Course Name: Treating the Athlete

Student Leaders: Lindsay Walsh and Collin Leibold

Course Faculty Advisor: Lee Mancini, MD
Department: UMass Family Medicine and Community Health

Course Description: Athletes constitute a unique patient population that often requires coordinated care across a multitude of specialties. This course will consist of six lectures on various aspects of caring for athletes—including medical care at mass participation events, caring for the female athlete, physical therapy for the athlete, etc. To highlight the interprofessional aspect of treating athletes, the elective will also include a required session with a sports medicine provider; this requirement can be met by shadowing or by participating in the provider’s work (e.g. by assisting with team physicals). Students will submit a written case presentation following this experience. Students are also encouraged to share case presentations at the beginning of each session.

Goal: The purpose of this OEE is to expose medical and graduate nursing students to the types of care that athletes require so that they may gain the knowledge and tools necessary to treat athletes in the future. These skills are applicable to providers in all specialties.

OEE objectives: After this OEE, students will be able to:

1. Describe multi-faceted approaches to treating athletes across a wide spectrum of sports
2. Recognize injuries and abnormalities common to certain sports, as well as the treatment regimens that are used to address these issues
3. Discuss the diagnosis, treatment, rehabilitation and prevention of sports injuries and sports-related syndromes.
4. Perform basic musculoskeletal physical exam maneuvers.
5. Recognize the athlete’s “circle of care” – all individuals involved in care of the athlete, which may include coaches, parents, athletic trainers, nutritionists, family physicians, etc.

All sessions will be designed as interactive lectures led by faculty. Sessions will likely run from 6-7:30 PM and be held on Wednesday or Thursday evenings.

Session 1: Course Introduction and Optimizing Care for the Female Athlete

Instructional objectives:
1. Welcome briefly and present an overview of the OEE (session topics, expectations, etc.)

2. Case presentation by student leader.

3. Define and outline the medical conditions associated with Relative Energy Deficiency in Sport (RED-S) and the clinical assessment tools used for diagnosis
   a. RED-S refers to impaired physiological functioning caused by relative energy deficiency and includes but is not limited to impairments of menstruation, metabolism, bone health and cardiovascular health

4. Discuss prevention and educational approaches to addressing RED-S in athletes, including those at the high school, collegiate and professional levels

5. Talk through the steps a provider should take if they suspect that a patient is suffering from RED-S (ideally, present a case to work through at this point).

_Potential faculty presenters: Dr. Sarah Jackson_ (Sports Medicine Physician, Boston Children’s Hospital), UMass sports medicine fellows.

**Session 2: Sudden Cardiac Death in Athletes and Current Screening Methods**

_Instructional objectives:_

1. Explain current cardiac screening methods in place for NCAA athletes, as outlined by University of Washington Center for Sports Cardiology.

2. Discuss the pros and cons of screening athletes for cardiac abnormalities
   a. Detecting cardiac abnormalities relevant to sports participation
   b. Preventing adverse events in previously undiagnosed athletes
   c. Rate of false-positive results – how high?

3. Assess how efficacious EKGs in young athletes are as a public health screening measure in the U.S.
   a. Sensitivity and specificity of this test
   b. Cost/benefit analysis

4. Case presentation: putting the students in the physician’s shoes. Simulate case where a physician orders a routine EKG for sports clearance - EKG comes back abnormal. What should physician do? Physician presenter will work through case with students.
Potential faculty presenters: Dr. Peter Gibson (Cardiology, UMass), Dr. Michael Fahey (Pediatric Cardiology, UMass), or Dr. Jill Tirabassi (UMass Department of Family Medicine and Community Health).

**Session 3: Sport Concussions and Return to Play Protocol**

Instructional objectives:

1. Discuss prevalence of concussions in high school and collegiate sports
2. Review the process for how concussions are evaluated and diagnosed, both on the field (sideline evaluation) and in the clinic
   a. Symptoms
   b. Physical exam findings
3. Describe follow-up and management of post-concussion symptoms
4. Discuss communication between provider and coaching staff when managing a patient that has suffered a concussion
5. Outline the assessment that takes place before a patient can return to sport
   a. Clearance, reduced play, re-evaluation, etc.

Potential faculty presenters: Dr. J. Herbert Stevenson (UMass Family Medicine and Community Health), or UMass Family Medicine and Community Health Fellows in Sports Medicine.

**Session 4: Nutrition Management in Athletes**

Instructional objectives:

1. Discuss importance of tailored nutrition for athletes
2. Present nutritional recommendations for sport team athletes – how do they differ from a non-athlete?
3. Describe handling of nutritional issues/deficiencies in athletes
   a. Discuss common symptoms or syndromes that are seen
   b. Briefly outline how these symptoms/syndromes are addressed in the office
4. Explain how providers can approach these issues with patients when they come in for primary care or orthopedic appointments, etc.

Session 5: Providing Medical Care at Mass Participation Events

Instructional objectives:

1. Discuss mass participation sporting events from a medical perspective
   a. Boston Marathon and other big events
2. Highlight injuries to anticipate as a provider
3. Describe how to organize and equip both medical facilities and medical team members
4. Specify management of the collapsed athlete
5. Explain what to do when things go wrong - casualties

Faculty presenter: Dr. James Broadhurst (UMass Family Medicine and Community Health).

Session 6: Physical Therapy for Athletes

Instructional objectives:

1. Describe how physical therapists obtain a history, perform a physical exam, diagnose a condition, and outline a treatment plan.
2. Discuss conditions for which physical therapists are key members of the care team.
3. Provide case presentations from a physical therapist's perspective.

Presenter: James Casady, MPT (Platinum PT)

Brief description of how the OEE builds upon what is currently being taught in the curriculum.

The overall goal of this OEE is to teach students how sports medicine is interconnected with a variety of other specialties, including but not limited to primary care, family medicine, orthopedics, emergency medicine, endocrinology and women’s health. Beyond the musculoskeletal injuries discussed during the FOM1 Development, Structure and Function course, there is little integration of course material regarding the treatment of athletes into the FOM1 and FOM2 medical school curriculum. Having a foundational knowledge on the types of injuries and disorders that athletes encounter will prove useful for many students, since they will likely encounter athletes as patients in their clinical years and beyond as about 1 in 5 healthcare
visits is due to a musculoskeletal complaint (Cummins DL, Smith M, Merrigan B, Leggit, J. 2019). Additionally, this OEE could prove useful in helping interested students prepare for the fourth year Sports Medicine elective that is offered through the Department of Family Medicine and Community Health.

**Maximum number of students for enrollment:** 30 students

**Proposed start and end dates:** six 1.5-hour sessions will begin in September and conclude around winter recess (December or early January). The goal will be to hold one session every other week; however, scheduling will be flexible to ensure that sports medicine physician speakers and fellows can attend. Additionally, care will be taken to schedule sessions around MS1 and MS2 exam schedules. Sessions will likely run from 6-7:30 PM and be held on Wednesday or Thursday evenings.

**Method of evaluation:** students will be asked to sign in at the beginning of each session. Students must attend 5 of the 6 sessions offered to receive credit. Students must also shadow a sports medicine physician or other member of the sports care team (e.g. athletic trainer, physical therapist, etc.) and submit a written case presentation from the experience.

References: