their full-time colleagues in the same programme and at the equivalent stage.

LTFT trainees should assume that their clinical training will be of a duration pro-rata with the time indicated/recommended, but this should be reviewed in accordance with the Gold Guide.

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

2.4 Generic Professional Capabilities and Good Medical Practice

The GMC has developed the Generic professional capabilities (GPC) framework[2] with the Academy of Medical Royal Colleges (AoMRC) to describe the fundamental, career-long, generic capabilities required of every doctor. The framework describes the requirement to develop and maintain key professional values and behaviours, knowledge, and skills, using a common language. GPCs also represent a system-wide, regulatory response to the most common contemporary concerns about patient safety and fitness to practise within the medical profession. The framework will be relevant at all stages of medical education, training and practice.

[1] A Reference Guide for Postgraduate Specialty Training in the UK
[2] Generic professional capabilities framework

The nine domains of the GMC's Generic Professional Capabilities

Good medical practice (GMP)[3] is embedded at the heart of the GPC framework. In describing the principles, duties and responsibilities of doctors the GPC framework articulates GMP as a series of achievable educational outcomes to enable curriculum design and assessment.

The GPC framework describes nine domains with associated descriptor outlining the 'minimum common regulatory requirement' of performance and professional behaviour for those completing a CCT or its equivalent. These attributes are common, minimum and generic standards expected of all medical practitioners achieving a CCT or its equivalent.

The nine domains and subsections of the GPC framework are directly identifiable in the curriculum. They are mapped to each of the generic and specialty CiPs, which are in turn mapped to the assessment blueprints. This is to emphasise those core professional capabilities that are essential to safe clinical practice and that they must be demonstrated at every stage of training as part of the holistic development of responsible professionals.

This approach will allow early detection of issues most likely to be associated with fitness to practise and to minimise the possibility that any deficit is identified during the final phases of training.

[3] Good Medical Practice

3. Content of Learning

The practice of SEM requires both the generic and the speciality knowledge, attitudes and assessment skills needed to manage patients presenting in two main areas. The first is patients presenting with a wide range of different musculoskeletal conditions encompassing a wide range of causation, injury and underlying disease processes. These conditions are set in a broad range of social, cultural and physical settings. The second is the ability and knowledge to promote exercise as a health tool and treatment modality to adults, adolescents and children, both with or without underlying medical conditions, and to understand the barriers and motivators to exercise.

Practice in SEM has a particular emphasis on clinical reasoning, managing complex multi-factorial problems, recognising appropriately both the limits of and the need for medical investigations and treatments, identifying when other medical specialities and/or health and social care professions and/or organisations need to be involved, and how to liaise most effectively with other teams.

The curriculum is recursive and topics and themes will be revisited to expand understanding and expertise. The level of entrustment for CiPs will increase as an individual progresses from needing direct supervision to being entrusted to act unsupervised.

3.1 Capabilities in practice

CiPs describe the professional tasks or work within the scope of the specialty. CiPs are based on the concept of entrustable professional activities[4] which use the professional judgement of appropriately trained, expert assessors as a defensible way of forming global judgements of professional performance.

Each CiP has a set of descriptors associated with that activity or task. Descriptors are intended to help trainees and trainers recognise the knowledge, skills and attitudes which should be demonstrated. Doctors in training may use these capabilities to provide evidence of how their performance meets or exceeds the minimum expected level of performance for their year of training. The descriptors are not a comprehensive list and there are many more examples that would provide equally valid evidence of performance.

Many of the CiP descriptors refer to patient centred care and shared decision making. This is to emphasise the importance of patients being at the centre of decisions about their own treatment and care, by exploring care or treatment options and their risks and benefits and discussing choices available.

Additionally, the CiPs repeatedly refer to the need to demonstrate professional behaviour with regard to patients, carers, colleagues and others. Good doctors work in partnership with patients and respect their rights to privacy and dignity. They treat each patient as an individual. They do their best to make sure all patients receive good care and treatment that

[4] Nuts and bolts of entrustable professional activities

will support them to live as well as possible, whatever their illness or disability. Appropriate professional behaviour should reflect the principles of GMP and the GPC framework.

In order to complete training and be recommended to the GMC for the award of CCT and entry to the specialist register, the doctor must demonstrate that they are capable of unsupervised practice in all generic and specialty CiPs. Once a trainee has achieved level 4 sign off for a CiP it will not be necessary to repeat assessment of that CiP if capability is maintained (in line with standard professional conduct).

This section of the curriculum details the six generic CiPs and seven of specialty CiPs for SEM. The expected levels of performance, mapping to relevant GPCs and the evidence that may be used to make an entrustment decision are given for each CiP. The list of evidence for each CiP is not prescriptive and other types of evidence may be equally valid for that CiP.

3.2 Generic capabilities in practice

The six generic CiPs cover the universal requirements of all specialties as described in GMP and the GPC framework. Assessment of the generic CiPs will be underpinned by the descriptors for the nine GPC domains and evidenced against the performance and behaviour expected at that stage of training. Satisfactory sign off will indicate that there are no concerns. It will not be necessary to assign a level of supervision for these non-clinical CiPs.

In order to ensure consistency and transferability, the generic CiPs have been grouped under the GMP-aligned categories used in the Foundation Programme curriculum plus an additional category for wider professional practice:

- Professional behaviour and trust
- Communication, team-working and leadership
- Safety and quality
- Wider professional practice

For each generic CiP there is a set of descriptors of the observable skills and behaviours which would demonstrate that a trainee has met the minimum level expected. The descriptors are not a comprehensive list and there may be more examples that would provide equally valid evidence of performance.

KEY

ACAT	Acute care assessment tool	ALS	Advanced Life Support
CbD	Case-based discussion	DOPS	Direct observation of procedural skills
GCP	Good Clinical Practice	MRCP (UK)	Membership of the Royal Colleges of Physicians Diploma
Mini-CEX	Mini-clinical evaluation exercise	MCR	Multiple consultant report
MSF	Multi source feedback	PS	Patient survey
QIPAT	Quality improvement project assessment tool	TO	Teaching observation

Generic capabilities in practice (CiPs)	
Category 1: Professional behaviour and trust	
1. Able to function successfully within NHS organisational and management systems	
Descriptors	• Aware of and adheres to the GMC professional requirements • Aware of public health issues including population health, social detriments of health and global health perspectives • Demonstrates effective clinical leadership • Demonstrates promotion of an open and transparent culture • Keeps practice up to date through learning and teaching • Demonstrates engagement in career planning • Demonstrates capabilities in dealing with complexity and uncertainty • Aware of the role of and processes for commissioning • Aware of the need to use resources wisely
GPCs	Domain 1: Professional values and behaviours Domain 3: Professional knowledge • professional requirements • national legislative requirements • the health service and healthcare systems in the four countries Domain 9: Capabilities in research and scholarship
Evidence to inform decision	MCR MSF Active role in governance structures Management course End of placement reports
2. Able to deal with ethical and legal issues related to clinical practice	
Descriptors	• Aware of national legislation and legal responsibilities, including safeguarding vulnerable groups • Behaves in accordance with ethical and legal requirements • Demonstrates ability to offer apology or explanation when appropriate • Demonstrates ability to lead the clinical team in ensuring that medical legal factors are considered openly and consistently
GPCs	Domain 3: Professional knowledge • professional requirements • national legislative requirements • the health service and healthcare systems in the four countries Domain 4: Capabilities in health promotion and illness prevention Domain 7: Capabilities in safeguarding vulnerable groups Domain 8: Capabilities in education and training Domain 9: Capabilities in research and scholarship
Evidence to inform decision	MCR MSF CbD DOPS Mini-CEX MRCP(UK)

	ALS certificate End of life care and capacity assessment End of placement reports
Category 2: Communication, teamworking and leadership	
3. Communicates effectively and is able to share decision making, while maintaining appropriate situational awareness, professional behaviour and professional judgement	
Descriptors	• Communicates clearly with patients and carers in a variety of settings • Communicates effectively with clinical and other professional colleagues • Identifies and manages barriers to communication (eg cognitive impairment, speech and hearing problems, capacity issues) • Demonstrates effective consultation skills including effective verbal and nonverbal interpersonal skills • Shares decision making by informing the patient, prioritising the patient's wishes, and respecting the patient's beliefs, concerns and expectations • Shares decision making with children and young people • Applies management and team working skills appropriately, including influencing, negotiating, re-assessing priorities and effectively managing complex, dynamic situations
GPCs	Domain 2: Professional skills • practical skills • communication and interpersonal skills • dealing with complexity and uncertainty • clinical skills *(history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)* Domain 5: Capabilities in leadership and teamworking
Evidence to inform decision	MCR MSF PS MRCP(UK) End of placement reports ES report
Category 3: Safety and quality	
4. Is focussed on patient safety and delivers effective quality improvement in patient care	
Descriptors	• Makes patient safety a priority in clinical practice • Raises and escalates concerns where there is an issue with patient safety or quality of care • Demonstrates commitment to learning from patient safety investigations and complaints • Shares good practice appropriately • Contributes to and delivers quality improvement • Understands basic Human Factors principles and practice at individual, team, organisational and system levels • Understands the importance of non-technical skills and crisis resource management • Recognises and works within limit of personal competence • Avoids organising unnecessary investigations or prescribing poorly evidenced treatments

GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • practical skills • communication and interpersonal skills • dealing with complexity and uncertainty • clinical skills *(history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)* Domain 3: Professional knowledge • professional requirements • national legislative requirements • the health service and healthcare systems in the four countries Domain 4: Capabilities in health promotion and illness prevention Domain 5: Capabilities in leadership and teamworking Domain 6: Capabilities in patient safety and quality improvement • patient safety • quality improvement
Evidence to inform decision	MCR MSF QIPAT End of placement reports
Category 4: Wider professional practice	
5. Carrying out research and managing data appropriately	
Descriptors	• Manages clinical information/data appropriately • Understands principles of research and academic writing • Demonstrates ability to carry out critical appraisal of the literature • Understands the role of evidence in clinical practice and demonstrates shared decision making with patients • Demonstrates appropriate knowledge of research methods, including qualitative and quantitative approaches in scientific enquiry • Demonstrates appropriate knowledge of research principles and concepts and the translation of research into practice • Follows guidelines on ethical conduct in research and consent for research • Understands public health epidemiology and global health patterns • Recognises potential of applied informatics, genomics, stratified risk and personalised medicine and seeks advice for patient benefit when appropriate
GPCs	Domain 3: Professional knowledge • professional requirements • national legislative requirements • the health service and healthcare systems in the four countries Domain 7: Capabilities in safeguarding vulnerable groups Domain 9: Capabilities in research and scholarship
Evidence to inform decision	MCR MSF MRCP(UK) GCP certificate (if involved in clinical research) Evidence of literature search and critical appraisal of research Use of clinical guidelines Quality improvement and audit

	Evidence of research activity End of placement reports
6. Acting as a clinical teacher and clinical supervisor	
Descriptors	• Delivers effective teaching and training to medical students, junior doctors and other health care professionals • Delivers effective feedback with action plan • Able to supervise less experienced trainees in their clinical assessment and management of patients • Able to supervise less experienced trainees in carrying out appropriate practical procedures • Able to act a clinical supervisor to doctors in earlier stages of training
GPCs	Domain 1: Professional values and behaviours Domain 8: Capabilities in education and training
Evidence to inform decision	MCR MSF TO Relevant training course End of placement reports

3.3 Specialty capabilities in practice

The specialty CiPs describe the clinical tasks or activities which are essential to the practice of SEM. The CiPs have been mapped to the nine GPC domains to reflect the professional generic capabilities required to undertake the clinical tasks.

Satisfactory sign off will require ESs to make entrustment decisions on the level of supervision required for each CiP and if this is satisfactory for the stage of training, the trainee can progress. More detail is provided in the programme of assessment section of the curriculum.

KEY

CbD	Case-based discussion	ALS	Advanced Life Support
GCP	Good Clinical Practice	DOPS	Direct observation of procedural skills
Mini-CEX	Mini-clinical evaluation exercise	MCR	Multiple consultant report
MSF	Multi source feedback	PS	Patient survey
QIPAT	Quality improvement project assessment tool	TO	Teaching observation

Specialty CiPs	
1. Leading and managing a multi-disciplinary team.	
Descriptors	• Understands the features of good team dynamics

	• Understands the principles of, and uses, effective inter-professional collaboration to optimise patient and population care across all care settings • Demonstrates flexible and adaptable leadership styles to optimise team cohesion and productivity • Understands personal and team resilience and its impact on team effectiveness • Supports an open and transparent approach to incident and complaint investigation, management and resolution • Demonstrates ability to synthesise complex clinical and psychosocial information leading to patient centred clinical decision making in all settings including NHS, sport, military and community environments • Demonstrates ability to support, educate, influence and develop members of the wider multi-professional team to deliver high quality sport and exercise medicine care across all care settings for all patients • Shows an ability to coordinate care across multiple agencies to address physical, psychological and social needs in community, secondary care, recreational and sporting environments and across all healthcare settings • Demonstrates attitudes and behaviours that assist dissemination of good practice
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • communication and interpersonal skills • dealing with complexity and uncertainty Domain 3: Professional knowledge • professional requirements • national legislative requirements • the health service and healthcare systems in the four countries Domain 4: Capabilities in health promotion and illness prevention Domain 5: Capabilities in leadership and teamworking Domain 6: Capabilities in patient safety and quality improvement Domain 8: Capabilities in education and training
Evidence to inform decision	CbD Mini-CEX MCR PS Reflection MSF Letters and clinical notes
2. Ability to develop, lead and deliver a comprehensive musculoskeletal service that spans community and hospital settings for adults.	

Descriptors	• Understand the burden of musculoskeletal problems across socio-economic and ethnic minority groups, military personnel, those with disability and co-morbidity and athletes • Demonstrates the ability to develop clinical services and pathways that meet with local needs alongside community, primary and secondary care colleagues • Demonstrates the ability to assess, appropriately investigate and diagnose patients with a wide range of acute and chronic musculoskeletal conditions • Demonstrates the ability to formulate a multi-disciplinary management plan to optimally treat patients across the spectrum of musculoskeletal problems in accordance with latest guidelines and best practice • Demonstrates effective consultation, time management and prioritisation skills within a busy outpatient setting • Understands the pathophysiology of tissue injury and repair and its relevance to management and rehabilitations decisions • Identify and re-direct management of malignancy, infection and inflammatory pathologies • Can identify risk factors and contributors to musculoskeletal injury including relative energy deficiency • Demonstrates knowledge and utilisation of pharmacological and non-pharmacological approaches to the management of musculoskeletal pain • Safely and appropriately perform intra-articular and soft tissue injections for musculoskeletal conditions using, or referring on, for image guidance where appropriate • Has full knowledge of different imaging techniques including safe practice and limitations • An understanding of the theory and physics of musculoskeletal ultrasound (MSKUS), governance around its use and incorporation of MSKUS findings into clinical presentations
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • practical skills • communication and interpersonal skills • dealing with complexity and uncertainty • clinical skills (history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease) Domain 3: Professional knowledge • professional requirements • national legislative requirements

	• the health service and healthcare systems in the four countries Domain 5: Capabilities in leadership and teamworking Domain 6: Capabilities in patient safety and quality improvement Domain 7: Capabilities in safeguarding vulnerable groups
Evidence to inform decision	CbD Mini-CEX MCR Reflection PS MSF Logbook Letters and clinical notes DOPS QiPAT
3. Ability to develop, lead and deliver a comprehensive musculoskeletal service that spans community and hospital settings for adolescents and school aged children.	
Descriptors	• Demonstrates knowledge to recognise, diagnose and manage musculoskeletal problems and their associated complications in school aged children and adolescents • Demonstrates knowledge of the anatomical, physiological, psychosocial, sexual and educational development of children and adolescents in the management of musculoskeletal conditions • Demonstrates the knowledge and understanding of working with a child health multidisciplinary team to support the rehabilitation and treatment of school aged children and young people with musculoskeletal problems • Demonstrates the ability to perform age appropriate history taking and examination • Can identify risk factors and contributors to musculoskeletal injury including relative energy deficiency • Identify and re-direct management of malignancy, infection and inflammatory pathologies • Understands, and appropriately uses, different imaging techniques in the assessment of musculoskeletal problems in school aged children and adolescents • Demonstrates ability to deliver age and activity appropriate rehabilitation programmes • Demonstrates knowledge and utilisation of pharmacological and non-pharmacological approaches to the management of musculoskeletal pain in school aged children and adolescents

	• Demonstrates knowledge of safeguarding and non accidental injury (NAI) within the adolescent and school age population • Demonstrates ability to support development of adolescents and young adults independence and autonomy in health care and acknowledging their right to dictate appropriate parent/carer involvement • Demonstrates knowledge of the aspects that enhance care during transition and transfer between paediatric and adult services, including patients with long term health conditions and disability
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • practical skills • communication and interpersonal skills • dealing with complexity and uncertainty • clinical skills (history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease) Domain 3: Professional knowledge • professional requirements • national legislative requirements • the health service and healthcare systems in the four countries Domain 5: Capabilities in leadership and teamworking Domain 6: Capabilities in patient safety and quality improvement Domain 7: Capabilities in safeguarding vulnerable groups
Evidence to inform decision	CbD Mini-CEX MCR Reflection MSF Letters and clinical notes DOPS QiPAT
4. Ability to deliver exercise medicine services for adults, encompassing both prevention and management of chronic disease.	
Descriptors	• Demonstrates knowledge and application of the evidence and guidelines for the use of physical activity in both prevention and management of chronic disease • Demonstrate the knowledge and application of behavioural change theory when prescribing physical activity for the prevention and management of chronic disease

