

Workshop 1: Foot and Ankle Pathomechanics, Injuries, and Rehabilitation Techniques - Specialty Concerns for Performing Artists

Foot and ankle injuries are common in physical activity. Performing Arts Medicine is an emerging athletic training practice setting. Due to the unique physical demands of performing artists (dancers, cheerleaders, dance teams, musicians) special concerns exist when working with them. The purpose of this symposium is to expose attendees including athletic training students, educators, practitioners, and researchers to ankle and foot concerns specific to the performing artist. Upon completion, attendees will understand and be able to apply principles of prevention, evaluation and assessment, immediate care, and rehabilitation to foot and ankle injuries commonly sustained by performing artists.

After attending this workshop, attendees will be able to:

- 1) apply principles of evaluation and assessment of foot and ankle injuries
- 2) apply principles for care of common foot and ankle injuries and
- 3) apply principles of rehabilitation of foot and ankle injuries commonly sustained by performing artists.

Workshop 2: Practical Applications of Whole Body Vibration in Athletic Training Practice

Whole-body vibration (WBV) is a novel modality that has gained recent popularity in performance enhancement programs and rehabilitation clinics. WBV elicits strong reflexive muscular contractions while individuals stand on a vibrating platform. Research evidence shows that WBV increases muscular strength, enhances balance and proprioception, increases blood flow, and enhances flexibility. While WBV seems to have potential, there are still concerns about its safety and efficacy. The goals of this workshop will be to 1) inform attendees of the background, advantages, and limitations of WBV and, 2) provide practical applications of WBV in performance enhancement and rehabilitation.

After attending this workshop, attendees will:

- 1) have learned the scientific basis for whole body vibration and its proposed benefits
- 2) have learned the limitations and concerns of utilizing whole body vibration and
- 3) be able to utilize whole body vibration in their practice setting, specifically for patient rehabilitation.

Workshop 3: Heating Up Patient Outcomes with Shortwave Diathermy

Deep thermotherapy is designed to increase tissue temperature at a distance of 3-5 cm below the skin. Ultrasound and diathermy are two types of deep heating agents using conversion and radiation. Diathermy radiation has different characteristics than infrared radiation, and therefore evokes different physiological effects. Shortwave (pulsed/continuous) have many advantages over ultrasound (e.g., larger treatment areas, longer stretching window, unattended care), yet many clinicians are not familiar with its benefits and/or how the device is applied. The purpose of this workshop will be to expose participants to shortwave diathermy including its indications, contraindications, set-up procedures, and current evidence based literature.

After attending this workshop, attendees will be able to:

- 1) identify the advantages and disadvantages of shortwave diathermy
- 2) explain the physiological effects of shortwave diathermy
- 3) identify the indications, contraindications, and precautions for the application of diathermy
- 4) describe the basic application procedures for shortwave diathermy and
- 5) discuss the current evidence based literature and identify potential uses of diathermy in athletic training and other allied medical fields.

Workshop 4: Laser Therapy for Athletic Trainers

LASER (light amplification of stimulated emissions of radiation) uses organized beams of light to stimulate or suppress cell function through a process known as photobiomodulation. The workshop will discuss the concept of laser as a therapeutic modality. This will include describing the components of a LASER and how it is used in clinical settings. The workshop will conclude with a detailed presentation of the LASER's biological effects on tissues and the scientific evidence regarding its effectiveness in various clinical areas such as pain management, inflammation modulation and tissue repair and regeneration.

After attending this workshop, attendees will have learned:

- 1) key concepts on how to use a therapeutic laser
- 2) how laser interacts with biologic tissue and
- 3) what the scientific evidence says regarding laser's effectiveness in treating musculoskeletal injuries.

Workshop 5: A Cause and Effect Approach in an NFL Football Training Camp as it Pertains to Core Temperature, Hydration, and Electrolyte Balance

This workshop will focus on the results of the 30 plus papers that have been produced in an NFL American Professional Football training camp. The results will be presented in a cause and effect style. Areas that have been studied include core temperature responses, sweat studies, blood electrolytes and plasma volumes, and muscle cramping. The workshop will utilize data from studies as well as case studies to show cause of problems and the resulting changes that clinicians can make to their programs. This workshop is directed towards those clinicians that are concerned about heat related illnesses, dehydration and performance.

After attending this workshop attendees will have learned the specifics of sweat rates by position and by ethnicity as well as core temperatures of different positions and different practices as well as the effects of heat and activity on blood plasma and electrolytes. The attendees will be able to take study data and implement changes to practices, equipment, and fluid replacement. The attendees will also know the changes that have occurred over the last 10 years in an NFL team based on scientific data.

Workshop 6: "Un-clog" the Lymphatic Drainage System - Re-thinking Acute and Chronic Inflammation Treatment Strategies

Traditional methods and philosophies on treating acute and chronic sports-related pathologies have included the use of cryotherapy,

thermotherapy, electrical stimulating currents, intermittent compression therapy, exercise, and pharmaceuticals. In addressing the healthcare needs across the lifespan, understanding the pathophysiology of lymphadema and techniques utilized to “un-lock” the lymphatic system can dramatically improve treatment outcomes in reducing acute and chronic inflammation. This presentation will address lymphatic system physiology; current indications and clinical evidence outcomes using common modalities for lymphadema; present clinical evidence/techniques for manual lymphatic therapies and newer modalities such as HIVAMAT (Histological Variable Manual Technique) Deep Oscillation Therapy.

After attending this workshop, attendees:

1. will be able to identify traditional strategies and therapeutic modalities utilized for treating acute and chronic sports- and non-sports related inflammatory pathologies
2. will understand the lymphatic system physiology and pathophysiology associated with lymphadema
3. will understand the theory and clinical evidence/techniques for manual lymphatic therapies utilized in treating lymphadema and
4. will learn about newer therapeutic modalities/treatment options to improve clinical outcomes in treating acute and chronic inflammatory response with an emphasis on addressing lymphatic system function.

Workshop 7: How Do We Compete in an Ever-Changing World “That Expects More with Less?”

As a profession the gloves are off, the professions around us are here to compete. Do we need some new skill sets? Or is what we have is good enough or is it just the baseline, I would contend it is just the base. Other professions (Personal Trainer’s, Chiropractors, etc.) have courses in either undergraduate or CEU credit on business skills, marketing, advertising, teaching them how to sell themselves, promote their skill sets and making money or receive promotions. The skills and knowledge we have appear to be our secret. The public is confused; let me help you through the maze.

After attending this workshop, attendees:

- 1) how to define and establish out market share
- 2) what skills do we have and what do we need and
- 3) how can I be better tomorrow

Workshop 8: Going Green: Incorporating Principles of Sustainability within Athletic Training

Sustainability is a philosophy that helps create a vibrant economy and preserves a high quality of life, while respecting the need to sustain natural resources and protect the environment so future generations may live in a world that the present generation has enjoyed but not diminished. Athletic trainers should consider a paradigm shift away from consuming goods to conserving our resources. First we will define sustainability and “going green” within health

care. Second we will demonstrate how the principles of Reduce, Reuse, and Recycle can be applied to athletic training clinical practice and education by highlighting examples from a myriad of AT settings across the US.

After attending this workshop, attendees will be able to:

- 1) define sustainability and demonstrate an understanding of its history and origins
- 2) discuss how sustainability can be integrated into athletic training clinical practice and
- 3) discuss how sustainability can be incorporated into in athletic training education.

Workshop 9: The Intricacies of the Elusive Lisfranc Sprain

This in-depth workshop will discuss many of the difficulties inherent in assessing, treating and rehabilitating Lisfranc sprains. The most recent research will be presented to better prepare clinicians to deal successfully with this elusive injury. A large part of the workshop will focus on the return to full activity which hinges on up-to-date information, appropriate early diagnosis and specific treatment and rehabilitation protocols. Unique with this injury, the slow recovery and potential for complications can frustrate the athlete and clinician, therefore, many clinical pearls interspersed throughout will assist the attendees with very applicable techniques to use immediately upon their return to clinical practice.

After attending this workshop, attendees will have:

- 1) a better understanding of the clinical presentation
- 2) learned specific assessment techniques for the diagnosis and
- 3) learned specific treatment and rehabilitative techniques in order to get the athlete back to full activity.

Workshop 10: Current Trends in Assessment of Fitness and Performance

In recent years, the body of knowledge supporting the use of equipment intensive as well as low-cost field-based testing methods has increased resulting in several choices for the practitioner. Familiarity by the Athletic Trainer with common performance testing methods allows for greater continuity and coordination across the coaching and strength and conditioning staff and may result in improved evaluation of fitness and performance.

After attending this workshop, attendees will:

- 1) become familiar with methodological considerations for performance related testing
- 2) identify low-cost testing options and
- 3) make scientifically informed decision relative to which test is most appropriate for his/her environment.

Workshop 11: The Injured Worker, Why Do an FCE

This session will provide a glimpse into how to perform the Functional Capacity Evaluation and how the results of this examination may lead to continued rehabilitation through a Work Conditioning Program. Due to the nature of the economy, employers are looking for ways to save money - that means the injured worker needs to return to work in a timely fashion. These workers need to undergo a thorough examination and possible progression into work

conditioning program. Due to the background of the ATC and their observational skills & the ability to be creative with the rehabilitative process, the ATC is perfectly suited to perform work simulated activities of the FCE.

After attending this workshop, attendees will:

- 1) understand the importance of performing a Functional Capacity Evaluation
- 2) understand how the Athletic Trainer is suited for this task and
- 3) learn how the FCE results can progress to a Work Conditioning Rehabilitation Program.

Workshop 12: Being an ACI (Amazing Clinical Instructor)

Many certified athletic trainers, in addition to meeting clinical responsibilities, are meeting the needs of CAATE accredited ATEPs by serving as approved clinical instructors (ACIs). Certified athletic trainers take on the responsibility of supervising, teaching, and evaluating ATEP students after only one introductory workshop. The purpose of this workshop is to provide clinical athletic trainers with information on and ideas for becoming an exceptional ACI. Discussion will focus on effective communication techniques, creative ways of turning down time into learning time, learning from your students, modeling the attributes of a lifelong learner, and strategies for effectively partnering with program faculty. Videos and scenarios will be used to encourage discussion and examples will address variations in student to ACI ratios, experience and knowledge levels of students, student learning styles, and balancing employment demands and responsibilities.

After attending this workshop, attendees will:

- 1) identify qualities of exceptional ACIs
- 2) implement creating teaching and learning techniques into their work with ATEP students and
- 3) partner with program faculty to enhance the learning experience for students and ACIs.

Workshop 13: Collaborative Goal-Setting to Enhance Rehabilitation Adherence and Outcomes

Goal-setting is an integral part of the rehabilitation process. Collaborative goal-setting between the athletic trainer and patient can enhance rehabilitation adherence and overall outcomes (Fisher et al., 1993). Using brief instruction, video clips and audience involvement, this workshop will provide a framework for collaborative goal-setting throughout the phases of rehabilitation. Within this framework, this workshop will address task-oriented: 1) physical goals, 2) psychological goals, 3) performance / sport specific goals, and 4) life-skill goals.

