

**NOVEMBER 2017**  
VERSION 1.0

## DEFINITION

Sport and Exercise Medicine (SEM) is that area of enhanced competence within medicine and surgery concerned with the investigation, diagnosis, management, and prevention of illness and injury as they relate to sport and exercise. Sport and Exercise Medicine promotes physical activity and physical fitness for the general public and optimization of performance in athletes, including able-bodied and non-able-bodied individuals across the lifespan.

## ELIGIBILITY REQUIREMENTS

The Area of Focused Competence (AFC) trainee must have Royal College certification in Emergency Medicine, Internal Medicine, Orthopedic Surgery, Pediatrics, Physical Medicine and Rehabilitation or Rheumatology, or be enrolled in a Royal College accredited residency program leading to certification in one of those disciplines (see requirements for individual program qualifications).

Approved training in Sport and Exercise Medicine may be undertaken concurrently with residency training in a primary specialty or subspecialty, provided that at least two years of residency education have been successfully completed, requirements for the primary specialty or subspecialty will be met, and primary specialty/subspecialty and Sport and Exercise Medicine program directors are in agreement.

All trainees must be certified in their primary specialty in order to be eligible to submit a Royal College certification portfolio in Sport and Exercise Medicine.

## GOALS

Upon completion of training, an AFC diplomate is expected to function as a competent specialist in Sport and Exercise Medicine, capable of an enhanced practice in this area of focused competence, within the scope of the primary specialty/subspecialty. The AFC trainee must acquire a working knowledge of the theoretical basis of Sport and Exercise Medicine, including its foundations in science and research.

The discipline of Sport and Exercise Medicine also includes responsibility for:

- Exercise prescription;
- Assessment and management of an individual athlete's unique needs to optimize performance;

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- Assessment, diagnosis, treatment, and rehabilitation of sports-related injuries and illnesses;
- Decision-making on return to play;
- Planning, direction, and implementation of event and team medical coverage at all levels and in all populations;
- Interprofessional collaboration in the context of sport;
- Advocacy for health promotion and injury prevention;
- Medicolegal and ethical aspects of sport, including doping; and
- Advancement of Sport and Exercise Medicine through teaching, scholarship, and lifelong learning.

Diplomates must demonstrate the requisite knowledge, skills, and behaviours for effective patient-centred care and service to a diverse population. In all aspects of specialist practice, the diplomate must be able to address ethical issues and issues of gender, sexual orientation, age, culture, beliefs, and ethnicity in a professional manner.

At the completion of training, the diplomate will have acquired the following competencies and will function effectively as a:

## **Medical Expert**

### ***Definition:***

As *Medical Experts*, Sport and Exercise Medicine diplomates integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional attitudes in their provision of patient-centred care. *Medical Expert* is the central physician Role in the CanMEDS framework.

***Key and Enabling Competencies: Sport and Exercise Medicine diplomates are able to...***

### **1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical, and patient-centred medical care**

- 1.1. Demonstrate compassionate and patient-centred care
  - 1.1.1. Identify the mental health impact from the acute trauma, emotional stress, and chronic disability related to musculoskeletal conditions
  - 1.1.2. Assess and manage issues related to the psychological influences on performance, transition, and/or retirement from sport
- 1.2. Demonstrate medical expertise in situations other than patient care, including but not limited to providing expert legal testimony or advising governments, as needed
- 1.3. Identify and appropriately respond to relevant ethical issues arising in patient care

**2. Establish and maintain clinical knowledge, skills, and behaviours appropriate to Sport and Exercise Medicine practice**

- 2.1. Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to Sport and Exercise Medicine
  - 2.1.1. Functional anatomy relevant to patient examination
  - 2.1.2. Physiological responses and adaptations to exercise
    - 2.1.2.1. Cardiovascular system
    - 2.1.2.2. Respiratory system
    - 2.1.2.3. Hematologic system
    - 2.1.2.4. Musculoskeletal system
  - 2.1.3. Biomechanics in sport and exercise
    - 2.1.3.1. Kinetic chain in throwing sports
    - 2.1.3.2. Technique errors that lead to injuries in various sports
    - 2.1.3.3. Role of core strength and stability
    - 2.1.3.4. Anatomic risk factors for injury in various sports including but not limited to
      - 2.1.3.4.1. Restricted range of motion (e.g., plantar flexion in dancers)
      - 2.1.3.4.2. Malalignment (e.g., increased carrying angle in gymnastics and throwing sports)
      - 2.1.3.4.3. Muscle imbalance (e.g., asymmetrical quadriceps development in skaters)
      - 2.1.3.4.4. Ligamentous laxity (e.g., ankle hyperpronation in barefoot sports)
  - 2.1.4. Gender issues in sport and exercise
    - 2.1.4.1. Pregnancy and activity
    - 2.1.4.2. Gender verification in sport
    - 2.1.4.3. Transgender athletes in sport
    - 2.1.4.4. Relative energy deficiency in sport
  - 2.1.5. Societal issues
    - 2.1.5.1. Drug abuse and doping in sport
      - 2.1.5.1.1. Permitted substances
      - 2.1.5.1.2. Lists of prohibited substances and methods of performance enhancement
      - 2.1.5.1.3. Sport-specific restrictions