	• Demonstrates participation in the development and evaluation of resources for patient, carers, other medical professionals and organisations aimed at increasing physical activity levels • Knowledge and understanding of normal exercise physiology, the performing and interpretation of relevant investigations and the impact of disease and medication • To develop an understanding of the effects that the ageing process and the presence of co- existing morbidities can have on an elderly individual's ability to undertake exercise • Demonstrates the ability to advise women on undertaking safe exercise, throughout the lifespan and in pregnancy, including advising on energy balance, bone health and hormonal influences • Demonstrates an awareness of the unique needs of patients with disabilities and the barriers faced in participating in physical exercise • Understanding the social, psychological and cultural factors that influence physical activity participation and demonstrate initiatives to overcome these
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • practical skills • communication and interpersonal skills • dealing with complexity and uncertainty • clinical skills (history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease) Domain 3: Professional knowledge • professional requirements • national legislative requirements • the health service and healthcare systems in the four countries Domain 4: Capabilities in health promotion and illness prevention Domain 5: Capabilities in leadership and teamworking Domain 6: Capabilities in patient safety and quality improvement Domain 7: Capabilities in safeguarding vulnerable groups Domain 9: Capabilities in research and scholarship
Evidence to inform decision	CbD Mini-CEX MCR Reflection PS MSF Letters and clinical notes

	QiPAT
5. Ability to deliver exercise medicine services for adolescents and school aged children, encompassing both prevention and management of chronic disease.	
Descriptors	• Understand and promote integrated physical activity opportunities for school aged children and adolescents, including those with a disability, and promote a lifelong relationship with exercise • Demonstrates understanding of the effects of age and educational development, puberty, energy balance, medication and environment on physical activity in children and adolescents • Demonstrates the ability to support physical activity in chronic diseases alongside appropriate specialist multidisciplinary teams • The ability to use motivational interviewing and behavioural change models to promote physical activity for the prevention and management of chronic disease • Can demonstrate collaborative education on physical activity across specialist multidisciplinary teams within a variety of healthcare settings and the family unit • Demonstrates knowledge of factors that enhance care during the transition and transfer between paediatric and adult services • Show evidence of knowledge sufficient to engage constructively with other relevant organisations (primary care, social services, local authority, education, mental health services, voluntary organisations) to develop clinical pathways promoting physical activity participation in chronic disease prevention and management
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • communication and interpersonal skills • dealing with complexity and uncertainty • clinical skills (history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease) Domain 3: Professional knowledge • professional requirements • national legislative requirements • the health service and healthcare systems in the four countries Domain 4: Capabilities in health promotion and illness prevention Domain 5: Capabilities in leadership and teamworking Domain 6: Capabilities in patient safety and quality improvement Domain 7: Capabilities in safeguarding vulnerable groups

	Domain 9: Capabilities in research and scholarship
Evidence to inform decision	CbD Mini-CEX MCR Reflection PS MSF Letters and clinical notes QiPAT
6. The ability to promote and support population health through physical activity.	
Descriptors	• Demonstrates knowledge of the epidemiology of chronic disease and the evidence for the role of physical activity in the management of these conditions • Demonstrates knowledge and ability to measure physical activity levels at an individual and population level and how to critically evaluate physical activity interventions • Demonstrates an understanding of public health policy development and implementation in relation to physical activity and health • Demonstrates knowledge and understanding of the services supporting the promotion of physically active lifestyles including local authority, community, voluntary sector, primary and secondary care and private sector, and the importance of collaborative working of these organisations to improve population health • Understands the theoretical basis of health promotion, the need for multi-agency involvement and the associated potential ethical dilemmas • Demonstrates understanding of environmental, social and cultural issues affecting health promotion relating to the uptake of physical activity • Has knowledge of the principles, criteria and implementation of screening programs and how these can be employed within a Sport and Exercise Medicine setting • Demonstrates the skills to identify the challenges for implementing and/or improving public health practice related to physical activity in either a clinical or community setting and where current practice could be improved using an evidence based approach • Understands the impact of health inequalities, especially poverty, on health and the influence of culture and beliefs on perceptions of health
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills

	• communication and interpersonal skills • dealing with complexity and uncertainty • clinical skills (history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease) Domain 3: Professional knowledge • professional requirements • national legislative requirements • the health service and healthcare systems in the four countries Domain 4: Capabilities in health promotion and illness prevention Domain 5: Capabilities in leadership and teamworking Domain 6: Capabilities in patient safety and quality improvement Domain 7: Capabilities in safeguarding vulnerable groups
Evidence to inform decision	CbD Mini-CEX MCR Reflection MSF QiPAT
7. Delivering effective resuscitation and early management of acutely injured and unwell patient in the pre-hospital and hospital environments, including sports related mild traumatic brain injury	
Descriptors	• Demonstrates the ability to provide emergency on-site treatment for the collapsed or acutely injured athlete in the pre-hospital setting • Demonstrates the ability to provide leadership to the medical team providing emergency care for the collapsed or acutely injured athlete in the pre-hospital setting • Demonstrates the ability to communicate effectively with colleagues in the immediate care of the acutely injured patient, and to work with other specialities as required to manage the patient effectively • Demonstrates prompt assessment of the acutely deteriorating patient, including those who are shocked or unconscious, and the ability to deliver appropriate, evidence based care to patients with a range of acute medical problems and deliver effective resuscitation when indicated • Demonstrates an understanding of the causes of sudden death in sport and to advise on screening programmes to detect those at risk of sudden death in sport, and to act on the findings of any

	abnormalities raised during screening with athletes, family members and carers • Demonstrates the ability to recognise and manage appropriately the acute head injury in sport • Demonstrates the ability to recognise and manage appropriately the sequelae of head injury in athletes and to advise on safe return to play following head injury • Demonstrates the professional requirements and legal processes associated with consent for resuscitation
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • practical skills • communication and interpersonal skills • dealing with complexity and uncertainty • clinical skills (history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease) Domain 3: Professional knowledge • professional requirements • national legislative requirements • the health service and healthcare systems in the four countries Domain 5: Capabilities in leadership and teamworking Domain 7: Capabilities in safeguarding vulnerable groups Domain 8: Capabilities in education and training Domain 9: Capabilities in research and scholarship
Evidence to inform decision	CbD Mini-CEX MCR Reflection MSF Letters and clinical notes

3.4 Presentations and conditions

The table below details the key presentations and conditions of SEM. Each of these should be regarded as a clinical context in which trainees should be able to demonstrate CiPs and GPCs. In this spiral curriculum, trainees will expand and develop the knowledge, skills and attitudes around managing patients with these conditions and presentations. The patient should always be at the centre of knowledge, learning and care.

Trainees must demonstrate core bedside skills, including information gathering through history and physical examination and information sharing with patients, families and colleagues.

Treatment care and strategy covers how a doctor selects drug treatments or interventions for a patient. It includes discussions and decisions as to whether care is focused mainly on curative intent or whether the main focus is on symptomatic relief. It also covers broader aspects of care, including involvement of other professionals or services.

Particular presentations, conditions and issues are listed either because they are common or serious (having high morbidity, mortality and/or serious implications for treatment or public health).

For each condition/presentation, trainees will need to be familiar with such aspects as aetiology, epidemiology, clinical features, investigation, management and prognosis. Our approach is to provide general guidance and not exhaustive detail, which would inevitably become out of date.

System/Specialty and subspecialty	Presentations/Issues	Conditions/Issues
Basic science in Sport and Exercise Medicine	The anatomy of bone, tendon, ligament, articular cartilage and muscle Exercise Physiology Biochemistry of exercise Nutrition	Clinically relevant regional anatomy and normal variations in anatomy Ability to relate anatomical knowledge to history taking and physical examination Cellular metabolism and biomechanical pathways of energy production Human energy transfer systems during exercise Energy release and substrate utilisation from various sources including fats, carbohydrates, proteins during exercise Measurement of energy costs of exercise Cardiovascular, respiratory and neuromuscular response and adaptations to exercise Hormones and endocrine systems in exercise including menstrual cycle and female hormones Monitoring of exercise capacity, training and overtraining Laboratory based fitness and exercise physiology assessment techniques

System/Specialty and subspecialty	Presentations/Issues	Conditions/Issues
		Macronutrient, micronutrient and hydration requirements of exercise Body composition in health and exercise Obesity, exercise and weight control
Biomechanics and gait analysis	Characteristics of bone, tendon, ligament, articular cartilage and muscle Human movement analysis – basic kinematics and kinetics Effects of faulty biomechanics, influence of posture Principles of body morphology Influence of posture and biomechanics on musculoskeletal disorders	Biomechanical analysis of sport-specific techniques; swimming, throwing, jumping, kicking, running, boxing, walking Equipment requirements and choices in athletic performance Orthotic prescription Use of other splinting, bracing and taping techniques Understanding of technological aids to biomechanical and motion assessment
Cardiology	Sudden death in sport Screening for cardiac abnormalities in young athletes Exercise testing in older athletes Breathlessness Chest pain on exertion Cardiac rehabilitation	HOCM and other cardiomyopathies Structural abnormalities Arrhythmias Valvular disease Hypercholesterolaemia Hypertension Ischaemic heart disease
Clinical pharmacology and therapeutics	Effect of medication on physiological performance Drug interactions Safe prescribing Indications, contraindications, side effects, drug interactions and dosage of commonly used	Pain management; acute and chronic including atypical analgesia Non-steroidal anti-inflammatories and there use in musculoskeletal conditions, and possible adverse effects The use of opiates in musculoskeletal medicine

