Sports Medicine

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الهيئة السعودية للتخصصات الصحية
Saudi Commission for Health Specialties

In The Name of Allah

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II. PREFACE

- The primary goal of this document is to enhance the training experience of postgraduate trainees by outlining the learning objectives required to become independent and competent practitioners.
- This curriculum may include sections outlining certain training regulations; however, such regulations should be consulted in the
- "General Bylaws of Training in Postgraduate Programs" and "Executive Policies" published by the Saudi Commission for Health Specialties (SCFHS), which are accessible online through the official SCFHS website. In the event of discrepancies in regulatory statements, the most recently updated bylaws and executive policies shall serve as the governing reference.
- As this curriculum is subject to periodic revision, please refer to the electronic version posted online for the most up-to-date edition at: www.scfhs.org.sa

III. COPYRIGHT STATEMENTS

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V. INTRODUCTION

1. Context of Practice

Saudi Arabia is undergoing a transformative era in sports and healthcare development under the framework of Vision 2030, which emphasizes building a vibrant and healthy society through the promotion of physical activity and the hosting of major international sporting events. Over the next decade, the Kingdom will serve as the venue for numerous regional and global competitions, culminating in the FIFA World Cup 2034. These milestones reflect a national commitment to excellence in athletic performance, community health, and the development of world-class medical systems capable of supporting these initiatives.

Within this evolving landscape, Sports Medicine has emerged as a strategic and essential specialty. The growing national participation in sports—estimated at more than 34 million physically active individuals—has been accompanied by a notable rise in musculoskeletal (MSK) injuries and exercise-related health conditions. Local epidemiological data indicate that musculoskeletal complaints account for nearly one-quarter of all outpatient consultations, with low back pain (26%), tendinopathies (18%), and arthritis (10%) being the most frequently reported diagnoses (Alahmari et al., Saudi Medical Journal, 2019; 40(6): 568–573). Furthermore, national injury surveillance studies have highlighted that more than 70% of trauma cases resulting from road traffic accidents involve the musculoskeletal system, emphasizing the need for specialized clinical expertise in injury prevention, acute management, and rehabilitation (Alanazi et al., Medicina, 2024; 60(10): 1562).

The Sports Medicine Fellowship Program is designed to respond to this growing national and professional demand by training physicians to deliver

comprehensive, evidence-based care to athletes and physically active individuals across all age groups. Fellows will gain advanced competencies in injury prevention, diagnosis, treatment, and rehabilitation, as well as expertise in exercise physiology, public health promotion, and medical coverage of sporting events at both local and international levels.

This fellowship plays a pivotal role in supporting the Kingdom's efforts to achieve international standards in athlete health care, strengthen the sports medicine workforce, and advance research and clinical excellence in alignment with the goals of Saudi Vision 2030.

2. Goals and Responsibilities of Curriculum Implementation

This curriculum ultimately seeks to guide trainees to become *competent* in their respective specialties. Accordingly, achieving this goal requires significant effort and coordination from all stakeholders involved in postgraduate training. As *adult learners*, trainees must be proactive, fully engaged, and demonstrate the following: a thorough understanding of learning objectives, self-directed learning, problem-solving skills, an eagerness to apply learning through reflective practice informed by feedback and formative assessment, and self-awareness and a willingness to seek support when needed. The program director plays a vital role in ensuring the successful implementation of this curriculum. Trainees should share responsibility for curriculum implementation.

The Training Program Committee/Institutional Training Committee will ensure that the content of this curriculum is regularly updated to meet the highest standards of postgraduate education within each trainee's specialty.

VI. ABBREVIATIONS USED IN THIS DOCUMENT

Abbreviation	Description
SCFHS	Saudi Commission for Health Specialties
ACGME	Accreditation Council for Graduate Medical Education
AMSSM	American Medical Society for Sports Medicine
AOSSM	American Orthopedic Society for Sports Medicine
TPC	Training Program Committee
ITC	Institutional Training Committee
OSCE	Objective Structured Clinical Examination
OSPE	Objective Structured Practical Examination
Mini-CEX	Mini Clinical Evaluation Exercise
DOPS	Direct Observation of Procedural Skills
CBD	Case-Based Discussion Report
CBE	Competency-Based Education
ITER	In-Training Evaluation Report
FITER	Final In-Training Evaluation Report

Abbreviation	Description
MSK	Musculoskeletal
ME	Medical Expert
Col	Collaborator
COM	Communicator
HA	Health Advocate
Led	Leader
S	Scholar
P	Professional
AHD	Academic Half-Day
MDT	Multidisciplinary Team

VII. PROGRAM ENTRY REQUIREMENTS

Refer to the SCFHS Executive Policy on admission and registration at: https://www.scfhs.org.sa/en/registration/Regulation/Pages/default.aspx

VIII. LEARNING AND COMPETENCIES

Introduction to Learning Outcomes and Competency-Based Education

Training should be guided by well-defined *learning objectives* derived from targeted *learning outcomes* of a specific program to address particular specialty needs. Learning outcomes are intended to reflect the professional *competencies* and tasks that trainees are expected to be *entrusted* with upon graduation. This approach ensures that graduates meet the expected demands of the healthcare system and deliver appropriate patient care within their respective specialties. *Competency-based education* (CBE) is an approach to *adult learning* based on achieving predefined, specific*, and* appropriately sequenced learning objectives derived from complex professional competencies.

Professional competencies in healthcare are typically complex and encompass multiple learning domains, including knowledge, skills, and attitudes. CBE is expected to transform the traditional approach to postgraduate education. For instance, although time in training is a valuable resource, it should not be regarded as a proxy for *competence* (e.g., time spent in specific clinical rotations is not the primary indicator of competence achievement). Furthermore, CBE emphasizes the critical role of informed judgment in assessing a learner's progression in competency, based on staged, formative assessments derived from multiple workplace-based observations. Several CBE models have been developed for postgraduate healthcare education, including CanMEDS by the Royal College of Physicians and Surgeons of Canada

(RCPSC), the competency-based medical education model by the Accreditation Council for Graduate Medical Education (ACGME), Tomorrow's Doctors in the United Kingdom, among others. The following concepts are intended to enhance the implementation of CBE in this curriculum:

- **Competency:** Competency is a cognitive construct that reflects the ability to perform effectively in a given situation according to professional standards. Professional roles (e.g., Medical Expert, Health Advocate, Communicator, Leader, Scholar, Collaborator, and Professional) are used to define competency roles to make them amenable to learning and assessment.
- **Milestones**: Milestones represent stages along the developmental continuum of competency. Throughout their learning journey—from junior to senior levels—trainees are supported in progressing from novice (supervised) to master (unsupervised) practitioners. This progression does not diminish the role of supervisory and regulatory bodies in overseeing independent practice and preventing malpractice. Milestones are intended to enhance the learning process by aligning training and assessment with the developmental level of trainees (junior vs. senior).
- **Learning Domains:** Whenever possible, learning outcomes should be annotated with the corresponding domain (K = Knowledge, S = Skills, and A = Attitudes). More than one annotation may apply to a given learning outcome.
- **Content Area Categorization:** Learning outcomes should be categorized into broad content areas related to professional practice, such as diagnostic versus therapeutic, simple versus complex, and urgent versus chronic.

- **Trainees** are expected to progress from novice to mastery levels in specific professional competencies. The Saudi Commission for Health Specialties (SCFHS) has endorsed the CanMEDS framework to articulate professional competencies. This curriculum applies the principles of competency-based medical education. The CanMEDS, ACGME, and other frameworks represent globally accepted models outlining competency roles. The CanMEDS 2015 framework has been adopted in this section.

The following reference provides the general outline of the CanMEDS competencies: Frank JR, Snell L, Sherbino J, editors. CanMEDS 2015 Physician Competency Framework. Ottawa: Royal College of Physicians and Surgeons of Canada; 2015.

Learning Outcomes

Successful fellows will acquire a broad-based understanding of the principles, philosophy, core knowledge, skills, and attitudes pertaining to **sports medicine**. By the end of training, fellows should attain the following goals and objectives:

Medical Expert

- Function effectively by integrating all CanMEDS roles to provide optimal, ethical, athlete-centered medical care.
- Establish and maintain the requisite clinical knowledge, skills, and attitudes.
- Perform focused, sport-specific histories, physical examinations, and preparticipation evaluations; recognize red flags that require urgent escalation.
- Select and interpret appropriate investigations (X-ray, ultrasound, magnetic resonance imaging [MRI]; electrocardiography [ECG] and exercise testing where indicated) to guide management.

- Implement preventive and therapeutic interventions effectively (exercise prescription, activity modification, bracing/orthoses, and responsible analgesic prescribing).
- Demonstrate proficient and appropriate use of procedural skills (arthrocentesis, large-joint injections, splinting and immobilization, wound care, and focused ultrasound within scope of practice).
- Coordinate rehabilitation and develop graded return-to-play and return-to-work plans with defined milestones and stop rules.
- Seek appropriate consultation from other health professionals and surgical services when needed (e.g., Orthopedics, Cardiology, Physical Medicine and Rehabilitation [PM&R]).

Communicator

- Develop rapport, trust, and ethical therapeutic relationships with athletes and their families.
- Elicit and synthesize relevant information and perspectives from patients, coaches, and interprofessional colleagues.
- Provide clear explanations of diagnoses, risks and benefits, alternatives, and timelines using plain language and the teach-back method.
- Develop a shared understanding of issues and co-create plans of care (including participation eligibility and restrictions).
- Produce effective oral and written communications, including concise clinical notes, handovers, and participation letters.

Collaborator

- Participate effectively and appropriately in interprofessional teams (e.g., Physical Therapy [PT], Occupational Therapy [OT], PM&R, Orthopedics, Radiology, Emergency Medicine [EM], Cardiology, Nutrition, and Psychology).

- Work with other professionals to prevent, negotiate, and resolve interprofessional conflicts.
- Coordinate timely referrals and execute closed-loop handovers to ensure continuity of care.

Health Advocate

- Respond to individual patient health needs and goals as part of care (injury prevention, safe training loads, and concussion and heat illness precautions).
- Respond to the health needs of the teams and communities served (safe facilities, automated external defibrillator [AED] readiness, and emergency action planning).
- Identify determinants of health affecting participation and outcomes and facilitate access to appropriate resources.
- Promote health through education on conditioning, recovery, and safe participation across ages and ability levels.

Leader

- Participate in activities that enhance the effectiveness of clinics, events, and systems of care.
- Manage personal clinical practice, time, and priorities effectively in busy clinical and event settings.
- Allocate finite healthcare resources appropriately (e.g., imaging, referrals, equipment, and scheduling).
- Assume leadership roles in administrative and clinical settings when appropriate (e.g., development of Emergency Action Plans [EAPs] and participation in quality improvement [QI] huddles).

Scholar

- Maintain and advance professional competence through continuous learning and deliberate practice.
- Critically appraise scientific evidence and clinical guidelines and apply evidence-informed decision-making in practice.
- Design or contribute to hypothesis-driven research or QI projects relevant to sports medicine.
- Facilitate learning for patients, students, residents, and teams and deliver focused teaching sessions on sports medicine topics.
- Contribute to the creation, dissemination, application, and translation of new knowledge and best practices.

Professional

- Demonstrate a commitment to patients, the profession, and society through ethical practice and accountability.
- Uphold professional standards and regulations, including confidentiality, informed consent, and accurate and timely documentation.
- Demonstrate a commitment to physician health, well-being, and sustainable practice, including reflective practice and continuous professional development (CPD).
- Demonstrate awareness and application of principles of diversity, equity, and inclusion in sports medicine by identifying barriers to sports participation and healthcare access and advocating for inclusive, culturally sensitive, and unbiased care for athletes of all backgrounds, genders, abilities, and socioeconomic contexts.

Program Duration

Sports medicine fellowship programs shall be one year in duration, typically spanning 12 consecutive months. During this period, fellows are expected to participate in a structured rotation system that ensures comprehensive exposure to all core domains of sports medicine.

Programs are encouraged to adopt a longitudinal, progressive curriculum rather than relying solely on rigid block scheduling. This model should enable fellows to engage concurrently in relevant subspecialties—such as orthopedics, radiology, rehabilitation, and primary care sports medicine—through recurring clinical and educational sessions.

The goal of this structure is to enhance continuity of learning, reinforce retention of knowledge and skills, and promote an integrated understanding of sports medicine practice across multiple disciplines.

Program Rotations

<table>
<tr><th rowspan="2">Training Year</th><th colspan="2">Mandatory Core Rotations</th><th colspan="2">Elective Rotations</th></tr>
<tr><th>Rotation</th><th>Duration</th><th>Rotation</th><th>Duration</th></tr>
<tr><td rowspan="8">F1</td><td>Orthopedics</td><td>12 weeks</td><td>Sports Nutrition</td><td rowspan="9">Maximum of 8 weeks of elective rotations in at least two disciplines.</td></tr>
<tr><td>PM&R</td><td>4 weeks</td><td></td></tr>
<tr><td>Pain Medicine</td><td>4 weeks</td><td rowspan="2">Sport Cardiology</td></tr>
<tr><td>Rheumatology</td><td>4 weeks</td></tr>
<tr><td>Hand Surgery</td><td>4 weeks</td><td rowspan="2">Physical and OT</td></tr>
<tr><td>Musculoskeletal (MSK) Imaging Rotation</td><td>4 weeks</td></tr>
<tr><td></td><td rowspan="2">Urgent Care</td><td>4 weeks</td><td>Sports Psychology</td></tr>
<tr><td></td><td rowspan="2">4 weeks</td><td></td><td></td></tr>
<tr><td></td><td rowspan="2">Field Coverage</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Annual Leave: 4 weeks</td><td></td><td></td><td></td></tr>
</table>

The table below outlines the rotations for the one-year program, including a 4-week annual leave.

1. Mandatory core rotations: A set of rotations that represent the core components of the program and are required.
2. Elective rotations: A set of rotations related to the specialty, as determined by the Scientific Council or Committee. Additional rotations may be undertaken upon approval by the Program Director, and trainees are required to complete a portion of these rotations.
3. Longitudinal: Weekly Sports Medicine clinics.
4. Annual leave: 4 weeks.

Mandatory Assignments:

1- Weekly Academic Activities:

- Fellows participate in weekly lectures, journal clubs, case conferences, or board review sessions covering diverse topics in sports medicine and primary care.
- If a fellow is rotating in another department, the fellow is required to attend the scheduled academic activity and participate in Family Medicine activities once per month.

2- Longitudinal Clinics:

- Throughout the program, including during rotations in other departments, fellows are required to participate in at least one Sports Medicine clinic per week and one clinic or shift per week in their primary specialty.

Mapping of Learning Objectives and Competency Roles to Program Rotations

Rotation Descriptions:

The primary aim of constructing this curriculum map is to establish a foundational framework for a rigorous one-year Sports Medicine Fellowship. This program is designed as a competency-based training model, drawing on the CanMEDS roles to structure its objectives. As the inaugural Sports Medicine Fellowship in Saudi Arabia, particular attention is devoted to defining and establishing objectives that align with the unique healthcare needs of the community. The curriculum development process is informed and guided by the Sports Medicine Fellowship curricula and structures of the American Medical Society for Sports Medicine (AMSSM).

Core Rotations

Rotation: Longitudinal Sports Medicine Clinics

Introduction:

This year-long rotation provides progressive responsibility, continuity of care, and mastery of outpatient sports medicine practice consistent with North American sports medicine fellowship benchmarks (AMSSM and ACGME-equivalent standards). Fellows attend two clinics per week, maintain a personal continuity panel, and follow athletes through injury presentation, investigation, management, rehabilitation, and return-to-play and return-to-work clearance.

Throughout the year, fellows integrate principles of performance medicine, including interpretation of VO_2max, lactate threshold, heart rate variability (HRV), training load metrics, and fatigue profiling. They participate in advanced ambulatory procedures such as joint injections, aspirations, orthobiologic procedures (when available), laceration repair, splinting, casting, ultrasound-guided interventions, and exercise-induced compartment pressure testing.

The rotation develops expertise in evidence-based diagnostics, longitudinal management, collaborative rehabilitation planning, and sport-specific return-to-play decision-making. By graduation, fellows are expected to achieve the competency level of a North American subspecialist in sports medicine.