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- 2.1.5.1.4. Procedures for random and in-competition testing for doping
  
- 2.1.5.2. Fair play and/or violence in sport
- 2.1.5.3. Harassment and intimidation in sport
  
- 2.1.6. Psychology in sport and exercise
  - 2.1.6.1. Concepts in sport psychology and indications for referral
    - 2.1.6.1.1. Performance enhancement
    - 2.1.6.1.2. Reaction to injury in the highly competitive athlete
    - 2.1.6.1.3. Chronic pain coping strategies
    - 2.1.6.1.4. Disordered eating and eating disorders in athletes
    - 2.1.6.1.5. Mental illness
  
  - 2.1.6.2. Benefits of exercise for mental health
  
- 2.1.7. Health surveillance
  - 2.1.7.1. Risk factors for sudden cardiac death with exercise and training
  - 2.1.7.2. Strengths and weaknesses of cardiac screening programs
  - 2.1.7.3. Conditions that may require restrictions on intensity of exercise and/or level of contact in sport or exercise participation
  - 2.1.7.4. Clinical implications of body mass index (BMI)
  - 2.1.7.5. Overtraining syndrome and chronic fatigue, and effects on performance / health
  - 2.1.7.6. Nutritional issues in sport and exercise
    - 2.1.7.6.1. General nutrition for exercise (macro and micronutrients)
    - 2.1.7.6.2. Hydration
    - 2.1.7.6.3. Competitive diet
    - 2.1.7.6.4. Obesity
    - 2.1.7.6.5. Iron deficiency and other vitamin – mineral supplementation issues
    - 2.1.7.6.6. Disordered eating
    - 2.1.7.6.7. Eating disorders

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- 2.1.8. Principles of exercise, strength, flexibility and endurance
  - 2.1.8.1. Need for increased physical activities to combat the obesity epidemic
  - 2.1.8.2. Changes in physiologic parameters with aging
  - 2.1.8.3. Ability of body to respond to exercise throughout life
  - 2.1.8.4. Benefits, risks, and safe techniques for weight training in skeletally immature athletes
  - 2.1.8.5. Amount and intensity of training in the developing child
  - 2.1.8.6. Sport-readiness in the context of the long-term athlete development model
  
- 2.1.9. Exercise prescription, risks and benefits of physical activity, management, and effects on performance in patients with medical conditions
  - 2.1.9.1. Exercise-induced asthma and other respiratory conditions
  - 2.1.9.2. Diabetes types 1 and 2
  - 2.1.9.3. Infectious diseases
    - 2.1.9.3.1. Skin infections, including but not limited to Herpes Gladiatorum and impetigo
    - 2.1.9.3.2. Infectious mononucleosis
    - 2.1.9.3.3. Blood-borne infections, including but not limited to hepatitis B, hepatitis C and human immunodeficiency virus
    - 2.1.9.3.4. Fever and exercise restriction
  - 2.1.9.4. Rheumatologic conditions and degenerative joint disease
  - 2.1.9.5. Neurologic conditions, including seizure disorders
  - 2.1.9.6. Cardiovascular conditions
    - 2.1.9.6.1. Congenital
    - 2.1.9.6.2. Acquired
  - 2.1.9.7. Gastrointestinal illnesses: infectious; inflammatory
  
- 2.1.10. Athletes with physical and/or cognitive disabilities
  - 2.1.10.1. Barriers to participation in sport, exercise, or physical activity
  - 2.1.10.2. Risks and benefits of sport participation and exercise
  - 2.1.10.3. Classification systems to promote fair competition

