Body System: Musculoskeletal		
Session Topic: Sideline Management Assessment Response Techniques		
Educational Format		**Faculty Expertise Required**
Clinical Procedural Workshop (CPW)		Expertise in the field of study. Experience teaching in the field of study is desired. Preferred experience teaching hands-on procedural workshops. The majority of the education must emphasize hands-on learning, with feedback from faculty.
OPTIONAL	Problem-Based Learning (PBL)	Expertise teaching highly interactive, small group learning environments. Case-based, with experience developing and teaching case scenarios for simulation labs preferred. Other workshop-oriented designs may be accommodated. A typical PBL room is set for 50-100 participants, with 7-8 each per round table. Please describe your interest and plan for teaching a PBL on your proposal form.

Professional Practice Gap	**Learning Objective(s) that will close the gap and meet the need**	**Outcome Being Measured**
• Family physicians who serve as designated team physicians should be aware of the different assessment techniques that are necessary to evaluate athletes who have sustained injuries during practice or competition. They should also be prepared to monitor patients for long-term complications after sustaining serious injuries. • Family physicians should be aware of the trends in injuries commonly sustained by male and female athletes in different sports. Accordingly, they should be prepared to offer appropriate return-to-play guidelines for patients who have suffered a variety of injuries. • Because head injuries, in particular, are commonly under-reported by athletes (particularly among	1. Compare assessment techniques used to examine athletes with injuries that are common to specific sports. 2. Evaluate athletes for potential sprains, strains, dislocations, fractures, ligament tears or head and neck injuries and provide stabilization as appropriate. 3. Practice the use of a Rapid Diagnosis Guide to evaluate the nature and extent of an injury and perform sideline functional assessment drills to determine athletes' readiness to return to play.	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.

football players), family physicians should be prepared to evaluate players for concussions at the time of injury (if appropriate) and provide ongoing monitoring and follow-up.		

ACGME Core Competencies Addressed (select all that apply)			
X	Medical Knowledge		Patient Care
	Interpersonal and Communication Skills		Practice-Based Learning and Improvement
	Professionalism		Systems-Based Practice

Faculty Instructional Goals

Faculty play a vital role in assisting the AAFP to achieve its mission by providing high-quality, innovative education for physicians, residents and medical students that will encompass the art, science, evidence and socio-economics of family medicine and to support the pursuit of lifelong learning. By achieving the instructional goals provided, faculty will facilitate the application of new knowledge and skills gained by learners to practice, so that they may optimize care provided to their patients.

- Provide up to 3 evidence-based recommended practice changes that can be immediately implemented, at the conclusion of the session; including SORT taxonomy & reference citations
- Facilitate learner engagement during the session
- Address related practice barriers to foster optimal patient management
- Provide recommended journal resources and tools, during the session, from the American Family Physician (AFP), Family Practice Management (FPM), and Familydoctor.org patient resources; those listed in the References section below are a good place to start
    - Visit http://www.aafp.org/journals for additional resources
    - Visit http://familydoctor.org for patient education and resources
- Provide learners the opportunity to practice, and receive feedback, regarding the comparison of assessment techniques used to examine athletes with injuries that are common to specific sports.
- Provide learners the opportunity to practice, and receive feedback, regarding the evaluation of athletes for potential sprains, strains, dislocations, fractures, ligament tears or head and neck injuries and provide stabilization as appropriate.
- Practice the use of a Rapid Diagnosis Guide to evaluate the nature and extent of an injury and perform sideline functional assessment drills to determine athletes' readiness to return to play.

Needs Assessment

Musculoskeletal diseases, which include back pain, arthritis, bodily injuries and osteoporosis, are reported by people in the U.S. more than any other health condition. It is estimated that nearly 108 million adults (or one in two people over the age of 18) report suffering from a musculoskeletal condition lasting three months or longer. In addition, nearly 15 million adults

report they are unable to perform at least one common activity, such as self-care, walking or rising from a chair, on a regular basis due to their musculoskeletal condition.[1] According to the recent publishing of *The State of US Health, 1990-2010 Burden of Diseases, Injuring, and Risk Factors*; musculoskeletal disorders are among the largest contributors to patients living years with disability (YLD), and has increased 30% from 1990 to 2010.[2]

Consider the following statistics from the CDC:

- The *2009 Health of the U.S.* publication reported that arthritis and other musculoskeletal conditions were the leading causes of activity limitation among working-age adults 18–64 years of age in 2006–2007.[3]
- The 2009 *National Health Interview Survey* reported 5.9 million injuries occurred playing sports (3.8 million, or 26%, among men and 1.7 million, or 12%, among women – particularly teenagers).[4]
- The most recent *National Ambulatory Medical Care Survey* reported that family physicians provide patient education on "injury prevention" in over 4.4 million office visits.[5]

The AAFP Recommended Curriculum Guidelines for Family Medicine Residents indicates that family medicine residents should possess the following competencies related to musculoskeletal and sports medicine: [6]

- Perform an appropriate musculoskeletal history and physical examination, and formulate an appropriate diagnosis and recommend treatment, including requisite subspecialty referrals (Patient Care, Medical Knowledge, Systems-Based Practice)
- Perform an evidence-based, age-appropriate and activity-specific preparticipation physical evaluation, and provide guidance for an appropriate exercise prescription (Patient Care, Medical Knowledge, Interpersonal and Communication Skills, Professionalism)
- Communicate effectively with a wide range of individuals regarding musculoskeletal health care, including patients, their families, coaches, school administrators and employers (Interpersonal and Communication Skills)