Competencies

At the end of this rotation, the fellow will:

Medical Expert

Competencies	Enabling Competencies
• **ME 1** Practice medicine within the defined scope of practice and level of expertise. • **ME 2** Perform patient-centered clinical assessments and establish management plans. • **ME 3** Plan and perform procedures and therapies for assessment and management.	1. Describe the indications, limitations, and sequencing of common investigations (special radiographic views, ultrasound, MRI, computed tomography [CT], and basic laboratory tests) and apply the principle of "right test first." 2. Obtain focused, sport-specific histories (mechanism of injury, training load errors, equipment, and environmental factors) and perform targeted MSK and functional examinations. 3. Recognize early when presentations exceed the scope of practice and require referral to appropriate specialists (e.g., surgical, cardiac, ophthalmologic, or mental health services). 4. Correlate clinical findings with imaging results to refine differential diagnoses and modify management plans, and document how results influence clinical decision-making. 5. Prescribe individualized exercise programs using the frequency, intensity, time, and type (FITT) principles; integrate bracing and orthoses; and establish measurable milestones and stop rules. 6. Develop written return-to-play and return-

Competencies	Enabling Competencies
	to-work plans aligned with sport- or job-specific demands and seasonal timing. 7. Identify overtraining syndrome, relative energy deficiency in sport (RED-S), and maladaptive training patterns, and integrate nutrition, psychology, and performance science into management. 8. Perform core ambulatory procedures (arthrocentesis, large-joint injections, splinting, and wound care). 9. Perform or assist with advanced sports procedures, such as compartment pressure testing, functional movement assessments, and exertional evaluations. 10. Interpret physiological performance testing (VO2max, lactate threshold, HRV, and workload metrics) to guide training load management and injury prevention. 11. Perform ultrasound-guided injections and aspirations consistent with AMSSM curriculum expectations. 12. Apply longitudinal follow-up data and performance trends to support shared return-to-play and return-to-work decision-making.

Collaborator

Competencies	Enabling Competencies
• **Col 1** Work effectively with physicians and other colleagues in the healthcare professions. • **Col 2** Work with physicians and other colleagues in the healthcare professions to promote understanding, manage differences, and resolve conflicts.	1. Recognize and respect the roles of Physical Therapy and Occupational Therapy, PM&R, Orthopedics, Radiology, Cardiology, and Primary Care. 2. Coordinate closed-loop referrals and handovers by clearly defining roles, goals, and review timelines. 3. Resolve conflicting management plans through structured case discussions and multidisciplinary team (MDT) meetings.

Communicator

Competencies	Enabling Competencies
• **COM 1** Establish professional therapeutic relationships with patients and their families.	1. Communicate diagnoses, risks and benefits, alternatives, and timelines using clear and patient-centered language. 2. Explain procedural indications and risks, obtain informed consent, and provide written aftercare and red flag instructions. 3. Communicate effectively with referring clinicians, coaches, and employers through clear clinical documentation, formal correspondence, and direct communication when appropriate.

Health Advocate

Competencies	Enabling Competencies
• **HA 2** Respond to the needs of communities or populations served by advocating for system-level change in a socially accountable manner.	1. Identify barriers to safe participation (facility access, scheduling constraints, equipment availability, and heat or climate considerations). 2. Recommend preventive strategies (load management, warm-up routines, hydration, and sleep optimization) and connect athletes to appropriate community resources.

Leader

Competencies	Enabling Competencies
• **Led 2** Engage in the stewardship of healthcare resources. • **Led 4** Manage their practice and career.	1. Apply quality and patient safety principles to clinic workflow (triage, imaging appropriateness, and time to assessment). 2. Demonstrate effective time management, structured follow-up systems, and systematic results tracking. 3. Use electronic medical records, standardized templates, and performance dashboards to support high-quality care and CPD.

Scholar

Competencies	Enabling Competencies
• **S 1** Engage in the continuous enhancement of professional activities through ongoing learning. • **S 3** Integrate the best available evidence into practice.	1. Maintain a personal learning plan and address identified gaps through targeted reading and guideline review. 2. Critically appraise evidence regarding imaging thresholds, injection indications, biologic therapies, and return-to-play decision-making. 3. Deliver case-based teaching sessions and participate in journal clubs, case conferences, and microlearning modules.

Professional

Competencies	Enabling Competencies
• **P 1** Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards. • **P 2** Demonstrate a commitment to society by recognizing and responding to societal expectations in health care.	1. Demonstrate integrity, punctuality, reliability, and cultural sensitivity in clinical practice. 2. Engage patients in shared decision-making regarding investigations, procedures, and participation eligibility. 3. Maintain confidentiality and ensure accurate and timely documentation.

Duration: Longitudinal (12 months)

Setting: Ambulatory sports medicine clinics (hospital-affiliated and primary care center sites) with designated teaching space.

Educational Activities: Half-day academic activity and journal club.

Assessment Tools: Case-Based Discussion (CBD), logbook, Mini-Clinical Evaluation Exercise (Mini-CEX), and In-Training Evaluation Report (ITER).

Attendance Requirement: Two (2) Sports Medicine clinics per training week (allowing for approved leave).

Additional Expectation: Maintain clinical duties in the fellow's primary specialty when applicable.

Rotation: Orthopedics

Introduction:

This rotation provides immersive exposure to the full spectrum of orthopedic sports injury care across outpatient fracture and sports injury clinics, acute care consultations, perioperative pathways, and coordinated rehabilitation planning. Fellows refine their understanding of MSK injury classification, biomechanical stability, and clinical decision-making between conservative and surgical management, consistent with North American sports medicine and orthopedic benchmarks. In the outpatient setting, fellows gain supervised experience in performing orthopedic procedures such as large-joint injections, aspiration and arthrocentesis, periarticular injections, and ultrasound-guided interventions when available. They also develop competency in splinting and immobilization techniques, assist with fracture or joint reductions, and recognize time-sensitive orthopedic emergencies.

The rotation further emphasizes longitudinal and postoperative care, including wound assessment, imaging follow-up, rehabilitation progression, and safe return-to-play and return-to-work determinations, in close collaboration with Orthopedics, PM&R, PT, and athletic training staff. By the end of the rotation, fellows will have developed a practical, procedural, and evidence-informed orthopedic approach to managing common and complex athletic injuries.

Competencies

At the end of this rotation, the fellow will:

Medical Expert

Competencies	Enabling Competencies
• **ME 1** Practice medicine within the defined scope of practice and level of expertise. • **ME 2** Perform patient-centered clinical assessments and establish management plans. • **ME 3** Plan and perform procedures and therapies for assessment and management.	1. Describe the principles of fracture and dislocation classification and stability, and discuss the indications, benefits, and limitations of conservative versus surgical management. 2. Obtain focused, mechanism-specific histories and perform targeted MSK examinations, including assessment of neurovascular status, compartment risk, and ligamentous stability. 3. Select and interpret appropriate imaging (special radiographic views, ultrasound, MRI, and CT when indicated) and correlate findings with clinical features to refine management decisions. 4. Perform safe immobilization (splints, boots, braces, and slings) and participate in reduction pathways, including informed consent when applicable, coordination of analgesia or procedural sedation, post-reduction imaging, and appropriate documentation. 5. Recognize red flags (open fracture, neurovascular compromise, suspected compartment syndrome, and septic arthritis) and activate urgent management pathways. 6. Counsel patients regarding graded activity progression and timelines for return-to-play and return-to-work, aligning criteria with sport- or job-specific demands and seasonal timing.

Competencies	Enabling Competencies
	7. Coordinate rehabilitation plans with PM&R and therapy services, establishing clear milestones and follow-up review points. 8. Perform core outpatient orthopedic procedures, such as large-joint aspiration, corticosteroid or viscosupplementation injections, periarticular injections, and ultrasound-guided procedures, using appropriate informed consent, sterile technique, documentation, and aftercare instructions. 9. Participate in perioperative and postoperative care by understanding surgical indications, reviewing operative notes, performing wound assessments, recognizing postoperative complications (e.g., infection, deep vein thrombosis, and joint stiffness), and aligning rehabilitation phases with surgical precautions. 10. Understand biomechanics and sport-specific loading relevant to orthopedic injury patterns, surgical repairs, and recovery timelines, and apply this knowledge to guide activity modification and progression. 11. Integrate orthopedic procedural and imaging findings into shared decision-making with patients and the orthopedic team, using evidence-informed criteria to determine safe return-to-play and return-to-work following operative and nonoperative management.

Collaborator

Competencies	Enabling Competencies
• **Col 1** Work effectively with physicians and other colleagues in the healthcare professions. • **Col 2** Work with physicians and other colleagues in the healthcare professions to promote understanding, manage differences, and resolve conflicts.	1. Recognize and respect the roles of orthopedic surgeons, Anesthesiology and Acute Pain services, PM&R, Radiology, EM, and Physical and Occupational Therapy. 2. Plan and execute closed-loop handovers by defining roles, goals, and review timelines, and reconcile differing recommendations through structured case discussions.

Communicator

Competencies	Enabling Competencies
• **COM 1** Establish professional therapeutic relationships with patients and their families.	1. Explain diagnoses, imaging results, risks, benefits, and alternatives, and post-procedure care in clear language, and confirm understanding using the teach-back method. 2. Obtain informed consent for procedures (immobilization, assistance with reductions when applicable, and injections) and provide written aftercare and red flag precautions. 3. Communicate promptly and clearly with referring clinicians and teams through concise clinical documentation, discharge instructions, and direct communication when necessary.

Health Advocate

Competencies	Enabling Competencies
• **HA 2** Respond to the needs of communities or populations served by advocating for system-level change in a socially accountable manner.	1. Advocate for timely access to imaging, bracing and orthoses, operating room (OR) scheduling when indicated, and early rehabilitation pathways. 2. Promote injury prevention strategies (protective equipment, neuromuscular warm-up programs, and load management) and safe participation policies.

Leader

Competencies	Enabling Competencies
• **Led 2** Engage in the stewardship of healthcare resources. • **Led 4** Manage their practice and career.	1. Apply quality and patient safety principles to fracture clinic workflow (triage, time to immobilization, and imaging appropriateness). 2. Balance clinic responsibilities, OR observership, emergency consultations, and learning needs, and use checklists and electronic medical record (EMR) tools to track results and follow-up. 3. Consider the costs and benefits of investigations and interventions and use healthcare resources judiciously.

Scholar

Competencies	Enabling Competencies
• **S 1** Engage in the continuous enhancement of professional activities through ongoing learning. • **S 3** Integrate the best available evidence into practice.	1. Maintain a focused learning plan addressing fracture stability, high-risk ("cannot-miss") injuries, and surgical indications. 2. Critically appraise clinical guidelines and key literature (e.g., scaphoid fractures, tibial plateau fractures, Lisfranc injuries, and clavicle fractures) and apply evidence to clinical cases. 3. Participate in case reviews, imaging rounds, and skills workshops and deliver brief teaching sessions to peers or clinic staff when appropriate.

Professional

Competencies	Enabling Competencies
• **P 1** Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards. • **P 2** Demonstrate a commitment to society by recognizing and responding to societal expectations in health care.	1. Demonstrate integrity, punctuality, reliability, and cultural sensitivity consistent with the role of a consulting physician. 2. Engage patients in shared decision-making regarding procedures and participation eligibility, recognize professional limits, and seek supervision appropriately. 3. Maintain confidentiality and ensure accurate and timely documentation.

Duration: 12 weeks.

Setting: Hospital-based setting.

Educational Activities: Half-day academic activity and journal club.

Assessment Tools: CBD, logbook, Mini-CEX, and ITER.

Rotation: PM&R

Introduction:

This rotation builds advanced competence in nonoperative MSK and spine care, functional rehabilitation, and adaptive sports medicine. Fellows learn targeted physiatric assessment—including movement and gait analysis, wheelchair and seated posture evaluation, and task-specific functional testing—to design and monitor individualized, criterion-based rehabilitation plans. The rotation integrates electrodiagnostic testing (electromyography [EMG] and nerve conduction studies [NCS]), bracing and orthotic or prosthetic selection, safe

performance of targeted injections (as permitted), and coordinated return-to-play and return-to-work planning that is inclusive of para-sport participation.

Fellows work within an MDT, including Physical Therapy and Occupational Therapy, Orthopedics, Pain Medicine, Primary Care, Radiology, Prosthetics and Orthotics, wheelchair and seating specialists, and Sports Psychology, to optimize functional recovery, ensure patient safety, identify red flags, and apply evidence-based rehabilitation principles. Clinical exposure includes care of athletes with spinal cord injury, limb deficiency, cerebral palsy, visual impairment, and other disabilities, with attention to impairment-specific risk mitigation (e.g., skin integrity, autonomic dysreflexia, thermoregulation, spasticity management, and bone health). Fellows select and fit adaptive equipment, collaborate on sport-specific classification-aware training and protection strategies, and develop accessible return-to-play plans that specify sport adaptations, equipment needs, environmental considerations, and clear progression and stop rules.

Competencies

At the end of this rotation, the fellow will:

Medical Expert

Competencies	Enabling Competencies
• **ME 1** Practice medicine within the defined scope of practice and level of expertise. • **ME 2** Perform patient-centered clinical assessments and establish management plans. • **ME 3** Plan and perform procedures and therapies for assessment and management.	1. Apply the principles of criterion-based rehabilitation with measurable phase progression. 2. Elicit sport- or work-specific functional goals and perform targeted physiatric examinations (MSK, spine, neurologic, movement, and gait assessments). 3. Align individualized rehabilitation and graded return-to-activity plans with sport- or work-specific demands and ADLs. 4. Interpret EMG and NCS (EMG/NCS) findings related to radiculopathy, entrapment neuropathy, plexopathy, and polyneuropathy, and correlate these results with clinical findings. 5. Select, fit, and monitor braces and orthoses; provide wear and care instructions; and verify neurovascular integrity. 6. Perform or assist with targeted injections (ultrasound-guided when available) following appropriate informed consent, aseptic technique, and aftercare instructions. 7. Identify and appropriately escalate red flags (compartment syndrome, myelopathy, cauda equina syndrome, and progressive neurologic deficits).

Collaborator

Competencies	Enabling Competencies
• Col 1 Work effectively with physicians and other colleagues in the healthcare professions. • Col 2 Work with physicians and other colleagues in the healthcare professions to promote understanding, manage differences, and resolve conflicts.	• Collaborate with Physical Therapy and Occupational Therapy, Orthopedics, Pain Medicine, Rheumatology, Radiology, and Primary Care to co-create shared goals and review timelines. • Use structured closed-loop handovers and resolve differing recommendations through MDT case discussions or conferences.

Communicator

Competencies	Enabling Competencies
• **COM 1** Establish professional therapeutic relationships with patients and their families.	• Clearly explain diagnoses, rehabilitation phases, expected timelines, procedures, risks and benefits, and alternatives using the teach-back method. • Provide written home exercise programs, aftercare instructions, and red flag precautions. • Communicate progress, restrictions, and workplace or sport accommodations to employers and coaches, with appropriate patient consent.

Health Advocate

Competencies	Enabling Competencies
• **HA 2** Respond to the needs of communities or populations served by advocating for system-level change in a socially accountable manner	• Identify barriers to participation (facility access, environmental constraints, equipment availability, and transportation) and facilitate access to required resources. • Promote injury prevention strategies (neuromuscular warm-up programs, load management, and ergonomic principles).

Leader

Competencies	Enabling Competencies
• **Led 2** Engage in the stewardship of healthcare resources. • **Led 4** Manage their practice and career.	• Streamline clinic and MDT workflows (goal-setting huddles, templated documentation, and outcome tracking). • Allocate investigations, therapy sessions, and follow-up appointments judiciously. • Manage time and caseload effectively while maintaining personal well-being.

Scholar

Competencies	Enabling Competencies
• **S 1** Engage in the continuous enhancement of professional activities through ongoing learning. • **S 3** Integrate the best available evidence into practice.	• Maintain a structured learning plan addressing rehabilitation progressions, key electrodiagnostic principles, and indications for orthoses and taping. • Critically appraise and apply evidence to rehabilitation program design, return-to-run and return-to-throw protocols, and injection indications. • Deliver brief, case-based teaching sessions to the MDT and participate in journal clubs, workshops, and skills sessions.

Professional

Competencies	Enabling Competencies
• **P 1** Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards • **P 2** Demonstrate a commitment to society by recognizing and responding to societal expectations in health care.	• Demonstrate integrity, punctuality, reliability, confidentiality, and culturally sensitive communication in clinical practice. • Engage patients in shared decision-making regarding goals, pacing, and readiness for clearance; recognize professional limits and seek supervision appropriately. • Complete clear, timely, and accurate documentation.

Duration: 4 weeks.