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- 2.1.10.4. Pathogenesis, recognition, and management of medical conditions commonly encountered in patients with spinal cord injury in the context of event medical coverage, as well as in overall sport and exercise medical care
  - 2.1.10.4.1. Urinary tract infections
  - 2.1.10.4.2. Pressure ulcers
  - 2.1.10.4.3. Autonomic dysfunction
    - 2.1.10.4.3.1. Thermal dysregulation
    - 2.1.10.4.3.2. Autonomic dysreflexia
- 2.1.10.5. Common musculoskeletal problems
  - 2.1.10.5.1. Osteoporotic fractures
  - 2.1.10.5.2. Sport and disability-specific soft tissue injuries
- 2.1.10.6. Banned / illegal methods of performance enhancement
  - 2.1.10.6.1. Autonomic dysreflexia by boosting
- 2.1.10.7. Pre-participation and competition
  - 2.1.10.7.1. Atlantoaxial instability, including but not limited to Down syndrome and juvenile idiopathic arthritis (JIA)
  - 2.1.10.7.2. Spasticity including, but not limited to cerebral palsy
- 2.1.10.8. Specific disabilities
  - 2.1.10.8.1. Sensory impairment, including but not limited to vision and hearing
  - 2.1.10.8.2. Spinal cord injury
  - 2.1.10.8.3. Myelomeningocele
  - 2.1.10.8.4. Amputation
  - 2.1.10.8.5. Cerebral palsy
  - 2.1.10.8.6. Cognitive impairment
- 2.1.11. Risk factors for, presentations, assessment, and management of musculoskeletal injuries, and decision-making regarding return to play
  - 2.1.11.1. Cervical spine
    - 2.1.11.1.1. Torticollis
    - 2.1.11.1.2. Disc pathology
    - 2.1.11.1.3. Mechanical and degenerative neck pain

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- 2.1.11.2. Thoracic and lumbar spine
  - 2.1.11.2.1. Spondylolysis and spondylolisthesis
  - 2.1.11.2.2. Discogenic low back pain
  - 2.1.11.2.3. Mechanical and degenerative back pain
  - 2.1.11.2.4. Scoliosis and kyphosis
  
- 2.1.11.3. Trunk
  - 2.1.11.3.1. Rib fractures
  - 2.1.11.3.2. Rib subluxation and sternocostal syndromes
  - 2.1.11.3.3. Abdominal wall injury
  
- 2.1.11.4. Shoulder
  - 2.1.11.4.1. Clavicular fracture
  - 2.1.11.4.2. Acromioclavicular injury
  - 2.1.11.4.3. Impingement syndromes
  - 2.1.11.4.4. Glenohumeral instability
  - 2.1.11.4.5. Rotator cuff injuries
  - 2.1.11.4.6. Burners and stingers (e.g., brachial plexus traction syndrome)
  
- 2.1.11.5. Arm and elbow
  - 2.1.11.5.1. Medial and lateral epicondylitis
  - 2.1.11.5.2. Apophysitis – epicondyles / olecranon
  - 2.1.11.5.3. Apophyseal avulsion injuries
  - 2.1.11.5.4. Medial and lateral collateral ligament injuries
  - 2.1.11.5.5. Ulnar nerve subluxation / neuritis
  - 2.1.11.5.6. Osteochondritis dissecans of radial head / capitellum
  - 2.1.11.5.7. Panner’s disease
  - 2.1.11.5.8. Degenerative joint disease (DJD) and loose bodies
  
- 2.1.11.6. Forearm, wrist, and hand
  - 2.1.11.6.1. Forearm exertional compartment syndrome
  - 2.1.11.6.2. Wrist fractures, including scaphoid
  - 2.1.11.6.3. Carpal bone stress fractures
  - 2.1.11.6.4. Osteochondrosis of lunate

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- 2.1.11.6.5. Injuries from weight-bearing on the hands/wrists, including distal radial growth plate injury/premature closure (gymnast's wrist)
- 2.1.11.6.6. Carpal ligament and triangular fibrocartilage injuries
- 2.1.11.6.7. Nerve entrapment syndromes: carpal tunnel (median nerve); Guyon's canal (ulnar nerve)
- 2.1.11.6.8. Fractures, dislocations, and injuries of the hand, including Bennett's fracture
- 2.1.11.6.9. Ulnar collateral ligament thumb (skier's / gamekeeper's thumb)
  
- 2.1.11.7. Pelvis and hips
  - 2.1.11.7.1. Sacroiliitis and related syndromes
  - 2.1.11.7.2. Osteitis pubis
  - 2.1.11.7.3. Traction apophysitis of iliac crests and other growth centres
  - 2.1.11.7.4. Hernias, including sports hernia
  - 2.1.11.7.5. Adductor strains
  - 2.1.11.7.6. Stress fractures
  - 2.1.11.7.7. Avulsion injuries
  - 2.1.11.7.8. Hip conditions in athletes, including bursitis, snapping hips, and joint problems, including transient synovitis, avascular necrosis, slipped capital femoral epiphysis, septic hip, and labral tear
  