After attending this workshop, attendees will:

- 1) explain the collaborative goal setting process
- 2) identify and differentiate between physical goals, psychological goals, performance/ sport specific goals, and life-skills goals and
- 3) guide their patients in setting task-oriented goals.

Workshop 14: Yoga Therapy

Certified athletic trainers now practice in a variety of settings with a wide range of patients, injuries and illnesses. Many of the clients we treat and interact with suffer from chronic conditions. The purpose of this session is to present the history of yoga therapy, current medical and psychological research on yoga as a therapeutic tool, and the practical application of yoga therapy for the treatment of chronic illness and injury. Additionally, we will discuss the benefits of yoga practice, the anatomy of asanas, body reading and the concept of joint freeing.

After attending this workshop, the attendee will have learned:

- 1) the history of yoga therapy
- 2) the skills to implement a basic body reading and
- 3) learned joint freeing exercises.

Workshop 15: Developing a Comprehensive Pediatric Sports Medicine Program

Each year more than 3.5 million sports-related injuries requiring medical treatment occur in children under age 15. A comprehensive pediatric sports medicine program should offer training, nutrition, safety, and injury prevention information for a variety of youth sports. The proposed presentation will address strategies to implement a multi-disciplinary approach to preventing and managing pediatric injuries. In addition, specific outcomes related to ROI and cost-benefit analyses for pediatric programs will be addressed. Implications for clinicians, parents, coaches, and healthcare administrators affiliated with young athletes will be highlighted.

After attending this workshop, the attendee will be able to:

- 1) develop a comprehensive pediatric sports medicine program
- 2) understand cost-benefit & ROI issues associated with pediatric sports injuries and athletic training and
- 3) learn essential preventative, assessment, and management skills for pediatric injuries from an orthopedic surgeon trained in pediatrics.

Workshop 16: The Clinical, Surgical and Financial Impact of Athletic Trainers on Medical Practices

Athletic Trainers can have a wide array of influence on the clinical and surgical productivity of medical practices. The use of qualitative and quantitative data will detail the current and future path that athletic trainers can take in physician practices. The presentations in this session will detail the role and impact of the athletic trainer on the clinical throughput, clinical expertise, physician time-on-task, as well as the efficacy and role that athletic trainers can legally play in surgical care of their patients. Finally, the financial implications of the athletic trainers working within medical practices will be highlighted.

After attending this workshop, the attendee will:

- 1) identify the efficacy and legality of athletic trainers working as surgical assistants

- 2) understand the financial implications of the use of athletic trainers in physician practices and
- 3) identify the range of services that athletic trainers can provide in a variety of physician practices.

Workshop 17: Using Psychological Skills with Injured Athletes - The What, When, How and Why

Since injury is both physical and psychological, a holistic approach to rehabilitation may be the best approach; however, the implementation of psychological skills (self-talk, mental imagery, relaxation) within the rehabilitation programs of injured athletes remains limited. Research suggests that the education of certified athletic trainers may play a role in perceived knowledge and confidence to employ such techniques. This workshop attempts to fill the educational gap by providing the “what, when, how and why” on psychological skills for use during each phase of rehabilitation. The goal of the workshop is to educate certified athletic trainers on the effective use of such skills to ultimately increase their confidence to employ them with injured athletes in their work setting.

After attending this workshop, attendees will:

- 1) be able to identify appropriate psychological interventions for use during the (3) phases of rehabilitation
- 2) generate an appropriate script for use with an injured athlete (via case study), and
- 3) understand the implementation of a holistic approach to athletic injury rehabilitation.

Workshop 18: Anatomy of a Running Shoe

The “Anatomy of a Running Shoe” will consist of a brief review of foot biomechanics and common pathologies related to improper footwear. A look at the gait cycle and how running shoe styles affect it certain phases will also be discussed. This will be followed by an in depth discussion on the anatomy of the running shoe consisting of lasts and constructions as well as popular characteristics specific to different brands. Discussion will then center on proper prescription of shoe styles for specific foot types and biomechanical issues.

After attending this workshop, attendees will be able to:

- 1) discuss on an anatomical and scientific level proper footwear choices for athletes and patients based on clinical presentation and pathology
- 2) be more aware of the brands and styles available on the market to help make proper footwear prescriptions
- 3) have a better understanding of foot biomechanics, what is happening in the phases of the gait cycle, and how different shoes will affect these phases.

Workshop 19: STOP! Incorporating Deceleration Techniques into Rehab

At the core of any successful rehabilitation program is proper progression. Progressively increasing the load/intensity as an individual progresses through a rehab program is followed when addressing strength, power, balance, and proprioception. When addressing deceleration this principle is often overlooked. The struggle is determining how to follow the progression

principle when taking an athlete from not being allowed to jump or run to jumping/running. Simply moving from not jumping to jumping does not safely or properly teach the athlete to absorb the increased forces caused by these activities.

After attending this workshop, attendees will:

- 1) understand the significance of proper progression as it applies to deceleration in rehabilitation
- 2) be able to apply a deceleration progression to jump training and
- 3) be able to apply a deceleration progression to linear and multiangular running drills.

Workshop 20: Applying Motor Control Theory to Patient-Centered Care - Insights into Chronic Ankle Instability

The goal of this workshop is to introduce a new model of examining chronic ankle instability (CAI) which integrates principles of the dynamic systems theory (DST) of sensorimotor control and the International Classification of Functioning (ICF) model of patient-centered care. Combining the fundamental components of both theories offers a model which recognizes the link between ankle instability and altered functional capacity. The outcome will be an increase in the ATC's knowledge of addressing, tracking, and interpreting sensorimotor deficits associated with CAI using a patient-centered approach.

After attending this workshop, attendees will have learned:

- 1) the principles of the ICF model as it relates to CAI
- 2) concepts from the DST as it relates to CAI and
- 3) examples using the integrated ICF and DST model to guide CAI evaluation and rehabilitation progression and outcomes.

Workshop 21: Pre-Natal and Post-Partum Issues for the Competitive Athlete

According to an NCAA report, "...in a sample college athletics department with 300 student athletes, 30-45 of those may reasonable be expected to be affected by pregnancy each year." At present the NCAA offers a "model pregnancy and parenting policy" to provide information and resources to meet the needs of the student athletes dealing with pregnancy. However as athletic trainers it is imperative to have the most specific and up to date information on dealing with these individuals both during the pre-natal and post partum periods.

After attending this workshop, attendees will be able to:

- 1) describe the current NCAA guidelines for pre-natal and post partum participation in athletic practice and competition
- 2) describe current exercise guidelines and considerations during pregnancy and
- 3) describe the concerns for post partum return to competition.

Workshop 22: Evidence-Based Medicine: The Good, the Bad, the Ugly, and Beyond

The goal of this workshop is to help participants become more evidence based medicine savvy, and therefore more critical clinical decision makers. It will include an overview of evidence based medicine, including the importance of basing clinical decisions on scientific evidence,

and how to find and evaluate such evidence. Examples of good and poorly conceived and written evidence based manuscripts will be discussed, including articles that claim to be "evidence-based," but are actually inaccurate, and thus mislead those who read them casually.

After attending this workshop, participants will have a greater understand of:

- 1) Evidence-based medicine
- 2) What comprises good, and bad, quality evidence based medicine reviews and
- 3) How to avoid misinterpreting evidence based medicine reviews.

Workshop 23: Musculoskeletal Ultrasound

Musculoskeletal ultrasound (MSK) has slowly gained in popularity as an evaluative and rehabilitative imaging tool. Used more predominantly in Europe as standard practice, MSK has many benefits to practicing clinicians who seek more immediate responses related to assessment and treatment interventions. In addition, MSK possesses the capability of collecting still images and dynamic video simultaneously. The goal of this workshop is to increase the awareness of athletic trainers to the capabilities of musculoskeletal ultrasound as a future tool in the practice of athletic training. The workshop will discuss practical methods for assessment and rehabilitation using MSK and provide demonstrations of various commonly performed techniques with a focus on identifying normal anatomical structures.

After attending this workshop, attendees will have learned:

- 1) basic clinical application techniques of MSK
- 2) how to recognize tissue structures visualized with MSK and
- 3) challenges associated with utilizing MSK effectively in the clinical setting.

Workshop 24: Medical Preparedness & Emergency Planning for the ESPN X Games

This presentation will illustrate the magnitude and complexity of medical coverage for the ESPN X Games and will cover emergency preparedness considerations for action sports at alternative venues. Topics discussed will include on advance preparation; medical personnel; development and implementation of emergency planning; communication; and the actual response to an injured action sports athlete(s). Emphasis will be placed on the unique and interesting challenges for the certified athletic trainer at an action sports event as grand-scale as the X Games, as well as the vital role of the AT in providing optimal health care for these action sports athletes.

Through presentation and discussion the participants will have the opportunity to explore the challenges in providing athletic training services in action sports. Workshop participants will also be exposed to the equipment unique to action sports athletes. Through demonstration and discussion participants will learn how to remove in order to complete an evaluation, treat, and/or transport an injured action sports athlete.

After attending this workshop, attendees will:

- 1) understand the magnitude and complexity of medical coverage for Action Sports, multi-venue, and the ESPN X Games
- 2) understand and appreciate the need for comprehensive emergency planning and
- 3) appreciate the challenges and need for emergency preparedness for action sports at alternative venues

Workshop 25: Assessing Coordination and Movement Variability in Athletes - A "New Frontier" for Sports Medicine?

The assessment of coordination and movement pattern stability has recently been advocated as a comprehensive, integrative method for describing athletic motion. These methods have the ability to provide more detailed information to researchers about healthy movements, as well as those that may lead to lower extremity injury. The purpose of this workshop is to: a) explore how movement coordination and variability patterns can be used to assess movement, b) summarize the current research on how these methods provide information about potential injury risk, and c) describe how future research may help sports medicine professionals prevent injury and restore normal function after injury.

After attending this workshop, the attendee will have learned:

- 1) to explain the basic concepts of movement coordination & variability
- 2) summarize research on coordination & variability profiles in pathologic & healthy populations and
- 3) suggest future research directions that will aid in injury prevention.

Workshop 26: Utilizing the High School as a Research Laboratory: Tips for Conducting Successful Epidemiology, Injury Prevention and Outcomes Studies

High school athletes are the largest group of active individuals served by athletic trainers in the US. There is a need for more research (injury epidemiology, prevention trials and outcome studies) in high schools. However, most ATC researchers are unfamiliar with the unique skills necessary to work in these settings. This workshop addresses the challenging but rewarding task of conducting research with athletes in US high schools. It contains both a lecture and lab to learn and discuss methods for successfully obtaining informed consent, working within school district policies, recruiting subjects and collecting data in high school settings. Particular attention will be given to actual scenarios and case studies from successful researchers, followed by group discussion and time for a dynamic question and answer session.

After attending this workshop, participants will have learned:

- 1) the aspects that make high schools unique from traditional laboratory research settings
- 2) language to successfully obtain IRB approval for their research protocols and
- 3) tips to successfully recruit and enroll research subjects.

Workshop 27: When Will My Athlete Be Back to Play? Survival Analyses Applied to Sports Injury Surveillance

Time until return-to-play prognoses are often based on anecdotal opinion and clinical experience. Survival analyses are clinically meaningful statistics that can provide the AT with a method of interpreting prognoses and providing probabilities for return-to-play timelines. These analyses can provide useful information for the AT to the athlete, coach, or parent.

After attending this workshop, participants will be able to:

- 1) introduce the concepts of survival analyses, including reading and interpreting survival analysis in medical literature
- 2) demonstrate the utility of survival analyses applied to sports injuries and estimates of return-to-play timelines and
- 3) demonstrate how to get started on creating survival probabilities for clinical use.

Workshop 28: Concussion Rehabilitation: A New Spin on Return-to-Play Management

Current concussion research provides certified athletic trainers with improved methods of evaluating head-injured athletes. These methods range from sophisticated neuropsychological test batteries and postural stability evaluations, to clinically-oriented mental status and balance measures that athletic trainers can implement using equipment commonly available to them. Little is available to clinicians regarding adequate return-to-play rehabilitation in managing cases that may not recover as expected. The purpose of this workshop is to discuss current trends in concussion management with a strong emphasis on how athletic trainers can rehabilitate brain-injured athletes prior to safely returning them to play.

After attending this workshop, participants will have learned:

- 1) recommended return-to-play guidelines for concussed athletes
- 2) when it is appropriate to rehabilitate athletes with concussion
- 3) cognitive and functional tasks specific to concussion rehabilitation

Workshop 29: Aquatic Exercises for Rehabilitation and Conditioning of Athletes

The aquatic setting has shown to be beneficial in increasing exercise performance and conditioning at the same time used by clinicians during early rehabilitation phases when strength, balance and coordination of athletes are diminished. The purpose of the workshop is to provide rehabilitation and conditioning exercise for athletes in the aquatic setting. Specifically, the information presented will focus on performance training using circuit training techniques, plyometrics, high explosive/high intensity conditioning and address muscle balance and coordination using Pilates, balance and core conditioning exercises in the aquatic setting. Videos and photographs of each exercise along with exercise technique and safety will be emphasized. The benefits and types of aquatic equipment useful with performance and rehabilitation exercises will be discussed.

After attending this workshop, attendees will have learned:

- 1) how to use various aquatic equipment
- 2) use Pilates and circuit training in the aquatic environment and
- 3) use various balance and coordination exercises as rehabilitation tools in the aquatic environment.

Workshop 30: Functional Assessment and Management of Hip Injuries in Ballet Dancers

This workshop will begin with a review of basic hip anatomy. Then there will be a review assessment of hip injuries beginning with manual muscle testing, joint mobility testing, ending with special testing. Next the session will go into management of the injuries based on the assessment findings. The workshop will focus on injuries commonly sustained by professional ballet dancers. The workshop will conclude with two case presentations, one surgical and one non-surgical.

After attending this workshop, attendees will have learned:

- 1) a detailed review of hip anatomy
- 2) clinical assessment skills for the hip, and
- 3) dance-related functional rehabilitation skills.

Workshop 31: National Stress Fracture Registry

Presentation will highlight the findings of the National Stress Fracture Registry which is an online registry established to collect data related to adolescent boney stress injury. There is very little published in the literature which directly pertains to adolescent boney injury. This project involves the support of over 60 certified athletic trainers who have been involved with collecting data for this study. Information is intended to improve the clinical decision making involving adolescent athletes who suffer boney stress injury. Associated presentations will highlight treatment options for adolescent injury as well as selection of optimal imaging techniques for ID.

After attending this workshop, the attendee will:

- 1) have learned about factors associated with adolescent stress injury
- 2) gain ideas to incorporate into their clinical exam and
- 3) become more aware of associated factors linked with adolescent stress injury.

Workshop 32: The Baseball and Windmill Softball Pitch - Pitching Mechanics and Injury Prevention from the Lower Extremity

Focus will be on the kinematics, kinetics, and muscle activations during the baseball and windmill softball pitch in pre and post pubescent pitchers. The vast similarities of the two pitch type deliveries will be addressed as well as the progressions made as the pitchers age. Probable pathomechanics will be highlighted as well as proper mechanics. Focus will be on the lower extremity and progress through the kinetic chain. Injury prevention mechanisms and rehabilitative techniques addressed. The talk will highlight the kinematic and muscle activation similarities and hopefully allow for greater understanding of the two pitching motions.

After attending this workshop, attendees will be able to:

- 1) identify key moments in the pitching cycle for both the baseball and softball pitch
- 2) identify key indicators of pathomechanics throughout the pitching cycle and
- 3) implement exercises in attempt to alleviate.

Workshop 33: Navy Physical Readiness Assessment Program: Injury Prevention and Performance Optimization Enhancement Through the Utilization of Certified Athletic Trainers

The main objective of this program is to highlight the Naval Special Warfare Sports Medicine and Human Performance programs utilization of certified athletic trainers to improve special operator military readiness. The mission of this program is to enhance the physical performance of special operations forces personnel, to reduce the risk of injury and time-loss associated with injury, to generate and disseminate special operations forces specific evidence-based research to improve the quality of special operations forces personnel. This presentation will explain the vital role that certified athletic trainers throughout this Naval Special Warfare model.