Setting: The rotation takes place across physiatry and MSK clinics, the EMG and NCS (EMG/NCS) laboratory, gait and movement analysis laboratories, bracing and orthotics services, Physical Therapy and Occupational Therapy-integrated rehabilitation areas, and ultrasound procedure rooms.

Educational Activities: Fellows participate in half-day teaching activities, journal club sessions, and case-based learning activities.

Assessment Tools: Assessment includes CBD, logbook, and Mini-CEX evaluating bracing and orthoses application, taping techniques, and injections where permitted, in addition to an ITER.

Rotation: Pain Medicine

Introduction:

This rotation develops competence in the assessment and management of acute and chronic pain in athletes and physically active adults. Fellows rotate through acute pain services, chronic pain clinics, and regional anesthesia sessions (under Anesthesiology supervision where applicable), with an emphasis on multimodal, function-focused care, safe procedural practice, and coordinated rehabilitation within the interprofessional team.

Competencies

At the end of this rotation, the fellow will:

Medical Expert

Competencies	Enabling Competencies
• **ME 1** Practice medicine within the defined scope of practice and level of expertise. • **ME 2** Perform patient-centered clinical assessments and establish management plans. • **ME 3** Plan and perform procedures and therapies for assessment and management.	1. Differentiate acute and chronic pain mechanisms and formulate individualized, function-oriented management plans using multimodal analgesia and graded activity. 2. Obtain targeted pain histories (onset, mechanism, neuropathic features, and psychosocial factors) and perform focused examinations aligned with functional goals. 3. Select and interpret appropriate investigations (including indications for imaging and situations in which imaging is not indicated) and document how results influence management decisions. 4. Perform core procedures within scope (e.g., joint or soft tissue injections and hematoma blocks per institutional policy) using appropriate informed consent, procedural time-out, aseptic technique, and aftercare instructions. 5. Participate, under supervision, in regional pain and regional anesthesia sessions (e.g., peripheral nerve and fascial plane blocks); explain indications and risks, apply fundamental ultrasound principles, and monitor post-procedural outcomes.

Competencies	Enabling Competencies
	6. Recognize and appropriately escalate emergencies (local anesthetic systemic toxicity [LAST], compartment syndrome, and uncontrolled sedation or respiratory depression) and activate emergency pathways promptly. 7. Coordinate rehabilitation and develop return-to-play and return-to-work plans that integrate pain control with progressive loading and clearly defined stop rules.

Collaborator

Competencies	Enabling Competencies
• **Col 1** Work effectively with physicians and other colleagues in the healthcare professions. • **Col 2** Work with physicians and other colleagues in the healthcare professions to promote understanding, manage differences, and resolve conflicts.	1. Coordinate care with Anesthesiology, PM&R, Physical Therapy and Occupational Therapy, Psychology, and Primary Care to align goals and review timelines. 2. Use structured, closed-loop handovers and reconcile differing recommendations through structured case discussions.

Communicator

Competencies	Enabling Competencies
• **COM 1** Establish professional therapeutic relationships with patients and their families.	1. Explain diagnoses, management options, risks and benefits, and expected timelines in clear language and use the teach-back method to confirm understanding. 2. Obtain informed consent for procedures and provide written aftercare instructions, red flag advice, and medication safety guidance. 3. Communicate effectively with referring clinicians and teams through concise clinical documentation, direct communication when necessary, and timely results letters.

Health Advocate

Competencies	Enabling Competencies
• **HA 2** Respond to the needs of the communities or populations served by advocating for system-level change in a socially accountable manner.	1. Facilitate timely access to appropriate modalities (rehabilitation, psychology, and imaging) based on urgency and anticipated benefit. 2. Promote safe pain management strategies by encouraging nonpharmacologic options, supporting opioid-sparing plans when medication is required, and providing education on pacing, sleep, and load management.

Leader

Competencies	Enabling Competencies
• **Led 2** Engage in the stewardship of healthcare resources. • **Led 4** Manage their practice and career.	1. Apply quality and patient safety principles during acute pain rounds and in regional block areas (checklists, procedural time-outs, and monitoring). 2. Optimize clinic workflow and follow-up systems, and track outcomes and adverse events to guide QI. 3. Balance patient care, learning, and well-being, and use EMR tools and templates to support efficient care.

Scholar

Competencies	Enabling Competencies
• **S 1** Engage in the continuous enhancement of professional activities through ongoing learning. • **S 3** Integrate the best available evidence into practice.	1. Maintain a focused learning plan addressing neuropathic pain assessment tools, multimodal analgesia bundles, and regional anesthesia techniques. 2. Critically appraise clinical guidelines and evidence and apply them to case-based decisions (e.g., imaging thresholds and injection indications). 3. Deliver brief, case-linked teaching sessions (e.g., LAST management drills and multimodal analgesia overviews) and participate in journal clubs.

Professional

Competencies	Enabling Competencies
• **P 1** Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards. • **P 2** Demonstrate a commitment to society by recognizing and responding to societal expectations in health care.	1. Demonstrate integrity, punctuality, reliability, confidentiality, and culturally appropriate communication in clinical practice. 2. Engage patients in shared decision-making regarding procedures and participation eligibility, recognize professional limits, and seek supervision appropriately. 3. Document clearly and in a timely manner, report adverse events, and participate in structured debriefings.

Duration: 4 weeks.

Setting: Acute Pain Service (wards, emergency department [ED], and postoperative units), Chronic Pain Clinics, Regional Anesthesia area and ultrasound suite, and conference room.

Educational Activities: Half-day academic activity and journal club.

Assessment Tools: CBD, logbook, Mini-CEX, and ITER.

Rotation: Rheumatology

Introduction:

This rotation develops competence in the recognition and management of inflammatory arthritides, crystal arthropathies, MSK manifestations of connective tissue diseases, and overuse conditions that mimic inflammatory disorders. Fellows focus on timely recognition, exclusion of emergencies, symptomatic flare management (e.g., nonsteroidal anti-inflammatory drugs [NSAIDs] and colchicine when appropriate), arthrocentesis and intra-articular (IA) injection, appropriate laboratory testing and imaging, early referral, and coordinated return-to-play and return-to-work planning with the interprofessional team.

Competencies

At the end of this rotation, the fellow will:

Medical Expert

Competencies	Enabling Competencies
• **ME 1** Practice medicine within the defined scope of practice and level of expertise. • **ME 2** Perform patient-centered clinical assessments and establish management plans. • **ME 3** Plan and perform procedures and therapies for assessment and management.	1. Differentiate inflammatory and mechanical patterns using clinical history, pattern recognition, physical examination, and basic laboratory testing. 2. Activate early arthritis pathways and coordinate expedited Rheumatology consultation when indicated. 3. Select and interpret appropriate investigations (erythrocyte sedimentation rate, C-reactive protein, targeted serologic testing such as human leukocyte antigen B27 or serum urate; ultrasound for synovitis or enthesitis; and MRI for sacroiliitis) and document how results influence management decisions. 4. Perform safe arthrocentesis and administer IA corticosteroid injections using appropriate informed consent, aseptic technique, procedural time-out, and aftercare instructions. 5. Manage acute crystal arthropathy flares by confirming the diagnosis through synovial fluid aspiration when feasible and initiating guideline-based flare therapy, including hydration and trigger counseling. 6. Screen for and appropriately escalate red flags (suspected septic arthritis, rapidly progressive neurologic symptoms, and limb-threatening vasculitis) and activate urgent management pathways.

Competencies	Enabling Competencies
	7. Develop graded return-to-play and return-to-work plans and align activity recommendations with disease control and medication safety considerations in collaboration with Rheumatology and Primary Care.

Collaborator

Competencies	Enabling Competencies
• **Col 1** Work effectively with physicians and other colleagues in the healthcare professions. • **Col 2** Work with physicians and other colleagues in the healthcare professions to promote understanding, manage differences, and resolve conflicts.	1. Coordinate care with Rheumatology, Primary Care, Radiology, and Physical Therapy and Occupational Therapy, and establish shared goals, milestones, and review timelines. 2. Use structured, closed-loop handovers and reconcile differing recommendations through structured case discussions.

Communicator

Competencies	Enabling Competencies
• **COM 1** Establish professional therapeutic relationships with patients and their families.	• Explain diagnoses, investigations, and treatment options in clear language and use the teach-back method to confirm understanding. • Obtain informed consent for procedures and provide written aftercare instructions and red flag precautions. • Communicate results and management plans to referring clinicians and, with appropriate patient consent, to coaches or employers; issue participation letters when appropriate.

Health Advocate

Competencies	Enabling Competencies
• **HA 2** Respond to the needs of communities or populations served by advocating for system-level change in a socially accountable manner.	1. Facilitate timely access to joint aspiration, imaging, and urgent specialist review based on clinical priority. 2. Promote exercise during periods of controlled disease, joint protection strategies, weight and metabolic risk management, hydration and dietary counseling for gout, and vaccination considerations aligned with specialist management plans.

Leader

Competencies	Enabling Competencies
• Led 2 Engage in the stewardship of healthcare resources. • Led 4 Manage their practice and career.	1. Apply appropriateness criteria for diagnostic tests and procedures and optimize clinic workflow (same-day joint aspiration when feasible and clear follow-up plans). 2. Track clinical outcomes and flare frequency and use EMR tools and checklists to ensure safety monitoring and timely handovers.

Scholar

Competencies	Enabling Competencies
• **S 1** Engage in the continuous enhancement of professional activities through ongoing learning. • **S 3** Integrate the best available evidence into practice.	1. Maintain a focused learning plan addressing early arthritis recognition, gout management pathways, and imaging for sacroiliitis. 2. Critically appraise and apply evidence-based guidelines to case-based decisions (e.g., prioritizing joint aspiration in suspected monoarthritis). 3. Deliver brief, case-linked teaching sessions (e.g., "inflammatory versus mechanical knee pain" and "gout versus septic arthritis in monoarthritis") during clinic or rounds.

Professional

Competencies	Enabling Competencies
• **P 1** Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards. • **P 2** Demonstrate a commitment to society by recognizing and responding to societal expectations in health care.	1. Demonstrate integrity, punctuality, reliability, confidentiality, and culturally appropriate communication in clinical practice. 2. Engage patients in shared decision-making regarding procedures and sports participation, recognize professional limits, and seek supervision appropriately. 3. Complete accurate and timely documentation.

Duration: 4 weeks.

Setting: Rheumatology clinics (early arthritis and spondyloarthritis sessions), procedure room and ultrasound sessions, inpatient and ED consultation service, and conference room.

Educational Activities: Half-day academic activity and journal club.

Assessment Tools: CBD, logbook, Mini-CEX, and ITER.

Rotation: MSK Imaging

Introduction:

This rotation develops competence in selecting, interpreting, and communicating MSK imaging for sport-related conditions. Fellows work in radiology reading rooms and imaging suites to build skills in the systematic interpretation of plain radiographs, fundamentals of MSK MRI, and focused MSK ultrasound (including transducer ergonomics and dynamic assessment). The rotation emphasizes imaging appropriateness ("right test first"), radiation safety in accordance with the As Low As Reasonably Achievable (ALARA) principle, contrast safety, and timely communication of critical or unexpected findings to guide management and return-to-play and return-to-work planning.

Competencies

At the end of this rotation, the fellow will:

Medical Expert

Competencies	Enabling Competencies
• **ME 1** Practice medicine within the defined scope of practice and level of expertise. • **ME 2** Perform patient-centered clinical assessments and establish management plans. • **ME 3** Plan and perform procedures and therapies for assessment and management.	1. Describe the indications, limitations, and sequencing of plain radiography, ultrasound, and MRI for common sports presentations and apply the "right test first" principle. 2. Interpret MSK radiographs systematically (alignment, bone, cartilage, and soft tissue) and identify "cannot-miss" injuries (e.g., scaphoid fracture, Lisfranc injury, tibial plateau fracture, and perilunate dislocation). 3. Recognize typical MRI patterns in athletes (meniscal and ligament tears, rotator cuff spectrum injuries, and osteochondral or bone stress injuries) and correlate findings with clinical scenarios. 4. Demonstrate fundamental ultrasound skills (probe handling, sonoanatomy identification, and dynamic maneuvers) for the shoulder, knee, and ankle and foot, and document relevant pathology. 5. Draft concise, actionable imaging impressions that clearly state next steps (e.g., immobilization versus rehabilitation milestones and indications for repeat imaging).

Competencies	Enabling Competencies
	6. Identify red flag findings (e.g., septic arthritis, imaging features suggestive of compartment syndrome, and unstable fractures) and promptly escalate to the responsible clinical team. 7. Apply the ALARA principle and contrast safety standards and participate in drills for contrast reactions or urgent imaging alerts.

Collaborator

Competencies	Enabling Competencies
• **Col 1** Work effectively with physicians and other colleagues in the healthcare professions. • **Col 2** Work with physicians and other colleagues in the healthcare professions to promote understanding, manage differences, and resolve conflicts.	1. Coordinate with Radiology, Orthopedics, PM&R, and Physical Therapy and Occupational Therapy to align imaging findings with operative or rehabilitation plans. 2. Use structured, closed-loop communication and reconcile differing interpretations through joint image review sessions.

Communicator

Competencies	Enabling Competencies
• **COM 1** Establish professional therapeutic relationships with patients and their families.	1. Explain imaging results, risks and benefits, and areas of uncertainty in clear language and use the teach-back method to confirm understanding. 2. Communicate same-day critical or unexpected results directly to the responsible clinician and issue concise reports with actionable recommendations.

Health Advocate

Competencies	Enabling Competencies
• **HA 1** Respond to the needs of communities or populations served by advocating for system-level change in a socially accountable manner.	1. Promote appropriate imaging practices to reduce unnecessary radiation exposure and delays and facilitate timely access for conditions in which early imaging alters outcomes. 2. Support venue and team protocols that standardize indications for imaging and follow-up.

Leader

Competencies	Enabling Competencies
• Led 1 Engage in the stewardship of healthcare resources. • Led 2 Manage their practice and career.	1. Steward healthcare resources by appropriately protocoling imaging studies and optimizing scheduling based on pretest probability. 2. Organize reporting workflows and implement a critical results communication pathway with documented callbacks and read-backs.

Scholar

Competencies	Enabling Competencies
• **S 1** Engage in the continuous enhancement of professional activities through ongoing learning. • **S 2** Integrate the best available evidence into practice.	1. Maintain a focused learning plan addressing fracture classification systems, MRI patterns, and ultrasound scanning techniques. 2. Critically appraise and apply evidence-based guidelines to imaging selection and reporting language. 3. Deliver brief, image-based teaching sessions (e.g., "knee MRI findings in athletes") during readout sessions or conferences.

Professional

Competencies	Enabling Competencies
• **P 1** Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards. • **P 2** Demonstrate a commitment to society by recognizing and responding to societal expectations in health care.	1. Demonstrate integrity, punctuality, reliability, and confidentiality; document clearly and in a timely manner. 2. Acknowledge professional limits, seek supervision appropriately, and participate in structured debriefings after critical events.

Duration: 4 weeks.

Setting: Radiology reading rooms (plain radiography and MRI), ultrasound suites, contrast administration areas, and case conference rooms.

Educational Activities: Half-day academic activity and journal club.

Assessment Tools: CBD, logbook, Mini-CEX, and ITER.

Rotation: Hand Surgery

Introduction:

This rotation provides focused exposure to sport-related soft tissue trauma of the hand and upper extremities. Fellows develop skills in layered wound closure, digital anesthesia, nail bed and auricular hematoma management, bite wound care, splinting, infection prophylaxis, and early recognition of tendon, nerve, and vascular injuries. Emphasis is placed on coordinated rehabilitation with Physical Therapy and Occupational Therapy and on return-to-play and return-to-work planning.

Competencies

At the end of this rotation, the fellow will:

Medical Expert

Competencies	Enabling Competencies
• **ME 1** Practice medicine within the defined scope of practice and level of expertise. • **ME 2** Perform patient-centered clinical assessments and establish management plans. • **ME 3** Plan and perform procedures and therapies for assessment and management.	1. Obtain focused histories and perform targeted examinations for lacerations, tendon and nail bed injuries, auricular hematoma, bite wounds, and soft tissue infections. 2. Select and interpret appropriate imaging for associated fractures or retained foreign bodies and integrate findings into management decisions. Perform layered wound closure using appropriate anesthesia, irrigation, debridement, and suture selection, and provide written aftercare instructions. 3. Administer safe digital nerve blocks (including dose calculation and aspiration before injection) and document neurovascular status before and after the procedure. 4. Manage auricular hematomas by drainage and application of bolster dressings and plan follow-up to prevent recurrence. 5. Repair nail bed injuries (trephination or nail bed repair) and provide protection and activity guidance. 6. Apply evidence-based splints (e.g., mallet, volar, and ulnar gutter splints) and verify fit, comfort, and neurovascular integrity before discharge.