- 2.1.11.8. Thigh
  - 2.1.11.8.1. Quadriceps strains, contusions, acute compartment syndrome, and myositis ossificans
  - 2.1.11.8.2. Hamstring and adductor strains
  
- 2.1.11.9. Knee
  - 2.1.11.9.1. Ligament injuries
  - 2.1.11.9.2. Meniscal pathology
  - 2.1.11.9.3. Patellofemoral syndrome, instability, and dislocation
  - 2.1.11.9.4. Tendinopathy and bursitis, including iliotibial band friction syndrome
  - 2.1.11.9.5. Apophysitis, (e.g., Sinding-Larsen-Johansson Syndrome, Osgood-Schlatter disease, and proximal patella)
  - 2.1.11.9.6. Articular cartilage injury, including but not limited to osteochondritis dissecans



2.1.11.10. Leg

- 2.1.11.10.1. Shin pain syndromes, including medial tibial stress syndrome, tibial stress fracture and exertional compartment syndromes
- 2.1.11.10.2. Nerve entrapment syndromes, including peroneal, sural and saphenous
- 2.1.11.10.3. Vascular causes of leg pain
- 2.1.11.10.4. Fascial defects and muscle herniations
- 2.1.11.10.5. Fibular stress fractures and periostitis

2.1.11.11. Ankle

- 2.1.11.11.1. Ankle sprains (e.g., acute and chronic, including syndesmosis)
- 2.1.11.11.2. Tendinitis
- 2.1.11.11.3. Achilles tendon rupture
- 2.1.11.11.4. Os trigonum and posterior impingement in dancers
- 2.1.11.11.5. Other impingement syndromes
- 2.1.11.11.6. Osteochondritis dissecans and other osteochondral lesions of the talus

2.1.11.12. Foot

- 2.1.11.12.1. Tarsal tunnel syndrome
- 2.1.11.12.2. Sinus tarsi syndrome
- 2.1.11.12.3. Lisfranc joint injuries
- 2.1.11.12.4. Plantar fasciitis and related heel problems
- 2.1.11.12.5. Stress fractures, including but not limited to: metatarsal, navicular, calcaneal
- 2.1.11.12.6. Apophysitis (e.g., Sever's, Iselin's, and navicular)
- 2.1.11.12.7. Forefoot abnormalities and disorders, including but not limited to metatarsalgia, Morton's neuroma, and turf toe

2.1.12. Presentations and management of general and regional pain syndromes

2.1.13. Presentation and management of other injuries

- 2.1.13.1. Central nervous system (e.g., concussion, intracranial hemorrhage, or cerebral edema)
- 2.1.13.2. Eye

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- 2.1.13.3. Ear, nose, and throat (e.g., nasal trauma, fractures, epistaxis, barotrauma, auricular hematomas)
- 2.1.13.4. Dental
- 2.1.13.5. Cardio thoracic
- 2.1.13.6. Abdominal, pelvic and/or genital
  
- 2.1.14. Preventive and therapeutic modalities
  - 2.1.14.1. Indications and rationale for physiotherapy modalities
  - 2.1.14.2. Principles of manipulation, mobilization, and massage
  - 2.1.14.3. Role of stretching, strengthening, and proprioception in facilitating return to play following injury
  - 2.1.14.4. Role of foot orthoses and shoe prescription, including but not limited to gait analysis and indications for rehabilitative, prophylactic and functional orthoses
  - 2.1.14.5. Indications and risks of injections and joint aspirations
  - 2.1.14.6. Principles of fracture management
  - 2.1.14.7. Compartment pressure monitoring in exertional compartment syndrome
  - 2.1.14.8. Indications and techniques for draining auricular hematomas and applying a pressure dressing
  - 2.1.14.9. Indications and technique for draining acute subungual hematomas
  
- 2.1.15. Event and team coverage and emergencies
  - 2.1.15.1. Travel with athletes
    - 2.1.15.1.1. Plans for health care in a foreign jurisdiction
    - 2.1.15.1.2. Vaccinations
    - 2.1.15.1.3. In-flight and post-arrival recommendations, including but not limited to jet lag
    - 2.1.15.1.4. Food or water-borne infections, including but not limited to traveller's diarrhea
    - 2.1.15.1.5. Management of transport for the injured athlete
  