Data from the American Academy of Family Physicians (AAFP) 2012 CME Needs Assessment Survey indicates that family physicians have statistically significant gaps in knowledge and skill to provide optimal management of concussion/minimal brain injury, especially in the selection of appropriate imaging modalities.[7] More specifically, CME outcomes data from the 2012 AAFP Scientific Assembly: *Concussion and Minimal Brain Injury* and 2014 AAFP Assembly: *Concussions and Neurocognitive Assessment: The Headaches and Confusions* validate the need for family physicians to have further education to diagnose and manage concussion injuries. CME outcomes data from 2014 Assembly and 2015 FMX: *Sideline Management Assessment Response Techniques (SMART)* sessions, suggest that physicians have knowledge gaps regarding having appropriate equipment for emergency reduction if circulation is compromised; providing sufficient and effective training to coaches/sponsors, and medical staff; appropriate hand positioning when removing a helmet; and understanding sensitivity and specificity of relevant exams.[8,9]

A review of the literature further validates the need to provide an update and review of current evidence-based recommendations and guidelines for concussion diagnosis and management, as these recommendations are inconsistently translated into practice.[10] Physicians providing sideline care should not rely on self-reported symptoms, and should understand how to use neurocognitive assessment, understand their limitations and recognize when further testing or imaging is necessary.[11-13] While coaches and certified athletic trainers typically use physicians to make return-to-play decisions, there is an expressed need for targeted interventions, such as concussion education, improved parent/athlete education, increased "return to think" awareness, and more consistent use of sports concussion assessment tools.[14] Adherence to return-to-play guidelines by adolescent athletes is also suboptimal.[15] Additionally, some studies suggest that family medicine, pediatric, and emergency medicine providers receive inadequate training during residency to systematically diagnose and manage athletes with concussion.[16-18]

Team physicians are frequently asked to determine when an injured or ill athlete can return to practice or competition. Considerable guidance can be gleaned from the American College of Sports Medicine (ACSM), with whom the AAFP collaborated to develop return-to-play guidelines.[19] Such an evaluation includes many of the similar elements that are involved in Pre-Participation Exams (PPEs), including: a thorough medical history and physical exam, appropriate laboratory tests or screenings and a psychosocial assessment. Injured patients, however, require condition-specific screenings and exams (often involving certain imaging modalities), and the physician is typically required to provide detailed documentation of their status to the patient's family, coaches, athletic trainer(s) and other health care providers.[19] Because they serve as the optimal coordinator of patient care, family physicians are especially well-suited to communicate with a number of people involved in the patient's treatment. Family physicians need to be aware of the latest return-to-play guidelines and recommendations.

Sideline Management Assessment Response Techniques (SMART) is used to evaluate athletes who have sustained injuries during practice or competition to determine the extent of their injuries and/or their readiness to return to play. Family physicians, particularly those who serve as a designated team physician, should be prepared to address sprains, strains, dislocations and potential fractures or ligament tears, as well as traumatic injuries involving the C-spine or head (i.e. concussions). Head injuries, in particular, are a growing topic of concern in the athletic and medical fields due to potential long-term complications and recently published guidelines on the management of sport-related concussions in children and adolescents. Physicians should consider the following evidence-based recommendations for practice:[20,21]

- Evaluation of a possible concussion should include a physical examination in addition to use of available concussion assessment tools.
- Imaging studies are sometimes used to rule out serious injuries, but are not indicated in the evaluation of uncomplicated concussion.
- Complete cognitive and physical rest, are key components in the initial management of concussion.
- After concussion symptoms resolve, postural stability testing should be performed to ensure complete recovery.
- Concussion should be managed based on the individual patient, with a graded return-to-play protocol.

- After sustaining a concussion, athletes should not return to play until they have completely recovered.
- Medical treatment of concussion focuses on symptom management, including the same medications appropriate in patients without a concussion.
- Athletes should not return to play on the same day of sustaining a concussion.
- A more conservative approach, including a longer asymptomatic period before return to play, should be considered for the management of concussion in children.
- Protective gear has not been shown to reduce the incidence of concussion, but should be used to prevent other injuries.
- Because sport-related head and neck injuries share the same mechanism and often occur simultaneously, evaluation of athletes with head injuries should begin with an assessment of the neck.
- Football players with an abnormal neck examination after injury are presumed to have an unstable cervical spine and should be immobilized on a backboard with pads and helmet both on or both off.
- To assess concussion, the sideline physician should ask orientation questions that evaluate recently acquired memory.
- The Balance Error Scoring System should be used as part of the sideline evaluation to help detect concussion in athletes.
- Brief loss of consciousness does not correlate with severity or outcome of a sports-related concussion.
- Certain neuropsychological test batteries have been shown to reliably detect concussion in athletes. Although not particularly helpful to the sideline physician, these tests are used by professional and collegiate physicians, researchers, and those counseling players after severe or multiple concussions.
- Athletes should not return to play until all symptoms of concussion have cleared.

These recommendations are provided only as assistance for physicians making clinical decisions regarding the care of their patients. As such, they cannot substitute for the individual judgment brought to each clinical situation by the patient's family physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations. These recommendations are only one element in the complex process of improving the health of America. To be effective, the recommendations must be implemented. As such, physicians require continuing medical education to assist them with making decisions about specific clinical considerations.

References

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