System/Specialty and subspecialty	Presentations/Issues	Conditions/Issues
	drugs for musculoskeletal and medical conditions	Regulations around travelling with medicine Governance of medicine storage and management systems Supplements used in exercise as a recovery and performance tool
Elite Sport	Team medicine Drugs in sport Event medicine Travelling with teams Injury prevention programmes and rehabilitation	The role of the team physician Pre-participation screening Child protection guidelines WADA and UKAD guidelines, systems and structures around anti-doping policy Preparing a team for travel including vaccination, travel and preventing illness Risk assessment of training and competition venue Regulations of travelling with medical equipment and medicines in sport Governance of providing medical cover at sporting events
Emergency Medicine	Cardiorespiratory arrest Concussion and head injury Acute musculoskeletal and soft tissue injuries Basic management of fracture and dislocations The acutely unwell patient Eye and ENT emergencies Pre-hospital care	Cardiac causes of sudden death Traumatic causes of sudden death Environmental factors involved in collapse and sudden death; hyper and hypothermia, dehydration, hyponatraemia Upper and lower limb injuries; hand, wrist, elbow, shoulder, hip, knee, ankle and foot Skin closure and suturing Pitch side injuries Spinal injuries and safe retrieval in prehospital setting Basic airway management Defibrillation and cardiorespiratory resuscitation

System/Specialty and subspecialty	Presentations/Issues	Conditions/Issues
Endocrinology	Diabetes Thyroid disease Obesity Relative energy deficiency in sport	Diabetic emergencies, hypo and hyperglycaemia Role of exercise in type 1 and type 2 diabetes Thyroid dysfunction Exercise prescription in diabetes Management of obesity, pharmacological, exercise and surgical options Basic knowledge of metabolic diseases encountered in children and adolescents
Musculoskeletal medicine in adults	Acute musculoskeletal injury Chronic musculoskeletal problems Chronic pain Pain management Imaging in musculoskeletal medicine Therapeutic interventions in acute and chronic conditions Role of pathology investigations Rehabilitation and physiotherapy as treatment	Tendon, muscle, ligament, joint, bone and nerve problems in the upper limb, lower limb and neck and spine Identification of red flags conditions Joint and soft tissue injections Orthotic prescription Principles of physiotherapy management and rehabilitation Tendonitis, ligament injuries, avulsion injuries, dislocation and fracture management Principles of the surgical management of musculoskeletal problems Understanding of the principles of tissue injury and repair Acute and persistent pain management including non-pharmacological therapies
Paediatric musculoskeletal medicine	Clinical diagnosis of acute and chronic musculoskeletal problems including those related to growth Paediatric appropriate management and therapeutic approaches for acute and chronic musculoskeletal problems	Growth related problems including growth plate, osteochondritis dessicans, apophysitis and avulsion injuries Bone stress including the spine Snapping hip, shoulder multidirectional instability, patella instability, hypermobility SUFE, Perthes, Scoliosis and other variations of development, pectus excavatum/carinatum

System/Specialty and subspecialty	Presentations/Issues	Conditions/Issues
	Paediatric appropriate radiological and other investigations	An understanding of non-accidental injury in all its forms, to include an appreciation of child protection issues and the relevant laws Understanding of Gillick competency and the legality of treating minors
Physical activity in special groups	Women Children Adolescents Older individuals Military personnel Elite athletes Disabled athletes	Contraception options in athletes Pregnancy and exercise; pre and post-partum Relative energy deficiency conditions in male and female athletes Understanding of the effect of ageing on muscle bulk, strength and cardiovascular fitness Application of appropriate training workloads to the developing skeleton and metabolism Eating and body perception disorders in the developing athlete
Primary care	Exercise prescription Exercise as a health tool Management of common primary care problems Infectious diseases Common paediatric medical problems History and examination skills Effect of illness on activity capacity	Exercise prescription in primary care Dermatology conditions Ophthalmology conditions ENT conditions Gastroenterology conditions Renal and urinary tract conditions Vaccination in children and adults Ability to determine the status or severity of the disease state from history, examination and investigation Ability to provide advice regarding safe exercise in the patient with chronic disease
Population and Public Health	Epidemiology Health promotion Evidence in physical activity and research	NHS Local authority Voluntary and private sector

System/Specialty and subspecialty	Presentations/Issues	Conditions/Issues
	Public health policy in physical activity and health Physical activity service providers and their structure Measuring physical activity Health screening programmes Impact of inactivity on individuals, communities, NHS and wider	Global initiatives Developing, leading and appraising exercise services Physical activity and effects on CHD, stroke, PVD, cancer(s) Diabetes, obesity, musculoskeletal health, metabolic syndrome, etc Physical activity as therapy in a range of chronic conditions Effective interventions to promote physical activity Knowledge of social and cultural issues affecting health promotion Knowledge of current UK screening programmes to promote health Moving medicine Active hospitals programme
Psychosocial aspects of SEM	Behaviour change in the inactive population Exercise as a treatment modality for physical conditions Exercise as a treatment modality for psychiatric conditions Psychology of sports performance; individuals and team sport	Behavioural change – sedentary to active living Psychological aspects of stress, trauma, disability, rehabilitation Psychological aspects of motivation, arousal and performance Group psychology of team, coach, medical team, group dynamics Psychological/ mood effects of physical activity Psychological and psychometric testing methods Psychology of working with MDT Awareness of the doctor's role as advocate and manager
Radiology	X-ray Ultrasound scanning CT and MRI imaging	The role of imaging techniques in general terms and the way in which images are produced

System/Specialty and subspecialty	Presentations/Issues	Conditions/Issues
	Bone density scanning Nuclear medicine Fundamentals of image guided injections	An understanding of the relative radiation risks applicable to different types of imaging Imaging tendons, ligaments, muscles, nerves, bones and joints Patients presenting with acute, chronic and overuse injuries The targeted use of imaging to reach a definitive diagnosis An understanding of the use of medical imaging for targeted treatment (e.g. guided injections) to complement history & examination An ability to interpret different modalities of medical imaging in a logical and structured manner, and in doing so identify significant pathology and relate this to anatomy
Respiratory	Breathlessness Wheezing Allergy including hay fever ENT disorders Cough	Asthma Spirometry Dysfunctional breathing, exercise induced laryngeal obstruction and vocal cord dysfunction EVH testing
Rheumatology	Adult rheumatological conditions Paediatric rheumatological conditions	Inflammatory and seronegative arthritis Osteoarthritis Septic arthritis Fibromyalgia and chronic pain Connective tissue disorders Hypermobility syndromes Osteoporosis and metabolic bone disorders
Rehabilitation medicine and spinal injuries	Spinal injuries Amputees Cerebral Palsy Learning Difficulties	Special needs of disabled athletes and exercisers Medical needs of disabled athletes and exercisers

System/Specialty and subspecialty	Presentations/Issues	Conditions/Issues
	Visually and hearing impaired Disability classification Disability in children and adolescents	Physical problems experienced by disabled individuals within everyday living and with respect to sport Have knowledge of the types of prosthesis available, particularly those used for sport and activity Spinal injury at different vertebral levels Prosthetic prescription for exercise Wheelchair prescription Assessment of injuries in disabled athletes

3.5 Practical procedures

There are a number of procedural skills in which a trainee must become proficient.

Trainees must be able to outline the indications for these procedures and recognise the importance of valid consent, aseptic technique, safe use of analgesia and local anaesthetics, minimisation of patient discomfort, and requesting help when appropriate. For all practical procedures, the trainee must be able to recognise complications and respond appropriately if they arise, including calling for help from colleagues in other specialties when necessary.

Trainees should receive training in procedural skills in a clinical skills lab if required. Assessment of procedural skills will be made using the direct observation of procedural skills (DOPS) tool. The table below sets out the minimum competency level expected for each of the practical procedures.

When a trainee has been signed off as being able to perform a procedure independently, they are not required to have any further assessment (DOPS) of that procedure, unless they or their ES think that this is required (in line with standard professional conduct).

Procedure	ST3	ST4	ST5	ST6
Landmark joint injections of all large joints		X		
Landmark soft tissue injections		X		
Cardiopulmonary exercise testing and interpretation			X	
Respiratory function testing and interpretation, including EVH testing			X	
Compartment pressure testing				X
Concussion assessment – baseline and pitchside		X		

4. Learning and Teaching

4.1 The training programme

The organisation and delivery of postgraduate training is the responsibility of the Health Education England (HEE), NHS Education for Scotland (NES), Health Education and Improvement Wales (HEIW) and the Northern Ireland Medical and Dental Training Agency (NIMDTA) – referred to from this point as 'deaneries'. A training programme director (TPD) will be responsible for coordinating the specialty training programme. In England, the local organisation and delivery of training is overseen by a school of medicine.

Progression through the programme will be determined by the Annual Review of Competency Progression (ARCP) process and the training requirements for each indicative year of training are summarised in the ARCP decision aid (available on the JRCPTB website).

The sequence of training should ensure appropriate progression in experience and responsibility. The training to be provided at each training site is defined to ensure that, during the programme, the curriculum requirements are met and also that unnecessary duplication and educationally unrewarding experiences are avoided.

The following provides a guide on how training programmes should be focussed in each training year in order for trainees to gain the experience and develop the capabilities to the level required.

Trainees will have an appropriate and named clinical supervisor (CS) and a named educational supervisor (ES). The CS and ES may be the same person.

All training should be conducted in institutions which meet the relevant JRCPTB Quality Criteria, GMC standards for training and education and the relevant Health and Safety standards. Please see section 4.2 for guidance on methods of teaching and learning.