  - 2.1.15.2. Environmental risk factors in sport
    - 2.1.15.2.1. Air quality
    - 2.1.15.2.2. Exercise in the heat
      - 2.1.15.2.2.1. Heat illness
      - 2.1.15.2.2.2. Populations at increased risk, including but not limited to children, athletes with spinal cord

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injuries, and those with obesity, previous heat illness, or medications that increase risk

2.1.15.2.2.3. Heat acclimatization

2.1.15.2.3. Exercise in the cold

2.1.15.2.3.1. Hypothermia

2.1.15.2.3.2. Frostbite

2.1.15.2.4. Exercise at altitude

2.1.15.2.5. Effect of hyperbaric pressure in diving

2.1.15.3. Urgent and/or emergent conditions

2.1.15.3.1. Hypoglycemia

2.1.15.3.2. Acute compartment syndrome and ischemia

2.1.15.3.3. Joint and tendon infections

2.1.15.3.4. Common serious surgical and post injury complications

2.1.15.3.5. Principles of management of on-field emergencies

2.1.15.3.5.1. Airway

2.1.15.3.5.2. Indications and procedure for emergency cricothyrotomy

2.1.15.3.5.3. Cardiac

2.1.15.3.5.4. Massive hemorrhage

2.1.15.3.5.5. Limb-threatening

2.1.15.3.5.6. Altered consciousness

2.1.15.3.5.7. Head injuries and concussions

2.1.15.3.5.8. Spinal injury

2.1.15.3.5.9. Environmental emergencies

2.1.15.4. Principles of event medical coverage

2.1.15.4.1. Responsibilities of physician and other medical staff

2.1.15.4.2. Appropriate equipment and resources

2.1.15.4.3. Importance of routine practices for infection control

2.2. Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up to date, and enhance areas of professional competence

2.3. Integrate the available best evidence and best practices to enhance the quality of care and patient safety in Sport and Exercise Medicine

**3. Perform a complete and appropriate assessment of a patient**

- 3.1. Identify and effectively explore issues to be addressed in a patient encounter, including the patient's context and preferences
- 3.2. Elicit a history that is relevant, concise, and accurate to context and preferences, for the purposes of diagnosis, management, health promotion, and disease prevention
  - 3.2.1. Take a focused musculoskeletal history
  - 3.2.2. Take a comprehensive history in complex patient scenarios such as multiple musculoskeletal symptoms complaints, or multiple co-morbidities
- 3.3. Perform a focused physical examination that is relevant and accurate for the purposes of diagnosis, management, health promotion, and disease prevention
  - 3.3.1. Perform effective, relevant assessments and recognize potentially life-threatening emergencies, including but not limited to hypoglycemia, heat illness, cervical spine fracture and head injuries
  - 3.3.2. Perform sideline and on-field assessments
    - 3.3.2.1. Perform neuropsychological assessments for concussion and other potential head injuries
    - 3.3.2.2. Perform evaluations of musculoskeletal injuries
  - 3.3.3. Apply an understanding of functional anatomy to physical examination
  - 3.3.4. Assess joints, muscle-tendon units, and bones for injury, limitation of range-of-motion, instability, or other dysfunction
  - 3.3.5. Differentiate between a musculoskeletal problem that is rheumatologic vs. non-rheumatologic
  - 3.3.6. Identify symptoms and signs that may indicate more serious conditions and initiate timely investigations or referral for bone and soft tissue tumours
  - 3.3.7. Assess musculoskeletal pathology in the physical examination for a patient with multiple musculoskeletal symptoms
- 3.4. Select medically appropriate investigative methods in a resource-effective and ethical manner
  - 3.4.1. Identify individuals who require investigations prior to clearance for sport or exercise
  - 3.4.2. Identify patients with an indication for performing exercise-challenge spirometry

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- 3.5. Demonstrate effective clinical problem solving and judgment to address the patient's problems, including interpreting available data and integrating information to generate differential diagnoses and management plans
  - 3.5.1. Utilize pre-participation assessments to provide recommendations about participation in sports
  - 3.5.2. Interpret computer-based neuropsychological testing in evaluation of sport concussion
  - 3.5.3. Interpret the results of exercise-challenge spirometry
  - 3.5.4. Generate a problem-based, focused differential diagnosis for single and multiple problems
  - 3.5.5. Identify injury and/or other conditions and counsel patients on risk factors associated with participation in sport or exercise in the presence of various medical conditions
  - 3.5.6. Make return to play recommendations following illness or injury for patients seen on the sideline or in the office
  - 3.5.7. Develop management plan to address injuries or risk factors