After attending this workshop, attendees will be able to:

- 1) summarize the medical, field, and laboratory screening process
- 2) identify the key components of the screening process to implement in military and civilian sectors and
- 3) effectively demonstrate the integration of AT's in the military.

Workshop 34: Millennial Athletic Training Students: R U reaching them?

This workshop will focus on the professional development of athletic training educators and clinical instructors from the perspective of promoting engagement through reflective practice. As we know, the millennial students present unique challenges to athletic training education programs. These students possess characteristics that require engaging strategies in both the clinical and didactic settings to promote student success. This presentation will provide practical applications for engaging millennial students and strategies for evaluating instructional approaches throughout the athletic training education curriculum to maximize their learning.

After attending this workshop, attendees will:

- 1) better understand the millennial student and how their unique qualities impact didactic and clinical education
- 2) appreciate the need to become a “reflective educator” and
- 3) identify educational strategies to promote successful engagement of the millennial athletic training student.

Workshop 35: Incorporating a Graphic Decision Flow-Chart into the Assessment of Concussion

Sport-related concussion is a common injury encountered by the clinician. However, much confusion and variability regarding the assessment, diagnosis, and management of this injury exist. The protocol utilized by clinicians can be simplified and made to be more standard, by synthesizing available scientific-based information and recommendations into a basic graphical decision flow-chart. The purpose of this workshop will be threefold: 1) Review and synthesize the most current literature-based concussion information. 2) Integrate and

formulate a basic graphical decision flow-chart based upon reviewed information. 3) Implement the final flow-chart into a sideline and follow-up concussion protocol via a simulated group practice.

After attending this workshop, attendees will:

- 1) have been exposed to the most current concussion information
- 2) have learned to integrate and formulate a basic graphical decision flow-chart based upon reviewed information and
- 3) be able to implement the final flow-chart into a sideline and follow-up concussion protocol.

Workshop 36: Evidence-based Functional Rehabilitation

The latest research has been analyzed and broken down and combined with clinical experience to create a comprehensive rehabilitation approach. The course will provide a review of the literature and identify specifically how biomechanical dysfunction can lead to injury. Once a better understanding of evidence based biomechanical dysfunction is achieved, we direct our focus to correcting this dysfunction. We begin by implementing interventions at the neuromotor level, progressing our plan of care through endurance training, strength training, and ultimately into sport specific integration. We utilize video demonstration of our athletes for each step along the way.

After attending this workshop, attendees will:

- 1) comprehend the most recent evidence in the literature and how it can be applied to clinical practice
- 2) identify common patterns of biomechanical impairment
- 3) identify all variables involved in biomechanical impairment including joint dysfunction, muscle imbalance, muscle activation patterns, and movement dysfunction
- 4) implement specific neuro-muscular reprogramming (NMR) exercises to address muscle imbalances and activation patterns and
- 5) understand the principles of how to strategically progress a rehabilitation program from NMR to Functional training.

Workshop 37: Wheelchair Athletics - Considerations for the Athletic Trainer

Issues unique to wheelchair athletics will be discussed, with emphasis on the spinal cord injured athlete. Topics include the following: 1) Common injuries incurred by wheelchair athletes; 2) Physiological response to exercise after spinal cord injury; 3) Stresses imposed on the upper extremity due to factors such as damage due to the incident that caused the spinal cord injury, impaired trunk control, and demands of sport and daily tasks; 4) Wheelchair configuration and propulsion; 5) Unique components of a shoulder evaluation and subsequent rehabilitation plan for a wheelchair athlete; and 6) Athletic participation: does it help or hinder function and quality of life years later?

After attending this workshop, the attendee will understand:

- 1) the unique physical challenges faced by many wheelchair athletes
- 2) factors influencing wheelchair configuration and propulsion and

3) the benefits and costs of an active lifestyle for a wheelchair user.

Workshop 38: Introduction to Interpreting Common Statistical Methods Reported in the *Journal of Athletic Training*

Despite the importance for practicing evidenced based medicine, independently understanding and interpreting the study results challenges many Certified Athletic Trainers. This workshop's purpose will address this challenge, particularly as it relates to research published in the *Journal of Athletic Training* (JAT). For common statistical analyses reported in recent JAT volumes, discussion will include: 1) rationale based upon research designs & data types; 2) underlying assumptions & alternative analyses when assumptions violated; 3) applicable follow up procedures; 4) results section statistical notations; 5) effect sizes; 6) statistical significance versus clinical significance. Excerpts from published papers, including graphical and tabular data displays, will be presented and reviewed.

After attending this workshop, attendees will understand:

- 1) the difference between statistical and clinical significance
- 2) common statistical procedures appearing in the *Journal of Athletic Training* and
- 3) interpret results sections and graphical/tabular data displays denoting statistical significance.

Workshop 39: Separated Shoulders and Clavicle Fractures - Biomechanical Considerations and Treatment Options

Disruption of the AC joint has been shown to be detrimental to the function of the arm. Injury to the clavicle and/or AC joint can lead to scapular dysfunction, shoulder impingement, and other biomechanical alterations about the shoulder. Treatment should focus on restoration of the bony and ligamentous anatomy in order to properly restore the strut function of the clavicle and stabilization function of the static restraints. Once these components of AC stability have been corrected and scapular stabilization has been restored, arm function can return. This workshop will discuss the normal biomechanics of the AC joint, clavicle, and scapula, clarify how the pathomechanics of AC joint and clavicular injury negatively affect arm function, and present both surgical and non-surgical treatment considerations.