Competencies	Enabling Competencies
	7. Initiate bite wound care (irrigation, debridement, and structural assessment) and determine the need for tetanus and antibiotic prophylaxis when indicated. 8. Recognize and appropriately escalate complications (compartment syndrome, rapidly progressive infection, and tendon rupture) and activate urgent management pathways. 9. Create graded return-to-play and return-to-work plans specifying protective measures (dressings, splints, and headgear), staged loading, and contact restrictions.

Collaborator

Competencies	Enabling Competencies
• **Col 1** Work effectively with physicians and other colleagues in the healthcare professions. • **Col 2** Work with physicians and other colleagues in the healthcare professions to promote understanding, manage differences, and resolve conflicts.	1. Coordinate with Plastic and Hand Surgery, Orthopedics, EM, Infectious Diseases (when indicated), and Physical Therapy and Occupational Therapy to align goals, roles, and review timelines. 2. Use structured, closed-loop handovers and resolve differing management plans through focused case discussions.

Communicator

Competencies	Enabling Competencies
• **COM 1** Establish professional therapeutic relationships with patients and their families.	1. Explain procedures, risks and benefits, alternatives, scar care expectations, and activity restrictions in clear language and use the teach-back method. 2. Obtain informed consent and provide written aftercare instructions (wound hygiene, dressing changes, splint wear and care, and red flag return precautions). 3. Communicate succinct summaries and participation notes to referring clinicians and, with appropriate patient consent, to coaches or employers.

Health Advocate

Competencies	Enabling Competencies
• **HA 1** Respond to the needs of communities or populations served by advocating for system-level change in a socially accountable manner.	1. Facilitate timely access to hand therapy, splinting and orthotic services, and necessary imaging or surgical review. 2. Promote prevention strategies (protective gear and taping, hygiene for contact sports) and safe facility standards.

Leader

Competencies	Enabling Competencies
• Led 1 Engage in the stewardship of healthcare resources. • Led 2 Manage their practice and career.	1. Optimize clinic and ED workflow (time to analgesia, time to wound closure, and documentation templates) and standardize care bundles (e.g., auricular hematoma pathway). 2. Apply cost-conscious investigation and follow-up scheduling practices and track outcomes (infection and recurrence rates) to guide QI.

Scholar

Competencies	Enabling Competencies
• **S 1** Engage in the continuous enhancement of professional activities through ongoing learning. • **S 2** Integrate the best available evidence into practice.	1. Maintain a focused learning plan addressing wound closure techniques, nail bed repair, bite wound prophylaxis, and scar management. 2. Critically appraise and apply evidence-based guidelines to procedure selection, prophylaxis decisions, and return-to-play protection timelines. 3. Deliver brief skills-based teaching sessions (layered closure, bolster dressing technique, and splint application) to learners and team members.

Professional

Competencies	Enabling Competencies
• **P 1** Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards. • **P 2** Demonstrate a commitment to society by recognizing and responding to societal expectations in health care.	1. Demonstrate integrity, punctuality, reliability, confidentiality, and culturally appropriate communication in clinical practice. 2. Engage patients in shared decision-making, recognize professional limits, and seek supervision appropriately. 3. Complete accurate and timely documentation and participate in structured debriefings after complications.

Duration: 4 weeks.

Setting: Plastic and Hand Surgery clinics; ED consultations; minor procedures room; operating theater (observership); and hand therapy and orthotics services.

Educational Activities: Half-day academic activity and journal club.

Assessment Tools: CBD, logbook, Mini-CEX, and ITER.

Rotation: Urgent Care

Introduction:

This rotation focuses on the rapid evaluation and early definitive management of sport-related injuries presenting to urgent care centers and trauma intake areas. Fellows develop skills in triage, time-critical stabilization, imaging decision-making, reduction and immobilization, wound and fracture management, and the implementation of concussion and heat illness care pathways, as well as coordinated follow-up with Orthopedics, EM, and rehabilitation services. Emphasis is placed on safe discharge practices, robust safety netting, and return-to-play and return-to-work planning.

Competencies

At the end of this rotation, the fellow will:

Medical Expert

Competencies	Enabling Competencies
• **ME 1** Practice medicine within the defined scope of practice and level of expertise. • **ME 2** Perform patient-centered clinical assessments and establish management plans • **ME 3** Plan and perform procedures and therapies for assessment and management.	1. Triage undifferentiated sports injuries and complete the initial assessment within unit-specific time targets; recognize red flags requiring immediate escalation (open fracture, neurovascular compromise, compartment syndrome, cauda equina syndrome, septic arthritis, and head injury red flags). 2. Select and justify appropriate imaging using validated clinical decision rules (e.g., Ottawa Ankle and Knee Rules), and request protocol-specific views as indicated; document how findings influence management decisions. 3. Perform safe immobilization (splints, boots, and slings) and assist with or perform closed reductions in accordance with local policy, ensuring consent, coordination for analgesia or procedural sedation, post-reduction imaging, and repeat neurovascular assessment. 4. Initiate evaluation for suspected septic arthritis and administer first-dose antimicrobials when indicated; arrange joint aspiration where feasible and activate urgent review pathways. 5. Manage concussion and mild traumatic brain injury by removing the athlete from play, providing return-to-learn and return-to-play instructions, and arranging appropriate follow-up.

Competencies	Enabling Competencies
	6. Deliver multimodal, opioid-sparing analgesia and, under supervision when available, perform hematoma or regional analgesic blocks. 7. Create staged return-to-play and return-to-work plans with clear protection instructions (splints, weight-bearing status, and contact restrictions) aligned with sport or job demands.

Collaborator

Competencies	Enabling Competencies
• **Col 1** Work effectively with physicians and other colleagues in the healthcare professions. • **Col 2** Work with physicians and other colleagues in the healthcare professions to promote understanding, manage differences, and resolve conflicts.	1. Work effectively with Orthopedics, EM, Radiology, Physical Medicine & Rehabilitation, and Physical Therapy and Occupational Therapy to align roles, timelines, and follow-up plans. 2. Use structured, closed-loop handovers to consulting services and primary care providers and reconcile differing recommendations through focused case discussions.

Communicator

Competencies	Enabling Competencies
• **COM 1** Establish professional therapeutic relationships with patients and their families.	1. Explain diagnoses, procedures, risks and benefits, and aftercare in clear language; employ the teach-back method and provide written instructions with red flag return precautions. 2. Communicate efficiently with referring clinicians and, with appropriate patient consent, coaches or employers; issue concise participation and restriction notes.

Health Advocate

Competencies	Enabling Competencies
• **HA 1** Respond to the needs of communities or populations served by advocating for system-level change in a socially accountable manner.	1. Facilitate rapid access to imaging, immobilization, and rehabilitation resources based on clinical urgency and expected benefit. 2. Promote venue readiness (AED checks, cooling capacity, and splinting resources) and advocate for safe facility standards and equipment.

Leader

Competencies	Enabling Competencies
• **Led 1** Engage in the stewardship of healthcare resources. • **Led 2** Manage their practice and career.	1. Optimize unit workflow (time to analgesia, time to immobilization, and application of clinical decision rules for imaging); conduct brief safety huddles and structured debriefings after critical events. 2. Apply resource stewardship when ordering tests and supplies and implement checklists and standardized order sets to improve safety and efficiency.

Scholar

Competencies	Enabling Competencies
• **S 1** Engage in the continuous enhancement of professional activities through ongoing learning. • **S 2** Integrate the best available evidence into practice.	1. Maintain a focused learning plan addressing clinical decision rules, reduction techniques, and concussion and heat illness protocols. 2. Critically appraise and apply evidence-based pathways and care bundles and contribute to microteaching sessions for staff and learners.

Professional

Competencies	Enabling Competencies
• **P 1** Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards. • **P 2** Demonstrate a commitment to society by recognizing and responding to societal expectations in health care.	1. Demonstrate punctuality, reliability, confidentiality, and culturally appropriate communication; practice within the defined scope and seek supervision appropriately. 2. Complete accurate and timely documentation, report incidents, and participate in quality reviews following adverse events.

Duration: 4 weeks.

Setting: Urgent Care Center; trauma intake and fast-track bays; minor procedures room; radiology-adjacent services; and simulation laboratory.

Educational Activities: Half-day academic activity and journal club.

Assessment Tools: CBD, logbook, Mini-CEX, and ITER.

Rotation: Field Coverage

Introduction

This rotation provides immersive training in on-field and sideline medical coverage across a variety of sports settings. Fellows learn to anticipate, identify, and manage acute sport-related injuries and emergencies in dynamic, resource-variable environments. Training emphasizes rapid scene assessment, athlete removal from play decisions, airway and cervical spine management, time-critical stabilization, safe return-to-play guidance, and coordinated handover to higher-level care when necessary. Fellows also develop skills in environmental risk mitigation, event planning, communication with coaches and staff, and leadership during emergencies. A minimum of 100 hours of supervised field coverage is required, distributed across events throughout the year. Fellows must additionally complete at least one hands-on practical course in acute sports injury management or sideline emergency care to ensure competency in real-time decision-making and applied clinical response.

Competencies

At the end of this rotation, the fellow will:

Medical Expert

Competencies	Enabling Competencies
• **ME 1** Practice medicine within the defined scope of practice and level of expertise. • **ME 2** Perform patient-centered clinical assessments and establish management plans. • **ME 3** Plan and perform procedures and therapies for assessment and management.	1. Conduct rapid on-field assessment using structured approaches (e.g., ABCDE, SCAT6 triage pathways), identifying life- and limb-threatening conditions such as airway compromise, cervical spine injury, heat stroke, exertional collapse, and cardiac arrest. 2. Make immediate removal from play and return-to-play decisions based on clinical presentation, mechanism of injury, and sport-specific risk factors; document the justification and communicate the plan clearly to staff. 3. Provide initial on-field stabilization, including wound care, bleeding control, immobilization of suspected fractures or dislocations, and management of concussion, heat illness, syncope, and soft tissue injuries. 4. Activate emergency medical services (EMS) and coordinate athlete transport when indicated, ensuring cervical spine precautions and appropriate extrication techniques. 5. Implement environmental- and venue-specific EAPs, adapting care to available resources, weather conditions, and crowd or competition constraints.

Competencies	Enabling Competencies
	6. Deliver multimodal, opioid-sparing analgesia strategies suitable for field settings and initiate immediate supportive measures pending definitive evaluation. 7. Prepare individualized return-to-play and follow-up plans, providing clear protection recommendations, training restrictions, and escalation pathways.

Collaborator

Competencies	Enabling Competencies
• **Col 1** Work effectively with physicians and other colleagues in the healthcare professions. • **Col 2** Work with physicians and other colleagues in the healthcare professions to promote understanding, manage differences, and resolve conflicts.	1. Work effectively with athletic trainers, team physiotherapists, strength and conditioning staff, coaches, EMS personnel, and event-organizing committees to ensure safe coverage logistics. 2. Use structured, closed-loop communication during on-field emergencies and reconcile differing recommendations among staff, EMS personnel, and coaching teams.

Communicator

Competencies	Enabling Competencies
• **COM 1** Establish professional therapeutic relationships with patients and their families.	1. Explain injuries, risks, management steps, and return-to-play restrictions to athletes, staff, and coaches using clear, sport-appropriate language; employ the teach-back method to confirm understanding. 2. Communicate rapidly and accurately with emergency teams, venue officials, and treating clinicians and issue written clearance or restriction notes when appropriate.

Health Advocate

Competencies	Enabling Competencies
• **HA 2** Respond to the needs of communities or populations served by advocating for system-level change in a socially accountable manner.	1. Identify environmental and sport-specific hazards (heat, humidity, poor playing surfaces, and equipment defects) and advocate for adjustments to reduce injury risk. 2. Promote the implementation and rehearsal of venue EAPs, including AED placement, activation pathways, hydration strategies, and cooling resources.

Leader

Competencies	Enabling Competencies
• **Led 2** Engage in the stewardship of healthcare resources. • **Led 4** Manage their practice and career.	1. Coordinate the medical team on the field, optimizing workflow for injury response, equipment readiness, and communication pathways before and during events. 2. Apply resource stewardship by organizing sideline medical kits, ensuring appropriate use of supplies, and contributing to continuous QI in event coverage.

Scholar

Competencies	Enabling Competencies
• **S 1** Engage in the continuous enhancement of professional activities through ongoing learning. • **S 3** Integrate the best available evidence into practice.	1. Maintain a focused learning plan covering emergency action planning, concussion protocols, and heat illness pathways, as well as sport-specific injury patterns. 2. Apply current evidence to on-field decision-making and participate in brief microteaching sessions for staff, medical students, or volunteers during events.

Professional

Competencies	Enabling Competencies
• **P 1** Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards. • **P 2** Demonstrate a commitment to society by recognizing and responding to societal expectations in health care.	1. Demonstrate integrity, reliability, confidentiality, and ethical decision-making under pressure, maintaining athlete safety as the overriding priority. 2. Complete timely and accurate event documentation, report incidents, and participate in reviews of medical encounters or emergency responses to improve future event safety.

Duration: 4 weeks.

Setting: Sporting venues, including but not limited to fields, tracks, courts, gymnasiums, aquatic centers, team training facilities, event medical rooms, and sideline tents.

Educational Activities: Mandatory hands-on practical course (e.g., on-field emergency management or advanced athlete care), event pre-briefings and post-event debriefings, EAP walkthroughs, and journal club sessions related to acute injury and event medicine.

Assessment Tools: CBD, logbook, Mini-CEX, and ITER.

Elective Rotations

Rotation: Sports Cardiology

Introduction:

This rotation builds competence in cardiovascular screening of athletes, evaluation of exertional symptoms, appropriate test selection and interpretation, and safe return-to-play planning. Fellows work in cardiology clinics, exercise testing laboratories, electrophysiology services, echocardiography units, and ambulatory monitoring services and participate in emergency preparedness activities.

Competencies

At the end of this rotation, the fellow will:

Medical Expert

Competencies	Enabling Competencies
• **ME 1** Practice medicine within the defined scope of practice and level of expertise. • **ME 2** Perform patient-centered clinical assessments and establish management plans. • **ME 3** Plan and perform procedures and therapies for assessment and management.	1. Conduct pre-participation cardiovascular screening assessments that capture red flag symptoms and relevant family history and document eligibility decisions. 2. Apply international athlete electrocardiogram (ECG) interpretation standards and distinguish training-related changes from probable pathological findings. 3. Evaluate exertional syncope, chest pain, palpitations, and dyspnea using structured clinical algorithms and initiate same-day activity restrictions when indicated. 4. Select appropriate investigations (echocardiography, ambulatory rhythm monitoring, cardiopulmonary exercise testing [CPET] or treadmill testing, and laboratory studies) and justify how results influence management decisions. 5. Differentiate physiologic athletic cardiac remodeling from cardiomyopathy or channelopathy patterns in collaboration with cardiology. 6. Develop staged return-to-play plans after myocarditis, pericarditis, or other cardiac illnesses with defined milestones, stop rules, and monitoring strategies.

Competencies	Enabling Competencies
	7. Lead or participate in on-field cardiac emergency preparedness activities, including AED checks and EAP drills.

Collaborator

Competencies	Enabling Competencies
• **Col 1** Work effectively with physicians and other colleagues in the healthcare professions. • **Col 2** Work with physicians and other colleagues in the healthcare professions to promote understanding, manage differences, and resolve conflicts.	1. Coordinate care with cardiology, electrophysiology, EM, and Physical Therapy and Occupational Therapy when cardiac rehabilitation is indicated. 2. Use structured, closed-loop handovers and reconcile differing recommendations through case discussions.

Communicator

Competencies	Enabling Competencies
• **COM 1** Establish professional therapeutic relationships with patients and their families.	1. Explain diagnoses, risks and benefits, alternatives, and participation restrictions in clear language; use the teach-back method to confirm understanding. 2. Provide written eligibility and participation notes and communicate management plans to coaches or employers with appropriate patient consent. 3. Document test results succinctly with an actionable impression and clearly defined next steps.

Health Advocate

Competencies	Enabling Competencies
• **HA 2** Respond to the needs of communities or populations served by advocating for system-level change in a socially accountable manner.	1. Promote AED readiness and venue-specific EAPs for teams and events. 2. Advise on safe training while athletes are using cardiac medications and facilitate access to cardiac rehabilitation or structured lifestyle programs when indicated.