**4. Use preventive and therapeutic interventions effectively**

- 4.1. Implement a management plan in collaboration with a patient and the patient's family<sup>1</sup>
- 4.2. Demonstrate appropriate and timely application of preventive and therapeutic interventions relevant to Sport and Exercise Medicine
  - 4.2.1. Use medications appropriately in the context of the World Anti-Doping Agency List of Prohibited Substances and Methods
    - 4.2.1.1. Complete a Therapeutic Use Exemption form
  - 4.2.2. Provide exercise advice for the following:
    - 4.2.2.1. Pediatric age group, with or without chronic medical conditions
    - 4.2.2.2. The older athlete, with or without chronic medical conditions
    - 4.2.2.3. Athletes with physical or cognitive disabilities
  - 4.2.3. Establish fitness programs
  - 4.2.4. Manage possible cervical spine injuries
    - 4.2.4.1. Safely access airway in an athlete with a helmet, facemask or shoulder pads

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<sup>1</sup> Throughout this document, references to the patient's family are intended to include all those who are personally significant to the patient and are concerned with his or her care, including, according to the patient's circumstances, family members, partners, caregivers, legal guardians, and substitute decision-makers.

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4.2.5. Safely transport injured athletes from the playing field

4.2.5.1. Immobilize the cervical, thoracic, and lumbar spine

4.2.5.2. Assist with safe transfer to a spine board

4.3. Select and implement off-label therapeutic interventions when appropriate, ensuring informed consent and shared decision making in their use

**5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic**

5.1. Perform splinting, casting, and taping

5.2. Perform suturing

5.3. Perform joint aspirations and therapeutic injections

5.4. Apply the principles and techniques of orthopedic reductions of common joint dislocations when appropriate

5.5. Manage dental avulsions on the sideline (i.e., reimplantation or safe and rapid transport)

5.6. Control minor bleeding rapidly such as but not limited to nasal packing and skin-waterproof dressing to permit continued participation in competition where appropriate

5.7. Use an automated external defibrillator

**6. Seek appropriate consultation from other health professionals, recognizing the limits of their own expertise**

6.1. Demonstrate effective, appropriate, and timely consultation with other members of the sport-medicine team to optimize patient care

6.1.1. Identify the need for and initiate referral for a fitness test

6.1.2. Recognize fractures requiring reduction and referral

6.1.3. Demonstrate an understanding of the indications for surgical intervention

6.1.4. Recognize psychiatric emergencies requiring immediate referral

6.2. Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care

6.3. Arrange appropriate followup care services for patients and their families

## **Communicator**

### ***Definition:***

As *Communicators*, Sport and Exercise Medicine diplomates effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

- 1. Develop rapport, trust, and ethical therapeutic relationships with patients and, where appropriate, their families**
  - 1.1. Demonstrate an understanding of the importance of the role of sport or exercise in patients' lives
  
- 2. Accurately elicit and synthesize relevant information and perspectives of patients and, where appropriate, families, colleagues, and other professionals**
  - 2.1. Seek out and synthesize relevant information from other sources, such as other professionals or a patient's family, or coaches while respecting individual privacy and confidentiality
  
- 3. Present medical information effectively to the public or media about a Sport and Exercise Medicine issue**

## **Collaborator**

### ***Definition:***

As *Collaborators*, Sport and Exercise Medicine diplomates work effectively within a health care team to achieve optimal patient care.

***Key and Enabling Competencies: Sport and Exercise Medicine diplomates are able to...***

- 1. Participate effectively and appropriately in an interprofessional health care team**
  - 1.1. Describe the Sport and Exercise Medicine specialist's roles and responsibilities to other professionals, such as but not limited to other specialists, physiotherapists, athletic therapists, massage therapists, chiropractors, psychologists, nutritionists and other health professionals

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- 1.2. Work with others to assess, plan, provide, and integrate care for individuals and groups of patients
  - 1.2.1. Function effectively in the context of a medical team that may consist of other Sport and Exercise Medicine diplomates, physiotherapists, athletic therapists, massage therapists, chiropractors, psychologists, and nutritionists, at home or while traveling with sport teams
  - 1.2.2. Function effectively with members of the athlete support team including coaches and families

**2. Work with other health professionals effectively to prevent, negotiate, and resolve interprofessional conflict**

- 2.1. Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team
- 2.2. Work with other professionals to prevent conflicts
- 2.3. Respect differences and the scopes of practice of other professions
- 2.4. Reflect on their own differences, misunderstandings, and limitations that may contribute to interprofessional tension
- 2.5. Reflect on interprofessional team function
- 2.6. Employ collaborative negotiation to resolve conflicts and address misunderstandings

**Manager**

***Definition:***

As *Managers*, Sport and Exercise Medicine diplomates are integral participants in health care organizations, organizing sustainable practices, making decisions concerning the allocation of resources, and contributing to the effectiveness of the health care system.