After attending this workshop, attendees will:

- 1) understand how an AC joint injury can negatively affect arm function
- 2) appreciate the importance of the clavicle as a support mechanism of the shoulder and
- 3) understand both the surgical and non-surgical treatment options which are available to treat shoulder separations and clavicle fractures.

Workshop 40: Digital Video Integration into Athletic Training Practice

Digital video can be a useful and inexpensive tool in any Athletic Training practice. The integration of digital video into clinical settings is easier and cheaper than ever before and can be useful in helping to accomplish a variety of tasks ranging from clinical to administrative. The purposes of this presentation are to present the underpinnings that support the integration of digital video into the athletic training setting; to present actual examples of integration into an

athletic training setting; and to provide a brief overview of the tools and skills necessary to incorporate digital video into your athletic training practice.

After attending this work shop, attendees will:

- 1) understand the underpinnings that support the integration of digital video into athletic training practice
- 2) see examples of digital video in practice
- 3) understand the tools and skills necessary to incorporate digital video into your athletic training practice and
- 4) be able to use digital video in their practice.

Workshop 41: Manual therapy - An Outcomes-based Approach

Capture and documentation of manual therapy clinical outcomes has historically been a challenge for health care practitioners who treat the active population. Today's health care marketplace has demonstrated a more aggressive position of not providing reimbursement for therapeutic services that cannot be supported with evidence, requiring clinicians to demonstrate what they do produces valid and reliable clinical outcomes. Workshop participants will be engaged in examination of these challenges through discussion and demonstration of an empirically based, but clinically applicable outcomes based model for the capture and documentation of a variety of manual therapy approaches. The model encompasses digital algometry, surface EMG or biofeedback, and functional screening measures. Participants will leave the workshop with an understanding of how to use the model in whole or in part in their clinical environment to capture, document and improve clinical outcomes when using manual therapy approaches.

After attending this work shop, attendees will have:

- 1) an understanding of the challenges of capture and documentation of manual therapy interventions
- 2) an exposure to a proposed model and its instruments to capture manual therapy intervention data and
- 3) an opportunity to observe how to utilize the model's instruments for capture and documentation of manual therapy approaches in order to improve clinical outcomes.

Workshop 42: Treatment and Rehabilitation of Common Peripheral Nerve Injuries

This workshop will review the treatment and rehabilitation of peripheral nerve injuries. Topics will include splinting and bracing options, neural mobilization, general strength and conditioning, and return to play considerations. The workshop will include general treatment guidelines and discuss the best evidence based treatments for the most common peripheral nerve injuries, specifically carpal tunnel, ulnar nerve irritation/cubital tunnel, and Sciatica.

After attending this work shop, attendees will have:

- 1) learned basic splinting ideas for the most common peripheral nerve injuries
- 2) neural mobilization techniques for the peripheral nerves and
- 3) general rehabilitation for nerve injuries.

Workshop 43: From Theory to Practice: How Every Athletic Trainer Can Learn to Implement Mental Skills Techniques into the Rehabilitation Process

In general, athletic trainers' knowledge about mental skills techniques (MST) and their effectiveness gravitate towards practical techniques (e.g., goal setting). Conversely, "applied" techniques (e.g., mental imagery) have been ranked less important. These lower rankings may be a function of perceived lack of ability to implement MST. Use of MST would likely increase if athletic trainers had a stronger knowledge base in this area; research has shown that athletic trainers with formal education have increased perceptions of role of MST. Another common rationale for failure to implement techniques is lack of time. This workshop will address both knowledge and time barriers to implementation of MST.

After attending this workshop, attendees will have:

- 1) learned what psychological factors influence the rehabilitation and recovery process
- 2) increased knowledge of the current research supporting the use of MST during rehabilitation and recovery and
- 3) learned practical strategies for implementing MST in the athletic training room.

Workshop 44: Assessment of Abdominal Injuries

The purpose of this presentation is to present athletic trainers with a practical approach to assessing abdominal injuries and conditions. All too often, athletic trainers are uncertain of internal conditions and injuries. As early responders in the complete health care of an active individual, it is important to recognize abdominal conditions and injuries as potentially life threatening. A comprehensive review and understanding of anatomy will be included to recognize potential conditions from location of symptoms alone. This will provide them with practical clinical keys to identification of conditions including but not limited to: cholecystitis, appendicitis, diverticulitis, colitis and gastroenteritis.

After attending this workshop, attendees will be able to:

- 1) clinically identify location of abdominal organs
- 2) recognize signs and symptoms of common abdominal injuries and conditions and
- 3) become more comfortable in assessing injuries and conditions of the abdomen.

Workshop 45: Clinical Evaluation of the Throwers Shoulder

The thrower's shoulder is very unique due to the excessive number of repetitions and large amounts of continuous stress. Clinically, alterations to both the glenohumeral and scapulothoracic joints have been observed in healthy and injured throwers. This suggests that these adaptations may be contributing to the injuries and if identified early may minimize future risk. The presence of alterations throughout the entire kinetic chain can make clinical evaluations of injured athletes difficult. Identification of the adaptations that are occurring will greatly improve the clinician's evaluation skills along with the necessary information to design the proper rehabilitation program.

After attending this work shop, attendees will have:

- 1) learned to identify the chronic adaptations that occur in the shoulder of the throwing athlete along with the entire kinetic chain
- 2) clinical techniques to identify and measure common adaptations and
- 3) clinical symptoms and evaluation skills for several shoulder injuries.