Leader

Competencies	Enabling Competencies
• **Led 2** Engage in the stewardship of healthcare resources. • **Led 4** Manage their practice and career.	1. Optimize test selection and scheduling based on pretest probability and established local clinical pathways. 2. Organize clinic workflows to ensure timely restriction, follow-up, and clearance decisions. 3. Conduct EAP drills and lead structured briefings and debriefings with clearly assigned action items.

Scholar

Competencies	Enabling Competencies
• **S 1** Engage in the continuous enhancement of professional activities through ongoing learning. • **S 3** Integrate the best available evidence into practice.	1. Maintain a focused learning plan covering athlete electrocardiogram (ECG) criteria, myocarditis return-to-play guidance, and syncope evaluation algorithms. 2. Critically appraise and apply evidence-based guidelines to real cases (e.g., return-to-play timelines after infection and arrhythmia thresholds for restriction). 3. Deliver brief teaching sessions to learners and teams on athlete ECG fundamentals or evaluation of exertional symptoms.

Professional

Competencies	Enabling Competencies
• **P 1** Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards. • **P 2** Demonstrate a commitment to society by recognizing and responding to societal expectations in health care.	1. Demonstrate confidentiality, cultural sensitivity, punctuality, and reliability appropriate to the role of a consulting physician. 2. Engage patients in shared decision-making regarding participation eligibility and seek supervision appropriately when clinical uncertainty is significant. 3. Complete accurate and timely documentation and report critical results promptly.

Duration: 4 weeks.

Setting: Cardiology and sports cardiology clinics; echocardiography laboratory; electrophysiology laboratory; exercise testing laboratory (CPET or treadmill testing); ambulatory rhythm monitoring services; ED exposure for exertional symptoms; and field-of-play EAP and AED drills.

Educational Activities: Half-day academic activity and journal club.

Assessment Tools: CBD, logbook, Mini-CEX, and ITER.

Rotation: Sports Nutrition

Introduction

This rotation develops focused competence in nutritional assessment and intervention for athletes and active adults, including fueling for training and competition, body composition goals, hydration and heat strategies, gastrointestinal considerations, micronutrient deficiencies, and the prevention and management of RED-S. Fellows collaborate closely with dietetics services, coaching staff, and rehabilitation teams to align nutrition strategies with health, performance, and return-to-play and return-to-work plans.

Competencies

At the end of this rotation, the fellow will:

Medical Expert

Competencies	Enabling Competencies
• **ME 1** Practice medicine within the defined scope of practice and level of expertise. • **ME 2** Perform patient-centered clinical assessments and establish management plans. • **ME 3** Plan and perform procedures and therapies for assessment and management.	1. Perform comprehensive nutrition-focused assessments (dietary history, energy availability, body composition targets, and training cycle) and define individualized goals aligned with sport-specific and overall health needs. 2. Plan evidence-based fueling strategies for training and competition (carbohydrate periodization, protein distribution, and recovery nutrition) and adjust plans for travel or Ramadan fasting when applicable. 3. Select and interpret appropriate investigations when indicated (iron studies, vitamin D levels, and bone health screening in at-risk groups) and document how results inform nutrition management plans. 4. Identify and address gastrointestinal issues related to exercise (e.g., exercise-induced gastrointestinal symptoms) using graded nutrition strategies and individualized hydration plans. 5. Develop hydration and heat strategies (fluid and sodium planning, pre- and post-exercise weigh-ins) appropriate to climate and event demands.

Competencies	Enabling Competencies
	6. Screen for and manage the risk of RED-S and disordered eating behaviors and coordinate timely referral to psychology or medical services when indicated. 7. Counsel on the safe, evidence-based use of dietary supplements and recognize prohibited substances and anti-doping regulations; coordinate Therapeutic Use Exemption (TUE) considerations when relevant.

Collaborator

Competencies	Enabling Competencies
• **Col 1** Work effectively with physicians and other colleagues in the healthcare professions. • **Col 2** Work with physicians and other colleagues in the healthcare professions to promote understanding, manage differences, and resolve conflicts.	1. Collaborate with dietitians, coaches, Physical Therapy and Occupational Therapy, and medical teams to align nutrition strategies with training cycles and rehabilitation milestones. 2. Use structured handovers to ensure shared goals, roles, and review timelines and reconcile differing recommendations through case discussions.

Communicator

Competencies	Enabling Competencies
• COM 1 Establish professional therapeutic relationships with patients and their families.	1. Explain nutrition plans, risks and benefits, and timelines using clear language and the teach-back method and provide written action plans (meal and snack timing, competition-day checklist). 2. Communicate with coaches and, with appropriate consent, family members or employers regarding restrictions and expectations and issue concise participation notes as needed.

Health Advocate

Competencies	Enabling Competencies
• **HA 1** Respond to the needs of communities or populations served by advocating for system-level change in a socially accountable manner.	1. Facilitate access to appropriate food options, hydration resources, and community programs and address barriers such as scheduling, travel, or facility limitations. 2. Promote policies that support safe nutrition practices (e.g., standardized weigh-in procedures and supplement governance).

Leader

Competencies	Enabling Competencies
• **Led 1** Engage in the stewardship of healthcare resources. • **Led 2** Manage their practice and career.	1. Organize clinics and team sessions efficiently and develop standardized exercise prescription and nutrition templates and checklists for events and travel. 2. Steward healthcare resources by prioritizing high-impact interventions and appropriate testing and dietary supplement use.

Scholar

Competencies	Enabling Competencies
• **S 1** Engage in the continuous enhancement of professional activities through ongoing learning. • **S 2** Integrate the best available evidence into practice.	1. Maintain a focused learning plan covering periodized fueling strategies, prevention of RED-S, and hydration science. 2. Critically appraise and apply evidence-based guidelines to clinical practice and contribute to microteaching sessions for teams or staff. 3. Participate in journal club and develop brief educational materials (e.g., event-day fueling handouts).

Professional

Competencies	Enabling Competencies
• **P 1** Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards. • **P 2** Demonstrate a commitment to society by recognizing and responding to societal expectations in health care.	1. Demonstrate professionalism in sensitive discussions regarding weight and body composition and ensure confidentiality and cultural appropriateness. 2. Engage in shared decision-making, recognize professional limits, and seek supervision appropriately. 3. Document clearly and in a timely manner and escalate concerns regarding athlete safety or disordered eating behaviors.

Duration: 4 weeks.

Setting: Sports Nutrition clinics; dietetics services; team settings (training venues); and MDT meetings.

Educational Activities: Half-day academic activity and journal club.

Assessment Tools: CBD, logbook, Mini-CEX, and ITER.

Rotation: Physical and Occupational Therapy

Introduction:

This elective rotation provides the sports medicine fellow with in-depth exposure to Physical Therapy (PT) and Occupational Therapy (OT) within a multidisciplinary rehabilitation environment. The rotation emphasizes functional assessment, movement analysis, impairment-based treatment planning, structured rehabilitation progressions, ADL and sport or work task retraining, adaptive equipment use, and collaborative interprofessional decision-making. Fellows observe and participate in PT- and OT-led sessions, learn principles of exercise prescription, understand the rationale underlying therapeutic modalities, and integrate rehabilitation strategies into comprehensive patient management. This experience prepares fellows to co-design rehabilitation plans, monitor progress, and optimize safe return-to-play and return-to-work outcomes.

Competencies

At the end of this rotation, the fellow will:

Medical Expert

Competencies	Enabling Competencies
• **ME 1** Practice medicine within their defined practice and expertise scope. • **ME 2** Perform a patient-centered clinical assessment and establish a management plan. • **ME 3** Plan and perform procedures and therapies for assessment and/or management.	• Understand and apply core PT and OT rehabilitation principles, including impairment-based assessment, motor control retraining, and functional task progression. • Perform focused functional assessments (gait, movement, balance, ADLs, sport or work tasks) and integrate PT and OT findings into management plans. • Co-develop individualized rehabilitation plans aligned with identified impairments, patient goals, and sport or work demands. • Recognize clinical plateau, regression, or psychosocial factors that require escalation of care. • Understand the indications for strengthening, mobility training, proprioceptive training, manual therapy, and sensorimotor retraining. • Collaborate in splinting or orthoses and adaptive equipment selection, including patient education regarding precautions and proper use. • Apply PT and OT feedback to return-to-play and return-to-work decisions using functional milestones and readiness criteria.

Collaborator

Competencies	Enabling Competencies
• **Col 1** Work effectively with physicians and other colleagues in the healthcare professions. • **Col 2** Work with physicians and other colleagues in the healthcare professions to promote understanding, manage differences, and resolve conflicts.	• Collaborate with PT and OT to align goals, session plans, and follow-up schedules for MSK or functional rehabilitation. • Participate in interprofessional case discussions and reconcile differing viewpoints using structured communication strategies. • Use structured closed-loop handovers when coordinating care.

Communicator

Competencies	Enabling Competencies
• **COM 1** Establish professional therapeutic relationships with patients and their families.	• Clearly explain rehabilitation plans, progression timelines, and activity modifications using plain language and the teach-back method. • Provide written home programs collaboratively with PT and OT and document clear return precautions. • Communicate functional progress to physicians, coaches, and employers (with consent).

Health Advocate

Competencies	Enabling Competencies
• **HA 1** Respond to the needs of the communities or populations served by advocating for system-level change in a socially accountable manner.	• Identify participation barriers (equipment, environment, transport, and behavioral factors) and facilitate appropriate solutions. • Promote prevention strategies, including ergonomic guidance, load management, and movement-preparation programs.

Leader

Competencies	Enabling Competencies
• **Led 1** Engage in the stewardship of healthcare resources. • **Led 2** Manage their practice and career.	• Support the optimization of PT and OT clinic workflows (goal-setting huddles, progress reviews, and documentation efficiency). • Use rehabilitation resources judiciously and align follow-up appointments with anticipated clinical benefit. • Model effective time management and caseload organization during the rotation.

Scholar

Competencies	Enabling Competencies
• S 1 Engage in the continuous enhancement of professional activities through ongoing learning. • S 2 Integrate the best available evidence into practice.	• Maintain a rehabilitation-focused learning plan (exercise prescription, structured progressions, and manual therapy indications). • Critically appraise and apply evidence to rehabilitation planning, movement retraining, strength and conditioning principles, and return-to-sport protocols. • Deliver microteaching sessions or evidence summaries to PT and OT teams or learners.

Professional

Competencies	Enabling Competencies
• **P 1** Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards. • **P 2** Demonstrate a commitment to society by recognizing and responding to societal expectations in health care.	• Demonstrate reliability, integrity, cultural sensitivity, and professional respect when working with PT and OT colleagues and patients. • Engage in shared decision-making regarding rehabilitation goals and progression and seek supervision appropriately when required. • Complete accurate and timely documentation of functional findings, rehabilitation plans, and follow-up recommendations.

Duration: 4 weeks.

Setting: The rotation occurs within PT and OT departments, including MSK rehabilitation gyms, hand therapy units, ADL retraining areas, movement analysis stations, hydrotherapy facilities (if available), and orthotics and splinting laboratories.

Educational Activities: Fellows engage in supervised PT and OT sessions, half-day educational activities, journal club sessions, case-based discussions, and microteaching within the interdisciplinary team.

Assessment Tools: Assessment includes Case-Based Discussions (CBD), Mini-Clinical Evaluation Exercises (Mini-CEX), and an ITER.

Rotation: Sports Psychology

Introduction:

This elective rotation provides the sports medicine fellow with structured exposure to sports psychology within multidisciplinary athlete-care environments. The rotation emphasizes psychological assessment, performance optimization, mental skills training, behavioral strategies, and the management of common psychological conditions affecting athletes. Fellows observe and participate in sessions led by licensed sports psychologists, learning evidence-informed approaches such as cognitive behavioral strategies, mindfulness-based interventions, arousal-regulation techniques, motivational interviewing, and mental resilience frameworks. They develop familiarity with validated screening tools for anxiety, depression, disordered eating, psychological factors related to RED-S, sleep disturbances, and stress. This experience prepares fellows to integrate psychological principles into comprehensive care, collaborate effectively with mental health professionals, support performance readiness, and guide safe return-to-play, return-to-learn, and return-to-work pathways.

Competencies

At the end of this rotation, the fellow will:

Medical Expert

Competencies	Enabling Competencies
• **ME 1** Practice medicine within their defined practice and expertise scope. • **ME 2** Perform a patient-centered clinical assessment and establish a management plan. • **ME 3** Plan and perform procedures and therapies for assessment and/or management.	• Understand foundational concepts in sports psychology, including motivation, stress response, arousal theory, burnout, and performance anxiety. • Recognize when an athlete's psychological needs exceed the physician's scope of practice and require referral to a qualified mental health professional. • Obtain focused psychosocial and performance-related histories, including stressors, coping mechanisms, sleep patterns, training load, and psychological readiness. • Identify symptoms of anxiety, depression, overtraining syndrome, maladaptive perfectionism, psychological concerns related to RED-S, and other mental health conditions affecting sport performance. • Integrate psychological findings into medical management, rehabilitation planning, and return-to-play decisions. • Teach basic mental skills strategies (breathing control, cognitive restructuring of self-talk, graded exposure to performance stress, and goal-setting frameworks).

Competencies	Enabling Competencies
	• Reinforce psychologist-designed treatment plans and guide behavioral activation, sleep hygiene practices, and adherence strategies. • Recognize mental health crises (self-harm risk, severe anxiety, panic attacks, trauma-related responses) and activate appropriate referral or emergency pathways.

Collaborator

Competencies	Enabling Competencies
• **Col 1** Work effectively with physicians and other colleagues in the healthcare professions. • **Col 2** Work with physicians and other colleagues in the healthcare professions to promote understanding, manage differences, and resolve conflicts.	• Collaborate with sports psychologists, mental health clinicians, coaches, and rehabilitation staff to coordinate athlete-centered care. • Participate in interprofessional case discussions and reconcile differing recommendations using structured communication strategies. • Use structured closed-loop handovers when transitioning athletes among psychology, medical, and rehabilitation teams.

Communicator

Competencies	Enabling Competencies
• **COM 1** Establish professional therapeutic relationships with patients and their families.	• Use supportive and empathetic communication when discussing mental health, performance anxiety, identity concerns, and injury-related stress. • Explain psychological strategies, readiness criteria, and behavioral plans in clear language using the teach-back method. • Communicate progress with referring clinicians, coaches, or family members (with consent), ensuring athlete autonomy and confidentiality.

Health Advocate

Competencies	Enabling Competencies
• **HA 1** Respond to the needs of the communities or populations served by advocating for system-level change in a socially accountable manner.	• Identify barriers to participation, including stigma, limited access to mental health resources, social pressures, or team dynamics. • Promote mental health literacy, resilience training, sleep optimization, and stress-management strategies across teams and organizations.

Leader

Competencies	Enabling Competencies
• **Led 1** Engage in the stewardship of healthcare resources. • **Led 2** Manage their practice and career.	• Support mental health–informed workflows within the clinic (screening processes, risk assessment protocols, and referral pathways). • Use mental health resources judiciously and align follow-up appointments with athlete needs and anticipated clinical benefit. • Manage time efficiently while balancing psychological care discussions within medical consultations.

Scholar

Competencies	Enabling Competencies
• S 1 Engage in the continuous enhancement of professional activities through ongoing learning. • S 2 Integrate the best available evidence into practice.	• Maintain a learning plan focused on sport psychology concepts, including motivation theory, cognitive behavioral therapy principles, mindfulness, and coping strategies. • Critically appraise and apply evidence regarding performance anxiety, resilience frameworks, mental skills training, sleep optimization, and return-to-play psychological readiness. • Deliver microteaching sessions or evidence summaries to staff or trainees within the MDT.

Professional

Competencies	Enabling Competencies
• **P 1** Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards. • **P 2** Demonstrate a commitment to society by recognizing and responding to societal expectations in health care.	• Demonstrate reliability, cultural sensitivity, confidentiality, and trauma-informed communication during mental health encounters. • Support shared decision-making regarding goals, progression, and performance readiness. • Complete accurate and timely documentation of psychological findings, action plans, and risk assessments.

Duration: 4 weeks.

Setting: Sports psychology clinics, athlete counseling rooms, multidisciplinary performance units, team-based mental skills workshops, and case conference settings.

Educational Activities: Fellows engage in supervised sports psychology sessions, half-day educational activities, journal clubs, case-based discussions, and participation in performance-enhancement workshops.

Assessment Tools: Case-Based Discussions (CBD), Mini-Clinical Evaluation Exercises (Mini-CEX), and an ITER.