***Key and Enabling Competencies: Sport and Exercise Medicine diplomates are able to...***

**1. Participate in activities that contribute to the effectiveness of their health care organizations and systems**

- 1.1. Describe the role of the Sport and Exercise Medicine diplomate in multidisciplinary Sport and Exercise Medicine / Science councils and other Sport and Exercise Medicine organizations, where accessible
- 1.2. Describe the structure and function of the health care system as it relates to Sport and Exercise Medicine, including the roles of physicians
  - 1.2.1. Describe services relevant to Sport and Exercise Medicine that are part of the public health care system and identify services or treatments that fall outside of the system



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- 1.2.2. Identify services or treatments that may be covered under optional or extended health insurance plans
- 1.3. Describe principles of health care financing, including physician remuneration, budgeting, and organizational funding

**2. Allocate finite health care resources appropriately**

- 2.1. Apply evidence and management processes for cost-appropriate care
  - 2.1.1. Determine when higher cost investigations such as MRI are appropriate and when other technologies should be considered
- 2.2. Manage a practice, including travel, afterhours and on-field and sideline medical coverage

**3. Serve in administration and leadership roles**

- 3.1. Plan relevant elements of health care delivery, such as work schedules for members of medical teams at sports events
- 3.2. Develop emergency action plans for sporting events

**Health Advocate**

***Definition:***

As *Health Advocates*, Sport and Exercise Medicine diplomates use their expertise and influence responsibly to advance the health and well-being of individual patients, communities, and populations.

***Key and Enabling Competencies: Sport and Exercise Medicine diplomates are able to...***

**1. Respond to individual patient health needs and issues as part of patient care**

- 1.1. Identify the health needs of an individual patient
  - 1.1.1. Assist patients and their families to identify appropriate health resources in the community
- 1.2. Identify opportunities for advocacy, health promotion, and disease prevention with individuals to whom they provide care
  - 1.2.1. Advocate on behalf of patients to access or utilize appropriate health care resources

*COMPETENCY TRAINING REQUIREMENTS IN  
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1.2.2. Advocate for the health needs of the patient when the priorities of the team, coaches, or family members are at odds with the best interests of the patient

1.3. Promote healthy, active living

1.3.1. Promote safe participation through use of protective equipment

1.3.2. Make recommendations for safe sport participation

1.3.3. Educate parents, athletes, coaches about the psychological and physical risks of overtraining

1.3.4. Promote healthy nutrition and physical activity

1.3.5. Promote healthy sleep patterns

1.3.6. Advocate for improved safety equipment, better rules of safety, and greater enforcement of these rules, particularly in high-risk sport

**2. Respond to the health needs of the communities that they serve**

2.1. Identify opportunities for advocacy, health promotion, and disease prevention in the communities that they serve, and respond appropriately

**3. Identify the determinants of health for the populations that they serve**

3.1. Identify the determinants of health of the populations, including barriers to access to care and resources

3.1.1. Assist in locating alternative resources that can fulfil health care needs when primary resources are not available in the patient's community

3.2. Identify vulnerable or marginalized populations within those served and respond appropriately

**4. Promote the health of individual patients, communities, and populations**

4.1. Describe an approach to implementing a change in a determinant of health of the populations they serve

4.1.1. Describe strategies to promote active living to improve health and reduce the burden of hypokinetic diseases such as but not limited to diabetes, hypertension and atherosclerosis

4.2. Describe how public policy impacts on the health of the populations served

4.3. Demonstrate an appreciation of the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper

4.3.1. Advocate appropriately for the patient within the health and sport system

*COMPETENCY TRAINING REQUIREMENTS IN  
SPORT AND EXERCISE MEDICINE (NOVEMBER 2017)*

- 4.3.2. Recognize that access to diagnostic or surgical treatments may be limited by other patients with more life and/or limb threatening conditions
  - 4.3.3. Consider all aspects of investigative procedures, including risks and benefits to patient, waiting lists, and costs to health care system
- 4.4. Describe the role of the medical profession in advocating collectively for health and patient safety

## **Scholar**

### ***Definition:***

As *Scholars*, Sport and Exercise Medicine diplomates demonstrate a lifelong commitment to reflective learning, as well as the creation, dissemination, application, and translation of medical knowledge.

