Manual Therapies for Chronic Ankle Instability: An Update on the Evidence

Several evidence-based manual therapy treatments have emerged to supplement the rehabilitation strategy for people with chronic ankle instability (CAI) such as joint mobilization and massage. These treatments can restore mechanical ankle function, improve sensorimotor function, and enhance patient-reported function in CAI patients. This session will help fill a gap between the evidence and clinical practice by reviewing the rationale for using manual therapies with CAI patients, introduce the fundamental components to clinically perform manual therapy treatments, and present evidence from mechanical, sensorimotor, and patient-centered perspectives. The overall goal is to improve clinical competency to implement manual therapies and enhance CAI patient outcomes.

Upon completion of this presentation, the participants will be able to:

1. Explain the rationale for using manual therapy techniques in patients with chronic ankle instability.
2. Apply and interpret clinical outcome measures associated with manual therapies in patients with chronic ankle instability.
3. Integrate the evidence related to joint mobilization, massage and other manual therapies for patients with chronic ankle instability into clinical decision making.
4. Distinguish how manual therapy interventions contribute to the current rehabilitation paradigm for chronic ankle instability.

Identifying and Managing Extrinsic Injury Risk Factors of Shoulder and Elbow Injury in Baseball Pitchers

With baseball pitching, a large number of injuries and lost time is attributed to upper extremity injuries such as impingement, rotator cuff injury, shoulder instability, labral tears, and elbow ulnar collateral ligament (UCL) injury. During pitching, repetitive throwing and large amounts of torque on the shoulder cause microtrauma. There has been tremendous focus on evaluating and addressing intrinsic risk factors of shoulder and elbow injury such as range of motion, muscle imbalances, and scapular kinematics; however, extrinsic risk factors are often not addressed by ATs. Extrinsic risk factors such as cumulative throwing load, rest and recovery, pitching mechanics, modality use, nutrition, and sleep may play a larger role on development of injury risk than the intrinsic risk factors that ATs have been focusing on. Therefore, the purpose of this course is to evaluate the influence of extrinsic risk factors on shoulder and elbow injury risk and evaluate current evidence on effectively managing these risks.

Upon completion of this presentation, the participants will be able to:

1. Identify extrinsic risk factors that increase the risk of shoulder and elbow injury in baseball pitchers
2. Evaluate current practices on extrinsic risk factor monitoring
3. Develop extrinsic risk factor monitoring and intervention appropriate for the ATs setting
Myofascial Tissue: What We Now Know and How that Influences Interventional Decisions

Many clinicians lack an understanding of the integral function fascia tissue plays in overall health and in the ability of the body to adapt to mechanical stress. The prevailing thought was that fascia tissue was an inert, “inconsequential residues that are less important than the tissues with which they are associated”. \(^1\) Recent evidence suggests that fascia is a viable, foundational structure, having a key role in the transmission of tension throughout the body. Through the processes of biotensegrity and mechanotransduction\(^2\), fascia is a contributor to proprioception\(^3,4\) and a key player in the body’s ability to self-organize.\(^5\) With better understanding of these principles, clinicians can improve their clinical decision-making in selecting manual and/or modality interventions when treating soft tissue dysfunctions/injuries, leading to improved patient outcomes.

Upon completion of this presentation, the participants will be able to:

1. Describe the anatomy, innervations, and role fascial tissue plays in the function and health of the MSK system and how it provides proprioception.
2. Describe the role and efficacy of appropriate therapeutic interventional treatments for identified fascial dysfunctions.

Making the Grade in Returning Student-Athletes to the Classroom

Appropriate management of a patient following concussion includes a brief period of rest, followed by a gradual return-to-activity progression that leads to full participation in school and sports (Halstead, 2013; Valovich McLeod 2017). Successful integration of the healthcare and school environments is important in managing concussions. However, recent literature has reported a disconnect between the beliefs and practices of many members of the concussion management team (Williams, 2015; Weber 2015; Kasamatsu, 2016). While the return to sport component is addressed well in athletic training education, less attention is given to addressing return to school, which leads to a lack of knowledge among athletic trainers in this area (Williams, 2015). This presentation will discuss the current evidence regarding rest and activity and the return-to-activity progressions. Special emphasis will be placed on the need for interprofessional collaboration when integrating a return to academics as part of the concussion management plan for the secondary school setting.

Upon completion of this presentation, the participants will be able to:

1. Debate the merits of rest and activity following concussion.
2. Discuss the current recommendations regarding return to school and sports.
3. Assess the roles and responsibilities of healthcare providers and school personnel in an integrated concussion management plan.

Think Big: Emergency Action Planning on the Olympic Scale

The Olympics represent excellence in sport performance and an expectation of excellence in the medical care provided to its participants. The sports medicine care provided during these events necessitates evidence-based surveillance\(^1-3\), emergency action plans\(^4\), and effective communication amongst its participating health care providers\(^5\). Clinicians may have limited experience in planning large-scale
events (e.g. tournaments, marathons, championships) which may or may not incorporate participants who represent varying cultural backgrounds. Events with limited emergency action plans may lead to ill-prepared medical teams in the event of rare, but unfortunate catastrophic injuries.6-9 The current evidence-based session consists of international leaders in sports medicine who have vast clinical and research experience in the development and execution of emergency actions plans based on the available evidence provided by injury and illness surveillance.

Upon completion of this presentation, the participants will be able to:

1. Use the components of an emergency action plan (EAP) to design and implement an EAP for a large-scale sporting event.
2. Discuss how the most current epidemiological evidence can be used to design and implement an emergency action plan for a large-scale sporting event;
3. Implement clinician training specific to cultural competence and the prevalence of specific injuries and illnesses to care for international athletes from diverse cultures who participate in a large-scale events.

Managing Post-Exercise Inflammation: From Ibuprofen to Cherries
Chronic inflammation in athletes, as a result of training or injury, is often treated with NSAIDS. Although generally recognized as safe, long term use may have deleterious consequences including gastrointestinal and renal complications. Alternatives to the management of chronic inflammation—including incorporating anti-inflammatory compounds in the diet such as those found in tart cherries (in addition to many other foods) – are needed. Dietary strategies are numerous; however, athletic trainers often don’t have the nutrition training to make the best recommendations for their athletes. The evidence for efficacy of various dietary compounds to help manage inflammation will be provided to fill this gap.

Upon completion of this presentation, the participants will be able to:

1. Explain the physiological difference between chronic and acute inflammation as it relates to exercise, and how anti-inflammatory compounds combat inflammation;
2. Translate data and evidence-based research into informed recommendations on how to incorporate anti-inflammatory nutrients into athletes’ diets; and
3. List at least five dietary sources of anti-inflammatory foods and their bioactive compounds.

An Evidence Based Approach to the Shoulder Exam
There are over 100 different physical examination tests described to evaluate the shoulder. Confusion exists with regard to not only the proper technique but the validity of commonly used tests1. In today’s fast paced environment evidence based accuracy and efficiency when examining athletes is very important. This presentation will review the proper technique and statistical validation, and relevance of the best tests based on current literature.2,3,4, 5 The discussion will include a demonstration of an efficient sequence and algorithm incorporating all necessary tests to complete a thorough and comprehensive examination of the shoulder.

Upon completion of this presentation, the participants will be able to:
1. Describe the history and proper indications for the most commonly used shoulder exam tests.
2. Explain basic statistical terms (i.e., sensitivity, specificity, diagnostic accuracy) to describe the validity of physical exam tests.
3. Describe the proper technique for performing shoulder exam tests.