IX. CONTINUUM OF LEARNING

This fellowship emphasizes progressive development over one intensive year of training. The fellow advances from closely supervised practice to independent management of sports medicine cases while being prepared for CPD beyond the fellowship.

Domain	Early Fellowship (Entry Level)	Mid Fellowship (Developing)	Completion of Fellowship (Ready for Independent Practice)
Scope of Practice	Dependent, closely supervised practice in clinical and event settings.	Increasing autonomy in patient care, including supervised event coverage and clinic duties.	Independent practice with consultant-level supervision available and preparedness for leadership roles in sports coverage.
Medical Knowledge	Acquires fundamental knowledge of sports medicine, including basic MSK anatomy, common acute injuries, introductory concussion management, exercise physiology, and athlete health screening.	Expands knowledge to include chronic and overuse injuries, sports cardiology (e.g., electrocardiogram [ECG] interpretation in athletes and sudden cardiac death screening), advanced concussion protocols, pediatric and adolescent sports medicine, and nutrition and psychology in athletes.	Masters comprehensive sports medicine knowledge across domains (MSK, concussion, cardiopulmonary medicine, rehabilitation, return-to-play decision-making, and doping and anti-doping policies) and consistently applies evidence-based guidelines.

Domain	Early Fellowship (Entry Level)	Mid Fellowship (Developing)	Completion of Fellowship (Ready for Independent Practice)
Application to Patient Care	Evaluates and manages straightforward sports injuries under supervision and learns foundational return-to-play principles.	Independently formulates differential diagnoses for moderately complex cases and integrates multidisciplinary input (PT, Orthopedics, nutrition, and psychology) into care plans.	Provides holistic, individualized care plans that balance safety, performance, and patient values; independently manages complex cases and clearance decisions.
Practical Skills	Learns MSK examination techniques, taping and splinting, and basic injections (under supervision); observes ultrasound-guided procedures; and interprets basic imaging (X-ray and ECG).	Performs supervised joint injections and aspirations (landmark-based and ultrasound-guided), interprets more complex imaging and cardiopulmonary tests, and manages acute on-field injuries and concussion assessments.	Performs advanced diagnostic and therapeutic procedures independently (MSK ultrasound, image-guided injections, and acute stabilization), leads event medical coverage, and teaches junior learners clinical skills and examination techniques.
Clinical Decision-Making and Leadership	Observes sports event coverage and assists senior physicians while developing an understanding of interdisciplinary team dynamics.	Leads care for lower-stakes events or junior teams under supervision, coordinates interdisciplinary management, and participates actively in case presentations and conferences.	Functions as a team physician for sports events with appropriate oversight, independently makes return-to-play decisions, demonstrates leadership in interdisciplinary teams, and develops and implements EAPs.

X. EDUCATIONAL ACTIVITIES

(TEACHING AND LEARNING STRATEGIES AND METHODS)

1. Teaching Methods

EA constitute a core component of the trainees' training program and include structured teaching and learning experiences designed to support the acquisition of specialty competencies. These activities convey knowledge, clinical skills, and professional attitudes and behaviors. Accordingly, they should promote holistic development, practical skill acquisition, problem-solving capacity, and professional growth. This objective can be achieved within a broader educational framework that supports learning across cognitive, social, emotional, and physical domains. Such activities may include experiential learning, group projects, skill-building exercises, and mentorship programs, and they may occur in both formal and informal educational settings.

The educational framework for fellowship training in Sports Medicine is grounded in the principles of adult learning theory. Trainees are expected to recognize the significance of their learning journey and assume an active role in both the content and process of their education. Training programs implement adult learning principles across most EA, placing primary responsibility for meeting learning requirements on the trainees.

Through these EA, the Sports Medicine Fellowship seeks to achieve the competencies outlined in this curriculum. The program is designed to develop cognitive and technical skills while fostering an understanding of their application within the context of Sports Medicine practice. Furthermore, the training includes practical procedures and interpretative techniques delivered in a sequential and integrated manner through lectures, tutorials, seminars, and supervised hands-on experiences.

EA play a vital role in health training programs by equipping health professionals with essential knowledge, values, and skills. In addition, these activities facilitate knowledge dissemination, encourage safe and evidence-based practices, and enhance professional competencies, thereby contributing to improved overall well-being and patient safety.

Program administration should actively support EA by ensuring that protected time is allocated for trainee attendance and participation. Trainees should be encouraged to engage meaningfully in these educational and scholarly activities as part of their ongoing professional development. The program's EA encompass the following themes:

1. Academic Activity
2. Practical-Based Learning
3. Skills Training and Procedures
4. Scholarly Projects
5. Professional and Personal Development

EDUCATIONAL ACTIVITIES

1) Academic Activity

Purpose: To deliver core sports medicine knowledge and strengthen clinical decision-making through protected teaching time.

Components:

- **Weekly Academic Half-Day (AHD):** One protected session per week, including interactive seminars, case-based discussions, imaging and electrocardiogram (ECG) readouts, guideline appraisal sessions, and micro–Objective Structured Clinical Examinations (OSCEs) aligned with rotations (Orthopedics, PM&R, MSK Imaging, EM and Urgent Care, Pain Medicine, Rheumatology, Cardiology, Sports Nutrition, and Event Medicine).
- **Book Chapter:** During the fellowship, fellows are encouraged to contribute to the academic community by completing at least one book chapter. In addition, fellows may participate in local, regional, or national sports medicine committees to foster professional service to the broader discipline.
- **Grand Rounds, Morning Report, and Morbidity and Mortality (M&M) Conferences:** These sessions address diagnostic pitfalls, clinical pathway reviews, and lessons learned from event coverage.
- **Sports Medicine Rounds:** Weekly sessions held in the conference room and organized by chief residents and fellows under the supervision of teaching faculty. These sessions focus on the discussion of complex and challenging cases to deepen clinical understanding and expertise.
- **Journal Club and Critical Appraisal:** Held twice monthly, including one research article and one clinical practice guideline.

2) Practice-Based Learning

Purpose: To integrate evidence-based practice and interprofessional collaboration within real clinical environments.

Components:

- **MDT Case Board (weekly, 15–30 minutes):** Cross-service clinical decision-making with Orthopedics, PM&R, Radiology, Pain Medicine, Cardiology, and Rheumatology.
- **Joint Clinics and Conferences:** Sports cardiology (ECG and CPET), concussion and vestibular care, rheumatology–MSK procedures, and imaging correlation readouts.
- **Field and Event Coverage (minimum of 100 hours):** Supervised activities including sideline triage, EAP execution, AED checks, and heat illness response, followed by structured post-event debriefings and action logs.
- **Longitudinal Clinic:** One Sports Medicine continuity clinic per week (allowing for approved leave), including participation during external rotations when feasible.
- Weekly Combined Residents and Fellows Case-Based Teaching:
- Teaching sessions held in a conference room under the supervision of teaching faculty.
- Fellows actively participate in preparing clinical cases and delivering teaching sessions.
- Protected time is allocated for teaching, ensuring that fellows are relieved of clinical and surgical duties to enable full participation.

CanMEDS Focus: Medical Expert (ME), Communicator (COM), Collaborator (Col), Leader (Led), Health Advocate (HA), and Professional (P).

3) Skills Training and Procedures

Purpose: To ensure the safe and competent performance of core sports medicine procedures, progressing from simulation to independent practice.

Simulation (nonclinical laboratory setting):

- Ultrasound-guided needle skills; large-joint aspiration and injection; casting and splinting; wound closure and digital nerve block; auricular hematoma drainage; nail-bed repair; reduction models; point-of-care ultrasound (POCUS) for effusion and foreign body detection; concussion counseling OSCEs; and EAP, AED, and heat illness drills.

Clinical (supervised practice):

- Sports Medicine clinics; ED and Urgent Care settings; Orthopedics, Plastic Surgery, and PM&R services; Pain Medicine; and Imaging services.

Logbook and Minimum Requirements (Appendix C):

- Required procedures with specified supervision levels, with a **program total** of **148** procedures (e.g., joint aspirations and injections involving the shoulder, elbow, wrist and hand, hip, knee, and ankle and foot; peritendinous and soft-tissue injections; splint and cast applications; reductions and procedural assists; wound closure; and POCUS applications).
- Each entry records the date, clinical setting, supervising physician, supervision level, complications, and a brief reflective note. **Quarterly audits** are conducted to verify procedural progression.

CanMEDS Focus:

Medical Expert (ME), Professional (P), and Leader (Led).

4) Scholarly Projects

Purpose: To produce measurable improvements in clinical care and contribute to knowledge translation.

Components (refer to the Research and Scholarly Section):

- **Scholarly Project or QI initiative using the Plan–Do–Study–Act cycle** (e.g., imaging appropriateness, time to immobilization, concussion discharge comprehension, and heat readiness compliance).
- **Educational Product:** A lecture, handout, or infographic developed for teams (e.g., hydration plans).
- **Milestones:** Proposal approval → mid-year review → final output (abstract, poster, or manuscript) or documented project completion.
- **CanMEDS** Focus: Scholar (S), Leader (Led), Health Advocate (HA), and Professional (P).

5) Professional and Personal Development

Purpose: To embed professionalism, leadership, advocacy, safety, and sustainable **clinical** practice.

Components:

- **Mentorship and Reflection**: Scheduled mentor meetings (at least one per month); reflective write-ups following simulations, critical incidents, or procedures; and well-being and time management micro-sessions.
- **Community Engagement and Advocacy**: Workshops with schools and clubs on injury prevention, hydration and heat readiness, and AED drills; and participation in policy discussions regarding venue readiness.

CanMEDS Focus:

Professional (P), Leader (Led), Health Advocate (HA), and Communicator (COM).

7) Simulation

The Sports Medicine Fellowship promotes the development of safe, effective, and confident MSK examination and procedural skills through simulation-based education. The program incorporates structured simulation activities to provide fellows with a controlled learning environment in which they can practice technical skills, refine clinical reasoning, and develop procedural competence before performing procedures in direct patient care settings.

Simulation sessions are integrated longitudinally throughout the training year to support progressive skill acquisition in areas such as MSK examination, ultrasound-guided procedures, joint and soft-tissue injections, and acute sports injury management. The fellowship promotes flexible scheduling to accommodate individual learning needs and career interests while ensuring attainment of all required core competencies.

The program also facilitates broad multidisciplinary clinical exposure by supporting training alongside primary care sports medicine physicians, orthopedic sports medicine specialists, relevant medical and surgical subspecialists, EM physicians, and MSK radiologists, thereby ensuring comprehensive preparation for independent sports medicine practice.

1. The simulation-based education courses table is derived from the EM roadmap:

(All sessions are four hours in duration and maintain a 1:5 instructor-to-learner ratio.)

Theme	Learners	Objectives	Simulation Modality and Challenges
MSK Injuries and Joint Procedures	Fellow	Perform ultrasound-guided joint aspiration and injection (knee, shoulder, ankle); Identify and reduce common dislocations (shoulder, elbow, ankle); Apply casting and splinting techniques for acute fractures; Demonstrate effective communication and teamwork during MSK emergencies.	High-fidelity task trainers (joint models, ultrasound phantoms); Standardized patients for history taking and informed consent.
Emergency and On-Field Medicine	Fellow	Recognize and manage acute collapse on the field; Perform cardiopulmonary resuscitation and AED use during sports events; Manage concussion and return-to-play decisions; Demonstrate effective sideline team coordination and communication.	High-fidelity simulation (field setup); Manikin (e.g., Laerdal Resus Anne); Standardized athletes.
Rehabilitation and Return-to-Play	Fellow	Assess functional performance after anterior cruciate ligament (ACL) or ankle injury; Design a sport-specific rehabilitation program; Demonstrate effective communication with coaches and physiotherapists.	Standardized patients; Functional testing stations (simulated gym environment).

Theme	Learners	Objectives	Simulation Modality and Challenges
Sports Nutrition and Hydration	Fellow	Identify signs of dehydration and heat illness; Simulate management of exertional heat stroke; Apply nutritional assessment and hydration plans before and after events.	High-fidelity heat simulation laboratory; Environmental control chamber.
Ethics and Doping Scenarios	Fellow	Conduct a mock anti-doping testing procedure; Address ethical dilemmas in return-to-play decisions; Apply communication skills in conflict resolution or disclosure scenarios.	Standardized patients; Simulated court hearing environment.
Research and Leadership in Sports Medicine	Fellow	Lead an MDT meeting for an injury prevention project; Demonstrate presentation skills during case conferences and dissemination of research findings.	Team-based simulation session with audiovisual feedback.

Learning Resources

During their training, fellows have access to a broad range of educational resources specific to sports medicine, providing valuable supplementary learning opportunities alongside formal teaching sessions. Effective learning and teaching require appropriate settings. EA occur not only in clinical environments and through attendance at international and local conferences and professional meetings, but also through structured formal learning integrated into the one-year curriculum. These resources include the following:

Recommended Textbooks

- Netter's Sports Medicine by Christopher C. Madden, Margot Putukian, and Eric McCarty
- Brukner & Khan's Clinical Sports Medicine, 5th Edition
- Orthopaedic Sports Medicine: Principles and Practice by Jesse C. DeLee, David Drez Jr., and Mark D. Miller
- The 5-Minute Sports Medicine Consult, 3rd Edition
- Sports Medicine for the Primary Care Physician, 3rd Edition, by Thomas
- E. Hyde and John P. Pfeffer
- Sports Medicine: Study Guide and Review for Boards by Jonathan T. Finnoff and Mark A. Harrast

Recommended Scientific Websites and Guidelines

- American Family Physician: https://www.aafp.org
- AMSSM: https://www.amssm.org/
- CASEM CASEM – ACMSE
- Collage of family medicine of Canada Home | The College of Family Physicians of Canada
- Sports medicine Austrialia Sports Medicine Australia | Australia's leading multi-disciplinary sports medicine body

XI. ASSESSMENT AND EVALUATION

1. Purpose of Assessment

Assessment plays a vital role in postgraduate training. It guides trainees and faculty in achieving defined standards, learning outcomes, and competencies. In addition, assessment provides feedback to learners and faculty regarding curriculum development and implementation, teaching methods, and the quality of the learning environment. Reliable and valid assessment is essential to evaluate curriculum alignment with its objectives, learning methods, and assessment tools. Finally, assessment assures patients and the public that health professionals are safe and competent to practice.

Assessment serves the following purposes:

Assessment for learning: Also known as formative assessment. Trainers use information from trainees' performance to inform ongoing improvement. It enables educators to use evidence of trainees' knowledge, understanding, and skills to provide targeted feedback and guide further learning.

Assessment of learning: Also known as summative assessment. This form of assessment is used to demonstrate achievement of learning outcomes. It is graded and usually contributes to the trainee's end-of-training qualification.

Systems of Assessment: Also known as a Program of Assessment, this refers to the structured relationship among multiple assessment components assembled as a coherent whole. In this system, formative and summative assessments are integrated and aligned across the entire specialty training program and are blueprinted against curriculum learning outcomes. This overall system blueprint—which differs from an examination blueprint—may

vary in detail according to its purpose and is also referred to as mapping. Assessment mapping outlines the competencies to be assessed across all assessment methods to build a fit-for-purpose assessment plan. It assists in identifying areas in which assessment of specific competencies is lacking or requires strengthening.

a. **Feedback and evaluation,** as outcomes of assessment, represent quality metrics that can enhance the learning experience.

Miller's Pyramid of Assessment provides a framework for evaluating trainees' clinical competencies and guides trainers in selecting assessment methods that target different levels of competence, including "knows," "knows how," "shows how," and "does".

For organizational clarity, assessment is further classified into two main categories: *Formative and Summative*.

2. Formative Assessment

1.1. General Principles

Trainees, as adult learners, should actively seek and incorporate feedback to enhance their performance throughout their progression from "novice" to "mastery" levels of competence. Formative assessment (also referred to as assessment for learning) is distributed throughout the academic year and primarily aims to provide trainees with effective, actionable feedback. It is a low- to no-stakes learning encounter that must be observable—either directly or indirectly—with the purpose of creating multiple nonthreatening, nonjudgmental educational experiences followed by immediate, actionable feedback. The purpose of formative assessment is to facilitate trainees' achievement of required competency levels through frequent observations, structured feedback, and longitudinal monitoring of progression. This process helps identify trainees who exceed expectations, those who are on track, those performing below expectations, and those who are struggling or experiencing

learning difficulties, sometimes referred to as borderline or minimally competent trainees.