The curriculum specifies the range of diseases, impairments and disabilities that must be seen; and the range of contexts that they must be seen in; and the range of problems and severities of those problems that must be seen. This section gives, in broad terms, the areas that should be included in any training programme. Training is organized by both underlying causative conditions, and by the setting where patients are seen.

It is expected that the following environments will be accessible for trainees during the course of the programme.

The core features that should be provided for any training programme to deliver this curriculum are:

Musculoskeletal Medicine
MSK disorders are some of the most common disabling conditions within a population, and although patients with these conditions rarely need inpatient services, they constitute the majority of community-based patients.

This experience includes:

- Consultant led out-patient clinics in intermediary and secondary care, general practice, and community services
- Clinical experience with chronic pain services, specialist orthopaedic and rheumatological services, and services for functional disorders such as fibromyalgia and hypermobility syndrome.
- Involvement with orthotics and podiatry services
- Consultant led paediatric and adolescent MSK, orthopaedic, rheumatology, metabolic bone health and pain clinics that have paediatrician input
- Rehabilitation clinics
- MDT meetings
- Sport specific clinics

The trainee should undertake regular MSK clinics for an indicative 3 out of the 4 years with a minimum of 1 clinic per week during this time.

General Practice
The SEM trainee should spend the full time equivalent of an indicative 3-6 months in General Practice.

Population and Public Health
The SEM trainee should spend the full time equivalent of an indicative 6 months undertaking work specifically related to population health competencies

Accident and Emergency
The SEM trainee should spend an indicative 3-6 months full time equivalent in an Emergency Medicine setting

Sport National Governing Body and Home Institutes (English Institute of Sport, Scottish Institute of Sport)
Exposure to the high volume of sport specific conditions provides key learning opportunities that cannot be provided at the same level within the NHS. The training in these organisations will enable the SEM consultant to be the expert on these conditions within the NHS. The MDT environment of sport provides directly transferable skills to the NHS and the opportunity to work closely with a wider group of allied health professionals. This placement should give exposure to team, contact, disability and endurance sport.

Specialist Medical Departments

- Cardiology including adult and paediatric congenital heart disease, arrhythmias, exercise testing and ischaemic heart disease
- Respiratory including adult and paediatric asthma, COPD, breathlessness clinics
- Endocrinology including adult and paediatric diabetes and obesity clinics
- Disease specific rehabilitation services
- MDT pain services for both adults and children/adolescents

Simulation
Some of the practical procedures in the SEM curriculum should be taught by simulation in ST3 and ST4. Further years should include refresher training for procedural skills where necessary. Other procedures, for example exercise testing, can only be performed in the clinical setting, so a mix of learning environments is necessary.

Musculoskeletal Ultrasound
The Faculty of Sport and Exercise Medicine (FSEM), in collaboration with the British Society of Skeletal Radiologists (BSSR), have produced a framework for SEM doctors who practice MSK ultrasound (MSKUS). This is a framework that recognises that MSKUS is a skill that develops over many years of practice. The majority of this will therefore be post CCT training but the basic skills and knowledge is embedded into the curriculum. Using this framework, the training scheme will provide the following training in a mentored environment:

- An understanding of the theory and physics of MSKUS and safe practice including governance, equipment, image acquisition, image storage, image reporting, artefacts and the relevance of other imaging modalities to MSKUS
- Incorporation of MSKUS findings into the clinical presentation

These proficiencies will be achieved via:

- Theory and physics of MSKUS (elfH training modules) – mandatory by end of ST4 and before attending any MSKUS mentored sessions
- Attendance at ultrasound lists with an MSK radiologist of SEM mentor (who has fulfilled the FSEM criteria for a mentor) for 12 months of 40 clinics – in ST5 and/or ST6, mandated by the end of ST6
- Log book of US cases with the level of supervision documented; supervised, minimally supervised, not supervised (personal library to be reviewed at ARCP from ST5 onwards)

This exposure and mentored training can be used towards competency aligned to the FSEM framework. Any part of the framework where competency has been achieved can be signed off by the mentor. This will be aligned to the most up to date syllabus for FSEM UK MSK Training; 2017 or later.

4.2 Teaching and learning methods

The curriculum will be delivered through a variety of learning experiences and will achieve the capabilities described in the syllabus through a variety of learning methods. There will be a balance of different modes of learning from formal teaching programmes to experiential learning 'on the job'. The proportion of time allocated to different learning methods may vary depending on the nature of the attachment within a rotation. This section identifies the types of situations in which a trainee will learn.

Work-based experiential learning - The content of work-based experiential learning is decided by the local faculty for education but includes active participation in:

Medical clinics including MSK clinics
The educational objectives of attending clinics are:

- To understand the management of MSK disorders
- To understand the management of chronic diseases
- Be able to assess a patient in a defined time-frame
- To interpret and act on the referral letter to clinic
- To propose an investigation and management plan in a setting different from the acute medical situation
- To review and amend existing investigation plans
- To write an acceptable letter back to the referrer
- To communicate with the patient and where necessary relatives and other health care professionals.
- To become familiar with all aspects of the biopsychosocial model of illness, using it to ensure that all important factors are considered;

These objectives can be achieved in a variety of settings including hospitals, day care facilities and the community. The clinic might be primarily run by a specialist physiotherapist or nurse (or other qualified health care professionals) rather than a consultant in SEM. After initial induction, trainees will review patients in clinic settings, under direct supervision. The degree of responsibility taken by the trainee will increase as competency increases. Trainees should see a range of new and follow-up patients and present their findings to their CS. Clinic letters written by the trainee should also be reviewed and feedback given.

The number of patients that a trainee should see in each clinic is not defined, neither is the time that should be spent in clinic, but as a guide this should be a minimum of two hours.

Clinic experience should be used as an opportunity to undertake supervised learning events and reflection.

Reviewing patients with consultants
It is important that trainees have an opportunity to present at least a proportion of the patients whom they have seen to their consultant for senior review in order to obtain immediate feedback into their performance (that may be supplemented by an appropriate work placed based assessment (WPBA) such as an ACAT, mini-CEX or CBD).

Multi-disciplinary team meetings
There are many situations where clinical problems are discussed with clinicians in other disciplines. These provide excellent opportunities for observation of clinical reasoning.

Formal postgraduate teaching
It is recognised that some deaneries are too small to set up and sustain a programme of postgraduate training in SEM from within their own resources. There are several solutions.

There is a rotating program of training for all trainees nationally. This delivers 4 national training days per year in different regions and is aligned to the curriculum.

In addition, local postgraduate teaching in other larger specialties such as rheumatology and general practice may well have sessions that are relevant to SEM trainees. Attendance should be encouraged not only to obtain good training, but also to develop a better understanding of the other specialty.

Finally, there are several national training courses annually, relevant to the SEM curriculum, and attendance at these are encouraged if required. Where these are annual conferences, attendance at scientific sessions and presenting where possible are also promoted.

Other suggested activities include:

- case presentations
- research, audit and quality improvement projects
- lectures and small group teaching
- clinical skills demonstrations and teaching
- critical appraisal and evidence based medicine and journal clubs

Learning with peers

In SEM opportunities for trainees to learn with their medical peers is limited by the small numbers within any programme, because often a trainee will only meet three or four peers on a regular basis. This difficulty can be overcome, to an extent, in several ways. First, other local training programmes will include both local teaching sessions of great relevance, such as in rheumatology, rehabilitation medicine and public health. The trainee doctors from different specialities will be able to share experience and ideas.

Second, Sport and Exercise Medicine is above all a multidisciplinary team profession, and post-graduate training opportunities for many of the allied health professions would offer excellent training for trainees. This would include podiatry and orthotics, biomechanists, physiotherapy, exercise physiologists and rehabilitation specialists. Training programme directors should develop links with local post-graduate training for any relevant profession, and encourage trainees to attend relevant training. The trainees from different professions will be able to share experience and ideas.

Independent self-directed learning

Trainees will use this time in a variety of ways depending upon their stage of learning. Suggested activities include:

- reading, including web-based material such as e-Learning for Healthcare (e-LfH)
- maintenance of personal portfolio (self-assessment, reflective learning, personal development plan)
- audit, quality improvement and research projects
- reading journals
- achieving personal learning goals beyond the essential, core curriculum

Formal study courses

Time to be made available for formal courses is encouraged, subject to local conditions of service. Examples include management and leadership courses and communication courses, which are particularly relevant to patient safety and experience. Aspects of the curriculum are suitable to be taught on an approved Masters or Diploma university course in SEM, and trainees would be encouraged to attend such a course if they have not done so before entering the training programme.

4.3 Academic training

The four nations have different arrangements for academic training and doctors in training should consult the local deanery for further guidance.

Trainees may train in academic medicine as an academic clinical fellow (ACF), academic clinical lecturer (ACL) or equivalent. Academic trainees can be recruited at any point in the training programme.

Some trainees may opt to do research leading to a higher degree without being appointed to a formal academic programme. This new curriculum should not impact in any way on the facility to take time out of programme for research (OOPR) but as now, such time requires discussion between the trainee, the TPD and the Deanery as to what is appropriate together with guidance from the SAC that the proposed period and scope of study is sensible.