Workshop 46: Genetic Influences on Sports Injury and Training

Genetic variation occurs normally in the population and influences sports injury or training response. Researchers, with greater regularity, are reporting specific genes or genotypes that aid in athletic performance or make someone more susceptible to injury (i.e., affect how an individual responds to stress). Athletic trainers, who are on the front lines with athletes, can utilize this information for injury prevention purposes in the athletic training and weight rooms. Athletic training researchers can also incorporate genetic testing into their research agendas to help explain why subjects vary in response to the same interventions.

After attending this workshop, attendees will have learned:

- 1) genetics terminology commonly used in the literature
- 2) why an athlete's genotype influences their injury susceptibility and training response and
- 3) specific genes associated with sports injury or training response.

Workshop 47: Moving FORward: A Patient-Centered Approach to Health Care

This workshop will focus on the development of the Functional Outcome Report (FOR) from the Nagi model of disablement by presenting a rationale for evaluation and rehabilitation of musculoskeletal injuries that emphasizes patient function.

At the completion of this workshop, attendees will:

- 1) be able to compare and contrast FOR documentation with other forms of documentation, such as SOAP notes
- 2) understand the role function plays in the cumulative injury process and
- 3) learn how to utilize function to drive musculoskeletal injury evaluation.
- 4) be able to implement functional considerations into their overall patient education and health care.

Workshop 48: Prevention of Catastrophic Injury in Cheerleading

Sixty six percent of all catastrophic sport injuries to high school and college female athletes are attributed to cheerleading. Since cheerleading is not a sport recognized by the NCAA, it is therefore not regulated. Injuries include traditional overuse conditions to an alarming percentage of cervical spine and closed head injury as well as fatalities. This presentation will focus on the recognition of the skill and physical dexterity in cheerleaders. It provides strategies for prevention of injuries to both men and women; from try-out criteria, to controlled practice sessions, to prevention of weight issues in flyers (small women).

At the completion of this workshop, attendees will:

- 1) respect the catastrophic nature and volume of injuries sustained by athletes involved in cheerleading

- 2) apply injury prevention strategies to a cheerleading program and
- 3) prescribe knowledgeable return-to-play decisions that prevent further injury for athletes involved in cheerleading.

Workshop 49:

Current Assessment Techniques for Sacro-Iliac Dysfunction: Research and Execution
Sacro-Iliac Joint (SIJ) Dysfunction is possibly the most controversial diagnosis in orthopedic sports medicine (Kirkaldy-Willis and Hill, 1979). However, more recent evidence (Fortin 1994, a,b 1999; Schwarzer, 1995; Vleeming, 2002) indeed shows us that the SIJ can be a primary contributor to low back and pelvic girdle pain. The next question that is often asked is "Can we reliably identify patients with painful sacroiliac joints?". The purpose of this workshop is to identify and explain the relevant research, pelvic anatomy and the most current and reliable SIJ exams and assessment techniques. Power Point and video analysis will be utilized to convey these techniques in great detail.

After completing the workshop attendees will be able to:

- 1) cite the latest research concerning SI joint dysfunction and associated pain assessment techniques
- 2) be familiar with the terminology of SI joint movement and dysfunction and
- 3) have learned the most current SI joint assessment techniques.

Workshop 50: Diagnostic Imaging for Athletic Trainers

This workshop will present the various imaging modalities available for healthcare practitioners to assist in the diagnosis of musculoskeletal injuries and disease processes. By understanding the use of these modalities the athletic trainer will be able to assist their patients as they proceed through the studies and the treatment of their problem. We will focus on the newest modality available to musculoskeletal practitioners, musculoskeletal ultrasound. During the workshop the athletic trainer will be presented some common injuries and their radiologic study results.

After completing the workshop attendees will:

- 1) understand why a particular imaging modality is used to assist the healthcare team in making a diagnosis and/or assessing prognosis
- 2) understand when musculoskeletal ultrasound may assist the healthcare team in assessing common sports medicine problems and
- 3) assist their athletes/patients in understanding why imaging is needed and how it will assist in the care of their injury.

Workshop 51: Developing Moral Reasoning Skills in Athletic Training Students: A Web-based Approach

This workshop is designed for athletic training educators who are challenged with teaching athletic training students how to apply moral reasoning skills to today's ethical dilemmas involving patient care and professional responsibility. Examples of how to develop electronic teaching tools to assist with expanding moral reasoning skills using various methods, including

principled approaches and critical reflection, will be presented. Additionally, examples of how to link competencies to various assessment methods that demonstrate student learning will be presented.

After completing the workshop attendees, will be able to:

- 1) identify and address moral reasoning skills used in assessing and resolving ethical dilemmas
- 2) compare various methods used in teaching moral reasoning skills in an Athletic Training curriculum and
- 3) create electronic teaching tools for addressing and resolving ethical dilemmas in Athletic Training.

Workshop 52: Managing & Evaluating Risk in the Athletic Training Environment

The purpose of this presentation is to provide athletic trainers and administrators with a foundation for managing and evaluating risk in the athletic training environment. Athletic training facility policies and procedures will be evaluated and attendees will be presented with resources to develop new and/or revise existing policy and procedural structure. Discussion will include a variety of resources, including professional position statements, standards of practice, federal regulations, case law, state licensure, and athletic organization medical handbooks.

After attending the workshop, attendees will be able to:

- 1) assess and evaluate risk in their athletic training environment
- 2) implement procedures to manage and minimize risk in the work environment and
- 3) utilize a variety of resources in the development of risk management practices.