At least one hour every two weeks should be allocated for trainees to meet with their mentors or equivalent supervisors to review performance reports derived from workplace-based assessment (WBA) tools (e.g., Mini-CEX, Direct Observation of Procedural Skills [DOPS], CBD), which should be conducted continuously throughout training rotations. These assessments should not be completed collectively at a single time point or by a single evaluator. In contrast to WBAs, data from aggregate assessment tools (e.g., ITER, e-portfolio, logbooks) should be used (a) periodically—preferably at least quarterly or after each rotation, depending on the specialty—for monitoring, feedback, and development of an action plan addressing areas for improvement; and (b) at the end of the year to determine whether trainees are eligible for progression to the subsequent level of training. Formative assessment is defined in accordance with the recommendations of the Training Program Committee (TPC) and the Institutional Training Committee (ITC).

Formative assessment typically has the following features, aligned with Miller's Pyramid:

a. Multisource: A minimum of four assessment tools.

b. Comprehensive: Coverage of all learning domains (knowledge, skills, and attitudes).

c. Relevant: Emphasis on workplace-based observations.

d. Competency milestone–oriented: Alignment with expected competencies appropriate to the trainee's developmental level.

Trainees are expected to play an active role in seeking feedback during training, and trainers are expected to provide timely formative assessment accompanied by actionable feedback.

Trainers and trainees are expected to follow the recommendations of the TPC and ITC regarding updated forms, frequency, distribution, and deadlines related to the implementation of evaluation tools.

2.2 Formative Assessment Tools

2.2.1 Work-based assessment

Work-based assessment (WBA) is occasionally used interchangeably with workplace-based assessment (WPBA)and refers to the direct observational assessment of a trainee in a real clinical work environment. More recently, it has also been described as a supervised learning event.

WBA is among the most recognized and widely utilized approaches for enhancing learning through formative assessment and structured feedback.

Numerous WBA tools assess a range of competencies, including communication and consultation skills, clinical decision-making and reasoning, and patient management in contexts in which diagnostic uncertainty, resource constraints, and public health considerations may exist. Moreover, WBA tools facilitate assessment of more complex domains, including professionalism, procedural skills, and the ethical and legal aspects inherent in clinical practice, which may not be adequately evaluated using traditional assessment methods.

2.2.2 EA (Non-WBA Assessment)

EA are integral components of the training program and involve structured teaching and learning activities designed to acquire specialty-specific competencies. Examples of contributions to EA include, but are not limited to, presentations at journal clubs, lectures, M&M rounds, grand rounds, and engagement in research and scholarly activities.

All formative assessment tools used for formative purposes must comply with the Scoring Categories and Scaling Definitions outlined in the SCFHS policies.

Doesn't Meet Expectations	Borderline	Meets Expectations	Exceeds Expectations
(< 50%)	(50–69.99%)	(70–89.99%)	(≥ 90%)

To achieve the intended training outcomes, the candidate must complete all required components of the selected formative assessment tools.

Formative Assessment (2025)

General/Subspecialty	Level	Knowledge						Skills							Attitude
		SOE)	EYPT-International	Academic Activities	CBD	Progress Test	EYPT-Local	OSCE/OSPE	Research	DOPS	Logbook	Volunteering	Other	Mini-CEX	ITERs
Sports Medicine	F1	√		√	√	√		√	√		√	√		√	√

SOE: Structured Oral Examination; EYPT-International: International Examination; EYPT-Local: Progress Test

DOPS: Direct Observation of Procedural Skills; OSCE: Objective Structured Clinical Examination; CBD: Case-Based Discussion

OSPE: Objective Structured Practical Examination; Mini-CEX: Mini-Clinical Evaluation Exercise; ITER: In-Training Evaluation Report

Teaching Method	Assessment Hooks
Practice-Based Learning	Mini-CEX, CBD, participation logs (MDT/field), simulation checklists
Skills Training and Procedures	OSCE station checklists, logbook audits with feedback and action plans
Scholarly Projects	Scholarly activity rubric, IRB/ethics milestone, presentation rubric; deliverables tracked in portfolio
Professional and Personal Development	Portfolio review, mentor report, reflection rubric; professionalism flagged in ITER
Universal Topics / Core Education	Completion of assigned modules, participation logs, written reflections, and integration of universal-topic competencies assessed through ITER and portfolio review

Learning Domains	Assessment/Educational Activity Tool	Requirements (Important Details, Description, and Total Frequency of the Tool per Academic Year)
Knowledge	Academic Activities	Trainees are required to attend the weekly AHD (35–40 sessions per academic year), as outlined in the curriculum (see Appendix B for detailed topics). Attendance and active participation are mandatory. Participation is documented through attendance logs, and reflective learning points from selected sessions are recorded as written reflections in the trainee portfolio. Any excused absence must be approved by the Program Director. Integration of universal-topic competencies is reviewed through portfolio review and the ITER.
	Progress Test	Trainees are required to complete one written progress test per academic year, consisting of a minimum of 50 multiple-choice questions (MCQs) mapped to core and universal sports medicine competencies.
	CBD	Trainees are required to complete a minimum of eight CBDs per academic year (at least one per month), with at least six rated as satisfactory. CBDs assess clinical reasoning, evidence-based decision-making, and reflective practice. CBD performance contributes to practice-based learning assessment, with documentation maintained in the portfolio and reviewed during mentor meetings.
Skills	Research	By the end of the one-year Sports Medicine Fellowship, fellows are expected to independently design, conduct, analyze, and professionally present at least one clinically relevant research or QI project. Assessment incorporates scholarly project evaluation components, including: • A structured scholarly activity rubric

Learning Domains	Assessment/Educational Activity Tool	Requirements (Important Details, Description, and Total Frequency of the Tool per Academic Year)
		• IRB/ethics approval milestones (where applicable) • Tracking of scholarly deliverables within the trainee portfolio • A formal presentation rubric assessing scientific rigor, clinical relevance, and presentation quality • Required outputs include a written proposal, documented progress milestones, a final manuscript-style report, and a formal oral presentation delivered during Fellowship Research Day, departmental grand rounds, or a local or national scientific meeting.
	Logbook	Trainees must maintain an electronic procedural logbook documenting competency in MSK injection and aspiration techniques, including ultrasound-guided and landmark-guided approaches. A minimum of 148 procedures must be completed during the fellowship (62 supervised and 86 independent), following a graduated observe–assist–perform model. Procedural competence is assessed through: • OSCE station checklists for selected core procedures • Logbook audits with structured feedback and action plans • Simulation-based checklists for high-risk or low-frequency procedures Procedures include joint injections; splinting and casting; laceration repair; minor procedures; electrocardiogram (ECG) interpretation in athletes; and structured exposure to exercise treadmill testing (ETT), including observation, assistance, performance, interpretation, and completion of at least 25 evidence-based exercise prescriptions. Advanced skills—such as compartment pressure testing and

Learning Domains	Assessment/Educational Activity Tool	Requirements (Important Details, Description, and Total Frequency of the Tool per Academic Year)
		comprehensive MSK ultrasound (150–200 supervised scans)—are acquired under direct supervision until proficiency is demonstrated. All procedures must be logged with the indication, guidance method, supervision level, and outcome, and are reviewed periodically to ensure readiness for independent practice. Refer to Appendix C and the sample logbook in the Education section.
	Mini-CEX	Trainees are required to complete a minimum of eight Mini-Clinical Evaluation Exercises (Mini-CEX) per academic year, with at least six rated as satisfactory. Mini-CEX encounters evaluate real-time clinical skills, communication, professionalism, and patient-centered care. Results are documented and discussed with faculty members, contributing to practice-based learning and longitudinal performance tracking within the trainee portfolio.
Attitude	ITER	All ITERs must be completed in accordance with SCFHS policies. ITERs serve as end-of-rotation evaluation tools and assess professionalism, teamwork, communication, reliability, and ethical practice. Professional and personal development are further supported through: • Portfolio review • Mentor reports • Structured reflective exercises using a reflection rubric Any professionalism concerns are documented within the ITER and addressed through individualized feedback and remediation plans, where required.

Learning Domains	Assessment/Educational Activity Tool	Requirements (Important Details, Description, and Total Frequency of the Tool per Academic Year)
Universal Topics	Core Education (Longitudinal)	Completion of assigned universal-topic modules is mandatory. Assessment includes module completion records, participation logs, and written reflections, with integration of universal-topic competencies evaluated longitudinally through ITERs and portfolio review.

3. Summative Assessment

3.1. General Principles

Summative assessment is the component of assessment that primarily aims to support informed decisions regarding trainees' competence. In contrast to formative assessment, summative assessment does not primarily focus on providing developmental feedback. To be eligible to sit for the final examinations, trainees must be granted Certification of Training Completion upon successful completion of all required training rotations.

3.2. Certification of Training Completion

To be eligible for the final specialty examinations, each trainee must obtain Certification of Training Completion. Based on the training bylaws and executive policies (refer to www.scfhs.org), trainees are granted Certification of Training Completion once the following criteria are fulfilled:

Successful completion of all training rotations.

- Completion of all training requirements (e.g., logbook, research, and other mandatory components) as documented in the Final In-Training Evaluation Report (FITER) and approved by the Scientific Council of the specialty.
- Clearance from SCFHS Training Affairs confirming compliance with tuition payments and completion of universal topics.

Certification of Training Completion is issued and approved by the Supervisory Committee or its equivalent in accordance with SCFHS policies.

Issuance of the Certificate of Training Completion is contingent upon the fellow's successful fulfillment of all program requirements, including passing all components of the Sports Medicine Fellowship.

3.3. FITER

In addition to approval of completion of clinical requirements (fellow's logbook) by the Supervisory Committee, the FITER is prepared by the Program Director for each fellow at the end of the final year of training. This report serves as the basis for obtaining the Certificate of Training Completion and qualification to sit for the final specialty examinations.

3.4. Final Examinations

The final specialty examination is the summative assessment component that grants trainees specialty certification.

To be eligible for this examination, trainees are required to have obtained Certification of Training Completion.

The final examination has two components:

a) Final Written Examination: Fellows are required to complete a written examination consisting of MCQs that assess theoretical knowledge in sports medicine. This examination covers a broad range of topics to ensure that fellows demonstrate mastery of foundational and advanced concepts required for independent practice.

Example of Written Examination Blueprint

Categories	Sections	Proportions	Medical Science	Diagnosis	Management	Investigations
MSK Medicine and Orthopedics (25%)	Common sports injuries (upper and lower extremities), fractures, dislocations, tendon and ligament injuries, acute management, and rehabilitation	25%	5	5	5	5
PM&R (10%)	Functional assessment, return-to-play, pain management, adaptive techniques, and rehabilitation strategies	10%	2	2	2	1
Rheumatology (10%)	Arthritis, spondyloarthropathies, overlap with injuries, and autoimmune flare recognition	10%	2	2	2	1
Cardiology and Exercise Physiology (5%)	Preparticipation screening, sudden cardiac arrest, electrocardiogram (ECG) and exercise testing, and cardiopulmonary conditions	5%	1	1	1	1
Urgent Care and Emergency in Sports (15%)	Sideline emergencies (concussion, heat illness, cardiac arrest, anaphylaxis, asthma), stabilization, and event coverage logistics	15%	3	3	4	2

Categories	Sections	Proportions	Medical Science	Diagnosis	Management	Investigations
Sports Nutrition (10%)	Nutritional assessment, hydration, supplements, RED-S, and doping and anti-doping nutrition	10%	2	2	2	1
MSK Imaging (15%)	X-ray, MRI, ultrasound fundamentals, POCUS, and imaging-guided interventions	15%	3	3	4	3
Professionalism and Longitudinal Care (10%)	Ethics, legal issues, communication, multidisciplinary teamwork, and continuity of care	10%	2	2	2	1

For additional details on the final examinations, refer to the General Bylaws of Training in Postgraduate Programs and the General Assessment Bylaws (available at www.scfhs.org).

b) Final OSCE Clinical Examination: Trainees must pass the final written examination to be eligible for the final clinical or practical examination.

At the end of the fellowship, fellows participate in a clinical OSCE. These practical assessments evaluate clinical skills and patient management abilities through simulated patient encounters. The OSCE provides a comprehensive evaluation of fellows' proficiency in hands-on clinical skills essential for sports medicine practice.

The blueprints of the final written and clinical/practical examinations are presented in the following table:

Sports Medicine Final Clinical Examination Blueprint

The final clinical examination blueprint reflects ACGME- and AMSSM-aligned competency assessment through balanced OSCE and simulated oral stations covering acute, chronic, psychological, preventive, communication, patient safety, and professionalism domains.

		DIMENSIONS OF CARE				
		Health Promotion and Illness Prevention 1 ± 1 station	Acute Care 5 ± 1 stations	Chronic Care 3 ± 1 stations	Psychological Aspects 1 ± 1 station	Number of Stations
DOMAINS FOR INTEGRATED CLINICAL ENCOUNTER	Patient Care 7 ± 1 stations	1	1	1		3
	Patient Safety and Procedural Skills 1 ± 1 station		1			1
	Communication and Interpersonal Skills 2 ± 1 stations				1	1
	Professional Behaviors 0 ± 1 station			1		1
	Total Stations	1	2	2	1	6

VI. Definitions

Assessment Tools and Passing Scores

Learning Domain	Summative Assessment Tools	Passing Score
Knowledge	Final Written Examination	A minimum of a borderline pass in each assessment tool, in accordance with the standard-setting method used by the Executive Administration of Assessment.
Skills	OSCE SOE	A minimum of a borderline pass in each assessment tool, in accordance with the standard-setting method used by the Executive Administration of Assessment.
Attitude	FITER	Successful completion of the FITER

XII. PROGRAM AND COURSE EVALUATION

The ITC shall apply multiple measures to evaluate implementation of this curriculum. Training outcomes of this program will undergo the quality assurance framework endorsed by the Central Training Committee at the SCFHS. Trainee assessment results (both formative and summative) will be analyzed and mapped to the curriculum content. Additional indicators to be incorporated include:

- Report of the annual trainee satisfaction survey.
- Reports from trainee evaluations of rotations.

Goal-based evaluation: Achievement of intended milestones will be evaluated at the end of each stage to assess the progress of curriculum delivery, and any identified deficiencies will be addressed in the subsequent stage by utilizing time allocated for trainee-selected topics and professional development sessions.

In addition to subject-matter expertise and best practices from benchmarked international programs, the ITC shall apply a robust methodology to ensure that this curriculum utilizes all available data during future revisions.

XIII. POLICIES AND PROCEDURES

This curriculum represents the framework and materials outlining the learning objectives with which trainees and trainers will engage to achieve the identified educational outcomes. The SCFHS maintains a comprehensive set of General Bylaws and Executive Policies (published on the official SCFHS website) that regulate all processes related to training. General bylaws of training, assessment, and accreditation, as well as executive policies on admission, registration, continuous assessment and promotion, examination, trainee representation and support, duty hours, and leave, are examples of regulations that must be applied. Trainees, trainers, and supervisors are required to implement this curriculum in compliance with the most updated bylaws and policies, which are accessible online via the official SCFHS website.

XIV. APPENDICES

A. Assessment Mapping

B. AHD Topics

C. Logbook Requirements

D. Top 10 Injuries and Top 10 Procedures

E. Research Requirements

F. References

Appendix A: *Competency–Assessment* Mapping

Competency / Domain	How Learned / Taught	How Assessed
MSK Medicine and Orthopedics	Didactic lectures, clinical rotations, workshops, simulation laboratories, and case discussions	Mini-CEX, OSCE, and final written examination
PM&R	Clinical rotations, workshops, journal clubs, and case discussions	Mini-CEX, CBD, OSCE, and ITER
Rheumatology	Didactic lectures, clinical rotations, and journal clubs	Mini-CEX, CBD, and final written examination
Cardiology and Exercise Physiology	Didactic lectures, clinical rotations, simulation-based training, and research projects	Final written examination, OSCE, and SOE
Urgent Care and Emergency in Sports	Clinical rotations, simulation-based training, workshops, and supervised sports event coverage	Mini-CEX, OSCE, and SOE
Sports Nutrition	Didactic lectures, workshops, journal clubs, and research activities	Final written examination and research project evaluation
MSK Imaging	Radiology rotations, ultrasound workshops, and simulation-based training	OSCE and final written examination
Professionalism and Longitudinal Care	Case discussions, mentorship, clinical rotations, and ethics seminars	ITER, CBD, and SOE
Research and Ethics	Research projects, workshops, journal clubs, and mentorship	Research project evaluation, SOE, and final written examination

Rotation / Setting (Duration)	Competency Emphasis	How It Is Learned/Taught (Activities and Context)	How It Is Assessed (Tool and Frequency)
Orthopedics (12 weeks)	ME 1–3, COM 1, Col 1–2, P 1–2	Fracture and soft-tissue management pathways; assistance with reductions; immobilization techniques; return-to-play planning in collaboration with PM&R.	Mini-CEX (≥2 per rotation block); CBD (≥1); ITER.
PM&R (4 weeks)	ME 2–3, Col 1–2, Led 2	Functional assessment; bracing and orthoses fitting; criterion-based return-to-playplanning.	Mini-CEX (≥1); CBD (focused on return-to-play) (≥1); ITER.
Pain Medicine (6 weeks)	ME 2–3, Col 1–2, P 1–2	Multimodal pain management; regional anesthesia fundamentals in accordance with local policy; patient safety counseling.	Mini-CEX (≥1); CBD (≥1).
Cardiology (4 weeks)	ME 1–2, Led 2, S 1–3	Athlete electrocardiogram (ECG) interpretation; evaluation of exertional symptoms; CPET exposure; clearance decision-making.	ECG and imaging case sets; Mini-CEX (counseling) (≥1); CBD (≥1).
Rheumatology (4 weeks)	ME 1–3, COM 1	Early arthritis and crystal-induced flares; joint aspiration and injection.	Mini-CEX (diagnostic reasoning) (≥1); CBD (≥1).
MSK Imaging (4 weeks)	ME 2–3, S 1–3, Led 2	X-ray and MRI pattern recognition; ultrasound fundamentals; development of actionable imaging reports; alignment with AHD Imaging I–II sessions.	Imaging case sets; CBD (≥1).