5. Programme of Assessment

5.1 Purpose of assessment

The purpose of the programme of assessment is to:

- assess trainees' actual performance in the workplace
- enhance learning by providing formative assessment, enabling trainees to receive immediate feedback, understand their own performance and identify areas for development
- drive learning and enhance the training process by making it clear what is required of trainees and motivating them to ensure they receive suitable training and experience
- demonstrate trainees have acquired the GPCs and meet the requirements of GMP
- ensure that trainees possess the essential underlying knowledge required for their specialty
- provide robust, summative evidence that trainees are meeting the curriculum standards during the training programme;
- inform the ARCP, identifying any requirements for targeted or additional training where necessary and facilitating decisions regarding progression through the training programme;
- identify trainees who should be advised to consider changes of career direction.

5.2 Programme of Assessment

Our programme of assessment refers to the integrated framework of exams, assessments in the workplace and judgements made about a learner during their approved programme of training. The purpose of the programme of assessment is to robustly evidence, ensure and clearly communicate the expected levels of performance at critical progression points in, and to demonstrate satisfactory completion of, training as required by the curriculum.

The programme of assessment is comprised of several different individual types of assessment. A range of assessments is needed to generate the necessary evidence required for global judgements to be made about satisfactory performance, progression in, and completion of, training. All assessments, including those conducted in the workplace, are linked to the relevant curricular learning outcomes (eg through the blueprinting of assessment system to the stated curricular outcomes).

The programme of assessment emphasises the importance and centrality of professional judgement in making sure learners have met the learning outcomes and expected levels of performance set out in the approved curricula. Assessors will make accountable, professional judgements. The programme of assessment includes how professional judgements are used and collated to support decisions on progression and satisfactory completion of training.

The assessments will be supported by structured feedback for trainees. Assessment tools will be both formative and summative and have been selected on the basis of their fitness for purpose.

Assessment will take place throughout the training programme to allow trainees continually to gather evidence of learning and to provide formative feedback. Those assessment tools, which are not identified individually as summative, will contribute to summative judgements about a trainee's progress as part of the programme of assessment. The number and range of these will ensure a reliable assessment of the training relevant to their stage of training and achieve coverage of the curriculum.

Reflection and feedback should be an integral component to all SLEs and WBPAs. In order for trainees to maximise benefit, reflection and feedback should take place as soon as possible after an event. Every clinical encounter can provide a unique opportunity for reflection and feedback and this process should occur frequently. Feedback should be of high quality and should include an action plan for future development for the trainee. Both trainees and trainers should recognise and respect cultural differences when giving and receiving feedback.

5.3 Assessment of CiPs

Assessment of CiPs involves looking across a range of different skills and behaviours to make global decisions about a learner's suitability to take on particular responsibilities or tasks.

Clinical supervisors and others contributing to assessment will provide formative feedback to the trainee on their performance throughout the training year. This feedback will include a global rating in order to indicate to the trainee and their ES how they are progressing at

that stage of training. To support this, workplace based assessments and multiple consultant reports will include global assessment anchor statements.

Global assessment anchor statements

- Below expectations for this year of training; may not meet the requirements for critical progression point
- Meeting expectations for this year of training; expected to progress to next stage of training
- Above expectations for this year of training; expected to progress to next stage of training

Towards the end of the training year, trainees will make a self-assessment of their progression for each CiP and record this in the eportfolio with signposting to the evidence to support their rating.

The ES will review the evidence in the eportfolio including workplace based assessments, feedback received from CS's (via the Multiple Consultant Report) and the trainee's self-assessment and record their judgement on the trainee's performance in the ES report, with commentary.

For **generic CiPs**, the ES will indicate whether the trainee is meeting expectations or not using the global anchor statements above. Trainees will need to be meeting expectations for the stage of training as a minimum to be judged satisfactory to progress to the next training year.

For **specialty CiPs**, the ES will make an entrustment decision for each CiP and record the indicative level of supervision required with detailed comments to justify their entrustment decision. The ES will also indicate the most appropriate global anchor statement (see above) for overall performance.

Level descriptors for specialty CiPs

Level	Descriptor
Level 1	**Entrusted to observe only** – no provision of clinical care
Level 2	**Entrusted to act with direct supervision**: The trainee may provide clinical care, but the supervising physician is physically within the hospital or other site of patient care and is immediately available if required to provide direct bedside supervision
Level 3	**Entrusted to act with indirect supervision**: The trainee may provide clinical care when the supervising physician is not physically present within the hospital or other site of patient care, but is available by means of telephone and/or electronic media to provide advice, and can attend at the bedside if required to provide direct supervision
Level 4	**Entrusted to act unsupervised**

The ARCP will be informed by the ES report and the evidence presented in the eportfolio. The ARCP panel will make the final summative judgement on whether the trainee has achieved the generic outcomes and the appropriate level of supervision for each CiP. The ARCP panel will determine whether the trainee can progress to the next year/level of training in accordance with the Gold Guide. ARCPs will be held for each training year. The final ARCP will ensure trainees have achieved level 4 in all CiPs for the critical progression point at completion of training.

5.4 Critical progression points

There will be key progression points on entry and on completion of specialty training. Trainees will be required to be entrusted at level 4 in all CiPs by the end of training in order to achieve an ARCP outcome 6 and be recommended for a CCT.

The ES report will make a recommendation to the ARCP panel as to whether the trainee has met the defined levels for the CiPs and acquired the procedural competence required for each year of training. The ARCP panel will make the final decision on whether the trainee can be signed off and progress to the next year/level of training [see section 5.6].

The outline grid below sets out the expected level of supervision and entrustment for the specialty CiPs and includes the critical progression points across the whole training programme.

Table 1: Outline grid of levels expected for Sport and Exercise Medicine specialty CiPs

Level descriptors
Level 1: Entrusted to observe only – no clinical care
Level 2: Entrusted to act with direct supervision
Level 3: Entrusted to act with indirect supervision
Level 4: Entrusted to act unsupervised

	Selection	Specialty training				CCT
Specialty CiP		**ST3**	**ST4**	**ST5**	**ST6**	
1. Leading and managing a multi-disciplinary team.	CRITICAL PROGRESSION POINT	**2**	**2**	**3**	**4**	CRITICAL PROGRESSION POINT
2. Ability to develop, lead and deliver a comprehensive musculoskeletal service that spans community and hospital settings for adults.		**2**	**3**	**3**	**4**	
3. Ability to develop, lead and deliver a comprehensive musculoskeletal service that spans community and hospital settings for adolescents and school aged children.		**2**	**2**	**3**	**4**	
4. Ability to deliver exercise medicine services for adults, encompassing both prevention and management of chronic disease.		**2**	**2**	**3**	**4**	
5. Ability to deliver exercise medicine services for adolescents and school aged children, encompassing both prevention and management of chronic disease.		**2**	**2**	**3**	**4**	

6. The ability to promote and support population health through physical activity.		**2**	**3**	**3**	**4**	
7. Delivering effective resuscitation and early management of the acutely injured or unwell in the pre-hospital and hospital environments, including sports related mild traumatic brain injury		**2**	**3**	**3**	**4**	

5.5 Evidence of progress

The following methods of assessment will provide evidence of progress in the integrated programme of assessment. The requirements for each training year/level are stipulated in the ARCP decision aid (www.jrcptb.org.uk).

Summative assessment

Examinations and certificates

- Advanced Life Support Certificate (ALS)
- Level 3 pitchside trauma certificate
- FSEM (UK) Membership Examination in Sport and Exercise Medicine (MFSEM)
    - To complete ST6, part 2 of the exam should have been passed successfully, if this has not occurred then a plan to address this should be put in place at the PYA, with possible need to extend training to facilitate this
    - To progress to ST5 part 2 should have been attempted, but not necessarily passed. Due to the fact that there is only one sitting of both part 1 and part 2 per year currently, it is not feasible to insist that part 2 has to be passed to progress to ST5

Formative assessment

Supervised Learning Events (SLEs)

- Acute Care Assessment Tool (ACAT)
- Case-Based Discussions (CbD)
- mini-Clinical Evaluation Exercise (mini-CEX)

Workplace-based assessment (WBPA)

- Direct Observation of Procedural Skills (DOPS) – formative
- Multi-Source Feedback (MSF)
- Patient Survey (PS)
- Quality Improvement Project Assessment Tool (QIPAT)
- Teaching Observation (TO)

Supervisor reports

- Multiple Consultant Report (MCR)
- Educational Supervisor Report (ESR)

These methods are described briefly below. More information and guidance for trainees and assessors are available in the eportfolio and on the JRCPTB website (www.jrcptb.org.uk).

Assessment should be recorded in the trainee's eportfolio. These methods include feedback opportunities as an integral part of the programme of assessment.

Case-based Discussion (CbD)
The CbD assesses the performance of a trainee in their management of a patient to provide an indication of competence in areas such as clinical reasoning, decision-making and application of medical knowledge in relation to patient care. It also serves as a method to document conversations about, and presentations of, cases by trainees. The CbD should focus on a written record (such as written case notes, out-patient letter, and discharge summary). A typical encounter might be when presenting newly referred patients in the out-patient department.

mini-Clinical Evaluation Exercise (mini-CEX)
This tool evaluates a clinical encounter with a patient to provide an indication of competence in skills essential for good clinical care such as history taking, examination and clinical reasoning. The trainee receives immediate feedback to aid learning. The mini-CEX can be used at any time and in any setting when there is a trainee and patient interaction and an assessor is available.

Direct Observation of Procedural Skills (DOPS)
A DOPS is an assessment tool designed to evaluate the performance of a trainee in undertaking a practical procedure, against a structured checklist. The trainee receives immediate feedback to identify strengths and areas for development. DOPS can be undertaken as many times as the trainee and their supervisor feel is necessary (formative). A trainee can be regarded as competent to perform a procedure independently after they are signed off as such by an appropriate assessor (summative).

Multi-source feedback (MSF)
This tool is a method of assessing generic skills such as communication, leadership, team working, reliability etc, across the domains of Good Medical Practice. This provides systematic collection and feedback of performance data on a trainee, derived from a number of colleagues. 'Raters' are individuals with whom the trainee works, and includes doctors, administrative staff, and other allied professionals. Raters should be agreed with the ES at the start of the training year. The trainee will not see the individual responses by raters. Feedback is given to the trainee by the ES.

Patient Survey (PS)
The PS addresses issues, including the behaviour of the doctor and effectiveness of the consultation, which are important to patients. It is intended to assess the trainee's performance in areas such as interpersonal skills, communication skills and professionalism by concentrating solely on their performance during one consultation.

Quality Improvement Project Assessment Tool (QIPAT)
The QIPAT is designed to assess a trainee's competence in completing a quality improvement project. The QIPAT can be based on review of quality improvement project documentation or on a presentation of the quality improvement project at a meeting. If possible the trainee should be assessed on the same quality improvement project by more than one assessor.

Teaching Observation (TO)
The TO form is designed to provide structured, formative feedback to trainees on their competence at teaching. The TO can be based on any instance of formalised teaching by the trainee which has been observed by the assessor. The process should be trainee-led (identifying appropriate teaching sessions and assessors).

Multiple Consultant Report (MCR)
The MCR captures the views of consultant supervisors based on observation on a trainee's performance in practice. The MCR feedback and comments received give valuable insight into how well the trainee is performing, highlighting areas of excellence and areas of support required. MCR feedback will be available to the trainee and contribute to the ES's report.

Educational supervisors report (ESR)
The ES will periodically (at least annually) record a longitudinal, global report of a trainee's progress based on a range of assessment, potentially including observations in practice or reflection on behaviour by those who have appropriate expertise and experience. The ESR can incorporate commentary or reports from longitudinal observations, such as from supervisors or formative assessments demonstrating progress over time.

5.6 Decisions on progress (ARCP)

The decisions made at critical progression points and upon completion of training should be clear and defensible. They must be fair and robust and make use of evidence from a range of assessments, potentially including exams and observations in practice or reflection on behaviour by those who have appropriate expertise or experience. They can also incorporate commentary or reports from longitudinal observations, such as from supervisors or formative assessments demonstrating progress over time.

Periodic (at least annual) review should be used to collate and systematically review evidence about a doctor's performance and progress in a holistic way and make decisions about their progression in training. The annual review of progression (ARCP) process supports the collation and integration of evidence to make decisions about the achievement of expected outcomes.

Assessment of CiPs involves looking across a range of different skills and behaviours to make global decisions about a learner's suitability to take on particular responsibilities or tasks, as do decisions about the satisfactory completion of presentations/conditions and procedural skills set out in this curriculum. The outline grid in section 5.4 sets out the level of supervision expected for each of the clinical and specialty CiPs. The table of practical procedures sets out the minimum level of performance expected at the end of each year or training. The requirements for each year of training are set out in the ARCP decision aid (www.jrcptb.org.uk).

The ARCP process is described in the Gold Guide. Deaneries are responsible for organising and conducting ARCPs. The evidence to be reviewed by ARCP panels should be collected in the trainee's eportfolio.

As a precursor to ARCPs, JRCPTB strongly recommend that trainees have an informal eportfolio review either with their ES or arranged by the local school of medicine. These provide opportunities for early detection of trainees who are failing to gather the required evidence for ARCP.

The penultimate ARCP prior to the anticipated CCT date will include an external assessor from outside the training programme. This is known as a Penultimate Year Assessment (PYA) and will identify any outstanding targets that the trainee will need to complete to meet all the learning outcomes.

In order to guide trainees, supervisors and the ARCP panel, JRCPTB has produced an ARCP decision aid which sets out the requirements for a satisfactory ARCP outcome at the end of each training year and critical progression point. The ARCP decision aid is available on the JRCPTB website www.jrcptb.org.uk.

5.7 Assessment blueprint

The table below show the possible methods of assessment for each CiP. It is not expected that every method will be used for each competency and additional evidence may be used to help make a judgement on capability.

KEY -

ACAT	Acute care assessment tool	CbD	Case-based discussion
DOPS	Direct observation of procedural skills	Mini-CEX	Mini-clinical evaluation exercise
MCR	Multiple consultant report	MSF	Multi source feedback
PS	Patient survey	QIPAT	Quality improvement project assessment tool
MFSEM exam	Faculty of Sport and Exercise Medicine part 1 and 2 exam	TO	Teaching observation

Blueprint for WPBAs mapped to CiPs

Learning outcomes	**CbD**	**DOPS**	**MCR**	**Mini-CEX**	**MSF**	**PS**	**QIPAT**	**TO**	**MFSEM**
Generic CiPs									
Able to function successfully within NHS organisational and management systems			√		√				
Able to deal with ethical and legal issues related to clinical practice	√	√	√	√	√				
Communicates effectively and is able to share decision making, while maintaining appropriate situational awareness, professional behaviour and professional judgement			√		√	√			

Learning outcomes	CbD	DOPS	MCR	Mini -CEX	MSF	PS	QIPAT	TO	MFSEM
Is focussed on patient safety and delivers effective quality improvement in patient care			√		√		√		
Carrying out research and managing data appropriately			√		√				
Acting as a clinical teacher and clinical supervisor			√		√			√	
Speciality CiPs									
Leading and managing a multi-disciplinary team.	√		√	√	√				
Ability to develop, lead and deliver a comprehensive musculoskeletal service that spans community and hospital settings for adults.	√	√	√		√	√	√		√
Ability to develop, lead and deliver a comprehensive musculoskeletal service that spans community and hospital settings for adolescents and school aged children.	√	√	√		√	√	√		√
Ability to deliver exercise medicine services for adults, encompassing both prevention and management of chronic disease.			√		√		√		√
Ability to deliver exercise medicine services for adolescents and school aged children, encompassing both prevention and management of chronic disease.			√		√		√		√
The ability to promote and support population health through physical activity.		√	√		√				√
Delivering effective resuscitation and early management of acute injury and illness in the pre-hospital and hospital environments, including sports related mild traumatic brain injury	√		√		√				

6. Supervision and feedback

This section of the curriculum describes how trainees will be supervised, and how they will receive feedback on performance. For further information please refer to the AoMRC guidance on Improving feedback and reflection to improve learning[5].

Access to high quality, supportive and constructive feedback is essential for the professional development of the trainee. Trainee reflection is an important part of the feedback process and exploration of that reflection with the trainer should ideally be a two way dialogue.

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

Effective feedback is known to enhance learning and combining self-reflection to feedback promotes deeper learning.

Trainers should be supported to deliver valuable and high quality feedback. This can be by providing face to face training to trainers. Trainees would also benefit from such training as they frequently act as assessors to junior doctors, and all involved could also be shown how best to carry out and record reflection.

6.1 Supervision

All elements of work in training posts must be supervised with the level of supervision varying depending on the experience of the trainee and the clinical exposure and case mix undertaken. Outpatient and referral supervision must routinely include the opportunity to discuss all cases with a supervisor if appropriate. As training progresses the trainee should have the opportunity for increasing autonomy, consistent with safe and effective care for the patient.

Organisations must make sure that each doctor in training has access to a named CS and a named ES. Depending on local arrangements these roles may be combined into a single role of ES. However, it is preferred that a trainee has a single named ES for (at least) a full training year, in which case the CS is likely to be a different consultant during some placements.

The role and responsibilities of supervisors have been defined by the GMC in their standards for medical education and training[6].

Educational supervisor
The educational supervisor (ES) is responsible for the overall supervision and management of a doctor's educational progress during a placement or a series of placements. The ES regularly meets with the doctor in training to help plan their training, review progress and achieve agreed learning outcomes. The ES is responsible for the educational agreement, and for bringing together all relevant evidence to form a summative judgement about progression at the end of the placement or a series of placements.

Clinical supervisor
Consultants responsible for patients that a trainee looks after provide clinical supervision for that trainee and thereby contribute to their training; they may also contribute to assessment of their performance by completing a 'Multiple Consultant Report (MCR)' and other WPBAs. A trainee may also be allocated (for instance, if they are not working with their ES in a particular placement) a named CS, who is responsible for reviewing the trainee's training and progress during a particular placement. It is expected that a named CS will provide a MCR for the trainee to inform the ES's report.

The ES and (if relevant) CS, when meeting with the trainee, should discuss issues of clinical governance, risk management and any report of any untoward clinical incidents involving the trainee. If the service lead (clinical director) has any concerns about the performance of

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

the trainee, or there are issues of doctor or patient safety, these would be discussed with the clinical and educational supervisors (as well as the trainee). These processes, which are integral to trainee development, must not detract from the statutory duty of the trust to deliver effective clinical governance through its management systems.