***Key and Enabling Competencies Sport and Exercise Medicine diplomates are able to...***

- 1. Contribute to the development, dissemination, and translation of new knowledge and practices**
  - 1.1. Complete or significantly participate in a scholarly project related to Sport and Exercise Medicine
  
- 2. Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others**

## **Professional**

### ***Definition:***

As *Professionals*, Sport and Exercise Medicine diplomates are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behaviour.

- 1. Demonstrate a commitment to their patients, profession, and society through ethical practice**
  - 1.1. Recognize and appropriately respond to ethical issues encountered in practice
  - 1.2. Identify, declare, and manage perceived, potential, and actual conflicts of interest

**2. Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation**

- 2.1. Demonstrate knowledge and understanding of professional, legal, and ethical codes of practice
  - 2.1.1. Demonstrate an understanding of the legal, ethical, and malpractice implications of working as a team physician in other jurisdictions where the physician does not hold a medical licence
- 2.2. Fulfil the regulatory and legal obligations required of current practice
- 2.3. Demonstrate accountability to professional regulatory bodies

**3. Demonstrate a commitment to physician health and sustainable practice**

- 3.1. Balance personal and professional priorities to ensure personal health and a sustainable practice
- 3.2. Strive to heighten personal and professional awareness and insight
- 3.3. Recognize other professionals in need and respond appropriately

## **REQUIRED TRAINING EXPERIENCES**

1. Sport and Exercise Medicine clinical experience must include pediatric and adult patient populations (a minimum of 25% in each group) and must include sufficient clinical experience with other sport medicine professionals, including but not limited to therapists, nutritionists and sport psychologists, to meet the required competencies.

If not already completed during primary specialty training, diploma candidates must have experience in the following clinical areas and/or be under the supervision of the following specialists to meet the required competencies:

- Emergency medicine or other urgent care service (pediatric or adult) for experience with the presentations outlined in section Medical Expert 2.1
  - Physical medicine and rehabilitation
  - Rheumatology
  - Orthopedic surgery
2. AFC trainees entering from surgical specialties must have clinical experience in a general medical setting (e.g., ambulatory clinics – pediatric or adult; family medicine clinics; urgent care) to meet the required competencies
  3. Assist with or observe surgical procedures commonly encountered in an athletic population (e.g., shoulder arthroscopy, knee arthroscopy, ACL reconstruction, ankle arthroscopy)
  4. Participate longitudinally in medical imaging rounds throughout the duration of training for the purpose of reviewing cases seen in the clinical setting
  5. Complete and document a minimum of fifty hours of sideline medical coverage of sports events and / or work with sports teams over the course of 1-2 years
  6. Complete Basic Life Support (BLS) training
  7. Complete a team physician course (e.g., by Canadian Academy of Sport and Exercise Medicine, American College of Sports Medicine, Federation Internationale de Medecine du sport)
  8. Complete the e-learning module from the Canadian Centre for Ethics in Sport (CCES)
    - <https://www.wada-ama.org/en/resources/education-and-awareness/sport-physicians-tool-kit-online-version>

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9. Complete or significantly participate in a scholarly project in an area relevant to any aspect of Sport and Exercise Medicine
10. Successfully complete the Diploma examination of the Canadian Academy of Sport and Exercise Medicine (requires membership in the Canadian Academy of Sport and Exercise Medicine)

## **RECOMMENDED TRAINING EXPERIENCES**

1. Team physician experience
  - 1.1. Act as team physician for at least one team for one competitive season (at any level of play); may include pre-participation evaluations, on-site medical coverage, care in a sport medicine clinic setting, travel with the team
  - 1.2. Successfully complete a course in Advanced Cardiac Life Support or Pediatric Advanced Life Support
  - 1.3. Successfully complete a course in Advanced Trauma Life Support (or comparable course directed toward Sport and Exercise Medicine)
  - 1.4. Provide medical care at multi-sport games – dependent upon availability during training
2. Casting and taping
  - 2.1. Attend taping sessions with an athletic therapist to learn commonly used taping techniques
  - 2.2. Attend the cast room for experience in the application of simple casts
3. Additional educational experiences
  - 3.1. Participate in OSCE-style practice sessions and observed history and physical examinations in Sport and Exercise Medicine
  - 3.2. Attend a national Sport and Exercise Medicine conference
4. Perform presentations in the community regarding injury prevention or health promotion through physical activity

*This document is to be reviewed by the Specialty Committee in Sport and Exercise Medicine by October 2019.*

**APPROVED** – Specialty Standards Review Committee – October 2017