Rotation / Setting (Duration)	Competency Emphasis	How It Is Learned/Taught (Activities and Context)	How It Is Assessed (Tool and Frequency)
Emergency and Urgent Care (4 weeks)	ME 1–3, COM 1, Led 2, HA 2	Triage and identification of red flags; reductions and immobilization; concussion management; heat illness protocols; EAP drills.	Mini-CEX (triage-focused) (≥1); CBD (≥1).
Plastic and Hand Surgery (4 weeks)	ME 2–3, COM 1	Layered wound closure; digital nerve block; nail-bed repair; auricular hematoma management.	Mini-CEX (≥1).
Sports Nutrition (4 weeks)	ME 2, COM 1, S 1–3	Fueling and hydration strategies; RED-S; supplement governance; integration with AHD nutrition sessions.	OSCE counseling station; MCQ assessment; journal club critical appraisal.
Longitudinal Sports Medicine Clinic (Year-long; weekly)	ME 1–3, COM 1, P 1–2	Continuity of care; shared decision-making; outcomes tracking.	Mini-CEX targets per rotation block; CBD as needed; ITER per rotation.
Field and Event Coverage (≥100 hours/year)	ME 1–2, Led 2, HA 2, P 1–2	Sideline triage; AED checks; heat readiness protocols; documentation; mass-event medical planning.	Simulation and field-based checklists; structured debrief action items; OSCE EAP station.

Appendix B (Academic Half-Day Topics)

Academic Week	Rotation	Section	Sessions
1	Basic Science and Physiology	Exercise Physiology	Exercise Physiology Fundamentals; Energy Systems in Athletes
2	Basic Science and Physiology	Biomechanics	Functional Anatomy in Sport; Kinetic Chain Concepts
3	Basic Science and Physiology	Cardiorespiratory Adaptations	Cardiac Physiology in Athletes; Pulmonary Responses to Exercise
4	Basic Science and Physiology	Sports Nutrition	Macronutrients and Performance; Hydration and Electrolyte Balance
5	Basic Science and Physiology	Growth and Development	Adolescent Athlete Development; Endocrine Adaptations to Sport
6	Basic Science and Physiology	Thermoregulation	Heat Acclimatization; Cold Exposure and Performance
7	MSK Medicine	Upper Limb Injuries	Shoulder Impingement and Rotator Cuff Tears; Elbow and Wrist Disorders
8	MSK Medicine	Hand and Finger Disorders	Finger Tendon Injuries; Hand Fracture Management
9	MSK Medicine	Lower Limb Injuries	Knee Ligament Injuries (ACL, Medial Collateral Ligament [MCL]); Meniscal and Cartilage Lesions

Academic Week	Rotation	Section	Sessions
10	MSK Medicine	Ankle and Foot Injuries	Ankle Sprains and Instability; Plantar Fasciitis and Foot Pain
11	MSK Medicine	Overuse Syndromes	Tendinopathies; Stress Fractures
12	MSK Medicine	Fracture Management	Principles of Fracture Healing; Casting and Splinting Techniques
13	MSK Medicine	Back and Spine Disorders	Lumbar Strain and Disc Injuries; Spondylolysis in Athletes
14	MSK Medicine	Neck and Head Disorders	Cervical Strain; Whiplash-Associated Disorders and Neck Pain in Athletes
15	MSK Medicine	MSK Imaging I	X-ray and MRI Fundamentals
16	MSK Medicine	MSK Imaging II	Ultrasound Scanning and Image-Guided Injection Pathways
17	Rehabilitation	Rehabilitation Principles	Stages of Rehabilitation; Early Mobilization and Recovery
18	Rehabilitation	PT Modalities	Electrotherapy Applications; Cryotherapy and Thermotherapy
19	Rehabilitation	Exercise Prescription	Exercise Prescription for Athletes *and* Individuals *with* Chronic Disease

Academic Week	Rotation	Section	Sessions
20	Rehabilitation	Pain Management	Multimodal Pain Management Strategies; Pharmacologic and Nonpharmacologic Options
21	Rehabilitation	Return-to-Play	Criteria for Return-to-Sport; Functional Testing
22	Rehabilitation	Adaptive Techniques	Injury Prevention Programs; Ergonomic Adjustments for Athletes
23	Rehabilitation	Special Populations	Rehabilitation in Special Populations (Women, Adolescents, Para-athletes)
24	Emergency and On-Field Medicine	Sideline Assessment	Sideline Evaluation and EAP Simulation
25	Emergency and On-Field Medicine	Concussion	Recognition and Immediate Management; Return-to-Play Protocols
26	Emergency and On-Field Medicine	Heat Illness	Prevention and Early Recognition; Management of Heat Stroke
27	Emergency and On-Field Medicine	Cardiac Events	Sudden Cardiac Arrest and Related Events; Preparticipation Examination (PPE) Red Flags
28	Emergency and On-Field Medicine	Environmental Conditions	Cold Injuries; Altitude- and Diving-Related Illnesses

Academic Week	Rotation	Section	Sessions
29	Emergency and On-Field Medicine	Event Coverage	Mass-Casualty Incident and Event Coverage Planning
30	Emergency and On-Field Medicine	Acute Pharmacology in Sports	NSAIDs; Corticosteroids; Intravenous Fluids; Anti-Doping Risks
31	Administration and Ethics	Anti-Doping	World Anti-Doping Agency Guidelines; TUEs
32	Administration and Ethics	Legal Issues	Medical Documentation; Liability in Sports Medicine
33	Administration and Ethics	Professionalism	Professionalism; Team Physician Leadership; Travel Medicine; Communication with Coaches and National Olympic Committees
34	Administration and Ethics	Leadership	Management of Sports Teams; Conflict Resolution in Clinical Settings
35	Administration and Ethics	Public Health	Injury Surveillance Systems; Promotion of Safe Sport
36	Research and Innovation	Evidence-Based Practice	Research Methodology; Critical Appraisal of Sports Medicine Literature
37	Academic Summary	Program Reflection	QI; Case Presentations; Fellowship Summary

Examples of Core Specialty Topics (Case Discussions and Lectures)

Topics	Comments
Exercise Physiology and Performance Optimization	Covered in the Basic Science and Physiology module
Common Sports Injuries: Diagnosis and Rehabilitation	Core lectures and clinical case discussions
Doping and Anti-Doping Policies	Administration and Ethics module
Sports Nutrition and Energy Balance	Covered in the Basic Science and Physiology module
MSK Imaging Interpretation	MSK Radiology rotation
Concussion Management and Return-to-Play	Emergency and On-Field Medicine module
Team Physician Responsibilities	Event coverage and interprofessional collaboration training
Pain Management in Athletes	PM&R rotation
Pediatric and Women's Sports Medicine	Core lectures and clinical case discussions
Research and Innovation in Sports Technology	Research block

Appendix C (Logbook Requirements)

Logbook Educational Tool

Logbook:

A. Landmark-Guided Injections and Aspirations

Procedure	Observe	Assist	Perform Independently	Total
Glenohumeral (GH) Joint Injection or Aspiration	2	2	6	10
Subacromial–Subdeltoid Bursa Injection	2	2	6	10
Acromioclavicular (AC) Joint Injection	1	1	3	5
Elbow IA Injection or Lateral Epicondyle Injection	1	2	4	7
Knee IA Injection or Aspiration	2	2	6	10
Pes Anserine Bursa Injection	1	1	2	4
Ankle Joint Injection	1	2	4	7
Total	**10**	**12**	**31**	**53**

B. Ultrasound-Guided Injections and Aspirations

Procedure	Observe	Assist	Perform Independently	Total
GH Joint Injection or Aspiration	2	2	6	10
Subacromial–Subdeltoid Bursa Injection	2	2	6	10
AC Joint Injection	1	1	3	5
Long Head of the Biceps Tendon Sheath Injection	1	1	3	5
Greater Trochanteric Bursa Injection	1	2	4	7
Iliopsoas Bursa or Tendon Sheath Injection	1	1	2	4
Knee IA Injection	2	2	6	10
Knee Joint Aspiration	1	1	3	5
Pes Anserine Bursa Injection	1	1	2	4
Ankle Joint or Tendon Sheath Injection	2	2	4	8
Plantar Fascia Injection	1	1	2	4
Wrist Joint Injection	1	1	2	4
Carpal Tunnel Injection	1	1	2	4
De Quervain's Tenosynovitis Injection	1	1	2	4

Procedure	Observe	Assist	Perform Independently	Total
Trigger Finger Injection	1	1	2	4
Elbow Tendon Injection	1	1	2	4
Total	20	21	51	92

C. Casting and Splinting

Procedure	Required Minimum
Volar Wrist Splint	5
Ulnar Gutter Splint	5
Thumb Spica Splint	5
Sugar-Tong Splint (Elbow or Ankle)	5
Posterior Ankle Splint	5
Finger Splints	10
Short Arm Cast	5
Long Arm Cast	5
Short Leg Cast	5

D. Laceration and Minor Procedures

Procedure	Required Minimum
Simple Laceration Repair	10
Toenail Excision (Partial or Complete)	5

E. Other Required Procedures

Procedure	Required Minimum
Electrocardiogram (ECG) Interpretation	20 ECGs
ETT: Observe–Assist–Perform	2 / 2 / 5
Exercise Prescriptions (FITT Principle)	25
Compartment Pressure Testing	3
Platelet-Rich Plasma, Prolotherapy, and Autologous Blood Injection (if available)	Documented Exposure
Diagnostic MSK Ultrasound (AMSSM Standards)	150–200 supervised scans

Appendix D: Top 10 Injuries and Top 10 Procedures

Top 10 Causes of Morbidity and Injuries in Athletes

Condition / Injury	Relative Frequency	Cumulative Frequency
Knee Ligament Injuries (ACL, MCL)	20%	20%
Ankle Sprains	15%	35%
Shoulder Dislocations and Rotator Cuff Tears	10%	45%
Muscle Strains (Hamstring, Quadriceps, Gastrocnemius–Soleus Complex)	10%	55%
Fractures (Stress Fractures and Upper or Lower Limb Fractures)	10%	65%
Overuse Syndromes (Tendinopathy, Bursitis)	10%	75%
Concussions	8%	83%
Low Back Pain (Lumbar Strain, Intervertebral Disc Injuries)	7%	90%
Heat-Related Illnesses	5%	95%
Sports-Related Dermatologic Conditions	5%	100%

Top 10 Procedures and Skills Performed by the Fellow

Name of Procedure or Skill	Approximate Frequency
Joint Injections and Aspirations	20%
Ultrasound-Guided MSK Injections	20%
Casting and Splinting	10%
Bracing and Taping Techniques	10%
Tendon Sheath and Bursa Injections	5%
Sideline Emergency Management During Sporting Events	5%
MSK Ultrasound Scanning	15%
Rehabilitation Program Design	5%
PPE	5%
Doping and Anti-Doping Evaluation	5%

Appendix E (Research Requirements)

The following section is provided for illustrative purposes only. Additional details regarding frequency, supervision levels, and training year distribution must be clearly outlined and aligned with the competency–assessment mapping.

MEDICAL EXPERT

Goals:

- To demonstrate an understanding of the basic principles of research design, methodology, data analysis, and clinical epidemiology. Additionally, fellows should be able to critically appraise the advantages and limitations of research methodologies as applied to sports medicine.
- To demonstrate familiarity with research ethics requirements and responsible conduct of research, including appropriate informed consent procedures.
- To apply appropriate methods for writing research proposals and manuscripts, conducting systematic data collection, and performing data analysis and structured discussion of results.
- To demonstrate awareness of current research topics in sports medicine using available medical informatics systems and evidence-based databases.
- To deliver structured scientific presentations and participate effectively in scholarly discussions.

Training Methods

- The program should specify a defined period dedicated to research activities *or* a structured research rotation, as appropriate.
- Attendance at dedicated research courses or workshops that enhance methodological and analytical skills may be required by the program.
- The scholarly project is expected to extend over a minimum of one month; therefore, its completion should be appropriately integrated with subsequent rotations.
- The trainee must select an approved research supervisor to facilitate access to essential resources, ensure appropriate application of research methods, and conduct periodic progress reviews.
- The trainee must complete the research proposal within the first six months of training. IRB approval must be obtained prior to data collection.
- An oral abstract of the study results should be presented at a designated time point (e.g., at the end of the final year before eligibility for the final examination) during the Specialty Research Day.
- The final manuscript should be submitted at least two weeks before the Specialty Research Day.
- Trainees are strongly encouraged to present their research findings at national or international scientific meetings and to pursue publication in indexed peer-reviewed journals.

Evaluation

2. Attendance at designated courses, lectures, and workshops will be monitored and incorporated into the annual evaluation score.
3. Panel scoring of the research abstract presentation will be conducted at a pre-specified time point during the Specialty Research Day. This score will contribute to the rotation evaluation for that period.

COMMUNICATOR

- Demonstrate the ability to effectively communicate and discuss scientific research with scholarly audiences through posters, abstracts, teaching slides, manuscripts, or other scientific communication formats.
- Communicate and collaborate effectively with the research supervisor throughout the conduct of the research project.

COLLABORATOR

- Identify, consult, and collaborate with appropriate experts, research institutions, and organizational bodies as required to conduct the research.

LEADER

- Identify an area of research interest and secure an appropriate research supervisor to engage in scholarly inquiry and dissemination.
- Utilize available institutional resources and meet regularly with the designated research mentor.
- Establish realistic priorities and use time effectively to optimize professional performance.
- Utilize healthcare and research resources in a cost-effective manner.

HEALTH ADVOCATE

Recognize the role of scientific research in improving patient outcomes and community health.

SCHOLAR

- Formulate appropriate research questions, identify gaps in knowledge relevant to these questions, and design an appropriate study to address them.
- Conduct the research in accordance with the approved proposal.
- Collect and analyze data using appropriate methodological and statistical approaches.
- Prepare abstracts and manuscripts suitable for submission to peer-reviewed journals and presentation at national or international scientific meetings.
- Identify study limitations and propose areas for future research.

PROFESSIONAL

1. Uphold ethical and professional research standards in accordance with IRB guidelines, including maintaining accurate data records and conducting ethically sound research.
2. Demonstrate personal responsibility for establishing research goals and collaborating with the supervisor to define and achieve project timelines.
3. Appropriately attribute authorship and acknowledge contributions in accordance with accepted authorship criteria when publishing research.
4. Disclose potential financial conflicts of interest (including speaker fees and consultancy relationships), as appropriate, when conducting and disseminating research findings.

Appendix F

References (APA Format)

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3. Cook, D. A., Hatala, R., Brydges, R., Zendejas, B., Szostek, J. H., Wang, A. T., Hamstra, S. J., et al. (2011). Technology-enhanced simulation for health professions education: A systematic review and meta-analysis. JAMA, 306(9), 978–988.
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5. So, H. Y., Chen, P. P., Wong, G. K. C., & Chan, T. T. N. (2019). Simulation in medical education. Journal of the Royal College of Physicians of Edinburgh, 49(1), 52–57.

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