Educational and clinical supervisors need to be formally recognised by the GMC to carry out their roles[7]. It is essential that training in assessment is provided for trainers and trainees in order to ensure that there is complete understanding of the assessment system, assessment methods, their purposes and use. Training will ensure a shared understanding and a consistency in the use of the WPBAs and the application of standards.

Opportunities for feedback to trainees about their performance will arise through the use of the workplace-based assessments, regular appraisal meetings with supervisors, other meetings and discussions with supervisors and colleagues, and feedback from ARCP.

Trainees
Trainees should make the safety of patients their first priority and they should not be practising in clinical scenarios which are beyond their experiences and competencies without supervision. Trainees should actively devise individual learning goals in discussion with their trainers and should subsequently identify the appropriate opportunities to achieve said learning goals. Trainees would need to plan their WPBAs accordingly to enable their WPBAs to collectively provide a picture of their development during a training period. Trainees should actively seek guidance from their trainers in order to identify the appropriate learning opportunities and plan the appropriate frequencies and types of WPBAs according to their individual learning needs. It is the responsibility of trainees to seek feedback following learning opportunities and WPBAs. Trainees should self-reflect and self-evaluate regularly with the aid of feedback. Furthermore, trainees should formulate action plans with further learning goals in discussion with their trainers.

6.2 Appraisal

A formal process of appraisals and reviews underpins training. This process ensures adequate supervision during training, provides continuity between posts and different supervisors and is one of the main ways of providing feedback to trainees. All appraisals should be recorded in the eportfolio.

Induction Appraisal
The trainee and ES should have an appraisal meeting at the beginning of each post to review the trainee's progress so far, agree learning objectives for the post ahead and identify the learning opportunities presented by the post. Reviewing progress through the curriculum will help trainees to compile an effective Personal Development Plan (PDP) of objectives for the upcoming post. This PDP should be agreed during the Induction Appraisal. The trainee and supervisor should also both sign the educational agreement in the e-portfolio at this time, recording their commitment to the training process.

[7] Recognition and approval of trainers

Mid-point Review
This meeting between trainee and ES is not mandatory (particularly when an attachment is shorter than 6 months) but is encouraged particularly if either the trainee or ES or CS has training concerns or the trainee has been set specific targeted training objectives at their ARCP).At this meeting trainees should review their PDP with their supervisor using evidence from the e-portfolio. Workplace-based assessments and progress through the curriculum can be reviewed to ensure trainees are progressing satisfactorily, and attendance at educational events should also be reviewed. The PDP can be amended at this review.

End of Attachment Appraisal
Trainees should review the PDP and curriculum progress with their educational supervisor using evidence from the e-portfolio. Specific concerns may be highlighted from this appraisal. The end of attachment appraisal form should record the areas where further work is required to overcome any shortcomings. Further evidence of competence in certain areas may be needed, such as planned workplace-based assessments, and this should be recorded. If there are significant concerns following the end of attachment appraisal then the programme director should be informed. Supervisors should also identify areas where a trainee has performed about the level expected and highlight successes.

7. Quality Management

The organisation of training programs is the responsibility of the deaneries. The deaneries will oversee programmes for postgraduate medical training in their regions. The Schools of Medicine in England, Wales and Northern Ireland and the Medical Specialty Training Board in Scotland will undertake the following roles:

- oversee recruitment and induction of trainees into the specialty
- allocate trainees into particular rotations appropriate to their training needs
- oversee the quality of training posts provided locally
- ensure adequate provision of appropriate educational events
- ensure curricula implementation across training programmes
- oversee the workplace-based assessment process within programmes
- coordinate the ARCP process for trainees
- provide adequate and appropriate career advice
- provide systems to identify and assist doctors with training difficulties
- provide flexible training.

Educational programmes to train ESs and assessors in workplace based assessment may be delivered by deaneries or by the colleges or both.

Development, implementation, monitoring and review of the curriculum are the responsibility of the JRCPTB and the SAC. The committee will be formally constituted with representatives from each health region in England, from the devolved nations and with trainee and lay representation. It will be the responsibility of the JRCPTB to ensure that curriculum developments are communicated to heads of school, regional specialty training committees and TPDs.

The JRCPTB has a role in quality management by monitoring and driving improvement in the standard of all medical specialties on behalf of the three Royal Colleges of Physicians in Edinburgh, Glasgow and London. The SACs are actively involved in assisting and supporting deaneries to manage and improve the quality of education within each of their approved training locations. They are tasked with activities central to assuring the quality of medical education such as writing the curriculum and assessment systems, reviewing applications for new posts and programmes, provision of external advisors to deaneries and recommending trainees eligible for CCT or Certificate of Eligibility for Specialist Registration (CESR).

JRCPTB uses data from six quality datasets across its specialties and subspecialties to provide meaningful quality management. The datasets include the GMC national Training Survey (NTS) data, ARCP outcomes, examination outcomes, new consultant survey, penultimate year assessments (PYA)/external advisor reports and the monitoring visit reports.

Quality criteria have been developed to drive up the quality of training environments and ultimately improve patient safety and experience. These are monitored and reviewed by JRCPTB to improve the provision of training and ensure enhanced educational experiences.

8. Intended use of curriculum by trainers and trainees

This curriculum and ARCP decision aid are available from the Joint Royal Colleges of Physicians Training Board (JRCPTB) via the website www.jrcptb.org.uk.

Clinical and educational supervisors should use the curriculum and decision aid as the basis of their discussion with trainees, particularly during the appraisal process. Both trainers and trainees are expected to have a good knowledge of the curriculum and should use it as a guide for their training programme.

Each trainee will engage with the curriculum by maintaining an eportfolio. The trainee will use the curriculum to develop learning objectives and reflect on learning experiences.

Recording progress in the eportfolio

On enrolling with JRCPTB trainees will be given access to the eportfolio. The eportfolio allows evidence to be built up to inform decisions on a trainee's progress and provides tools to support trainees' education and development.

The trainee's main responsibilities are to ensure the eportfolio is kept up to date, arrange assessments and ensure they are recorded, prepare drafts of appraisal forms, maintain their personal development plan, record their reflections on learning and record their progress through the curriculum.

The supervisor's main responsibilities are to use eportfolio evidence such as outcomes of assessments, reflections and personal development plans to inform appraisal meetings.

They are also expected to update the trainee's record of progress through the curriculum, write end-of-attachment appraisals and supervisor's reports.

Deaneries, training programme directors, college tutors and ARCP panels may use the eportfolio to monitor the progress of trainees for whom they are responsible.

JRCPTB will use summarised, anonymous eportfolio data to support its work in quality assurance.

All appraisal meetings, personal development plans and workplace based assessments (including MSF) should be recorded in the eportfolio. Trainees are encouraged to reflect on their learning experiences and to record these in the eportfolio. Reflections can be kept private or shared with supervisors.

Reflections, assessments and other eportfolio content should be used to provide evidence towards acquisition of curriculum capabilities. Trainees should add their own self-assessment ratings to record their view of their progress. The aims of the self-assessment are:

- to provide the means for reflection and evaluation of current practice
- to inform discussions with supervisors to help both gain insight and assists in developing personal development plans.
- to identify shortcomings between experience, competency and areas defined in the curriculum so as to guide future clinical exposure and learning.

Supervisors can sign-off and comment on curriculum capabilities to build up a picture of progression and to inform ARCP panels.

9. Equality and diversity

The Royal Colleges of Physicians will comply, and ensure compliance, with the requirements of equality and diversity legislation set out in the Equality Act 2010.

The Federation of the Royal Colleges of Physicians believes that equality of opportunity is fundamental to the many and varied ways in which individuals become involved with the Colleges, either as members of staff and Officers; as advisers from the medical profession; as members of the Colleges' professional bodies or as doctors in training and examination candidates.

Deaneries quality assurance will ensure that each training programme complies with the equality and diversity standards in postgraduate medical training as set by GMC. They should provide access to a professional support unit or equivalent for trainees requiring additional support.

Compliance with anti-discriminatory practice will be assured through:

- monitoring of recruitment processes

- ensuring all College representatives and Programme Directors have attended appropriate training sessions prior to appointment or within 12 months of taking up post
- Deaneries ensuring that ESs have had equality and diversity training (for example, an e-learning module) every three years
- Deaneries ensuring that any specialist participating in trainee interview/appointments committees or processes has had equality and diversity training (at least as an e-module) every three years
- ensuring trainees have an appropriate, confidential and supportive route to report examples of inappropriate behaviour of a discriminatory nature. Deaneries and Programme Directors must ensure that on appointment trainees are made aware of the route in which inappropriate or discriminatory behaviour can be reported and supplied with contact names and numbers. Deaneries must also ensure contingency mechanisms are in place if trainees feel unhappy with the response or uncomfortable with the contact individual
- providing resources to trainees needing support (for example, through the provision of a professional support unit or equivalent)
- monitoring of College Examinations
- ensuring all assessments discriminate on objective and appropriate criteria and do not unfairly advantage or disadvantage a trainee with any of the Equality Act 2010 protected characteristics. All efforts shall be made to ensure the participation of people with a disability in training through reasonable adjustments.