Robert A. Panariello MS, PT, ATC, CSCS is a Founding Partner and the Chief Clinical Officer at Professional Physical Therapy

Title:

Vermeil's Hierarchy of Athletic Development: An Organized Structure of Strength and Conditioning Program Design as Adapted for the Rehabilitation of the ACL Reconstruction Knee Athlete

Secondary Presenter – None

Athletic Training Domain – Level 4 Treatment, Rehabilitation and Reconditioning

Level of Difficulty – Essential

Type of Presentation – Lecture

Conflict of Interest – None

Professional Practice Gap – The majority of all athletes who undergo anterior cruciate ligament reconstruction (ACLR) surgery aim to return to their preinjury sport of participation at optimal levels of physical athletic performance. Many athletes do not return to play (RTP) after ACLR as physical quality deficits have been identified as a significant influence associated with this less than desirable RTP outcome. Optimal RTP outcomes requires a concise and organized sports rehabilitation program design. This sports rehabilitation ACLR) program design should include a proven philosophical foundation for the attainment of the athlete's anticipated successful RTP outcome. This presentation will provide the attendee with an organized description of a structured performance enhancement training program design philosophy as modified and adapted in the sports rehabilitation setting. This presentation will include the

specific physical qualities, as well examples of their correlation to performance enhancement and RTP outcomes.

Learning Objectives

1. At the conclusion of this presentation the attendee will be able to describe and incorporate the hierarchy of athletic development in the sports rehabilitation setting.
2. At the conclusion of this presentation the attendee will be able to recognize and define the physical qualities required for optimal return to play after ACL knee reconstruction.
3. At the conclusion of this presentation the attendee will be able to identify the physical qualities necessary for optimal athletic performance and their relationship to the soft tissue healing continuum.
4. At the conclusion of this presentation the attendee will be able to recognize as well as describe the sequence of physical quality development for the post-ACLR athlete's optimal RTP.
5. At the conclusion of this presentation the attendee will be able to construct a rehabilitation program design to assist in a successful ACLR athlete RTP.

Abstract - Anterior cruciate ligament reconstruction (ACLR) is frequently recommended for athletes who wish to return to aggressive athletic activity. Unfortunately, of these 200,000+ ACLR surgeries that are performed annually, reconstructive knee surgery is not a guarantee that any athlete will return to their previous pre-injury level of athletic performance. A recent meta-analysis including 48 studies showed that after a mean follow-up of 41 months, 82% of participants had returned to some kind of athletic activity but only 63% returned to their preinjury level of participation and a disappointing 44% returned to competitive sports. The reasons why some athletes have been unsuccessful in returning to previous levels of activity are vast and these factors are limited. The importance of restoring the athlete's physical qualities to pre-injury levels is essential for their successful and confident return to play. Strength and conditioning professionals utilize specific philosophies and methods of organized planning in their athlete's program design to not only enhance athletic performance, but to assist in the prevention of injuries as well. Adapting these same training program methodologies for the planning of an ideally structured and strategically applied program design through the course of the athlete's ACLR rehabilitation will assist to enhance the physical qualities that are necessary to ensure the desired return to play outcome as well as avert the adverse obstructions and setbacks that may often occur during the ACL rehabilitation process.

References

1. Arden CL, Webster KE, Taylor NF, et al, "Return to sport following anterior cruciate ligament reconstruction surgery: A systematic review and meta-analysis of the state of play", Br J Sports Med, 2011; 45: 596 – 606
2. Panariello RA, Stump TJ, and Maddalone D. "Post-Operative ACL Rehabilitation and Return to Play after ACL Reconstruction." *Operative Techniques in Sports Medicine*. 2015; 24(1): 35–44.

3. 2. Panariello RA, Stump TJ, and Cordasco F, “The Lower Extremity Athlete: Post-Rehabilitation Performance and Injury Prevention Training.” *Operative Techniques in Sports Medicine*. 2017; 25(3): 231–240.
4. Sonnery-Cottet B, Saithna A, Quelard B, Daggett M, Broade A, Ouanezar H, Thaunat M, and Blankney WG, “Arthrogenic muscle inhibition after ACL reconstruction: a scoping review of the efficacy of interventions.” *British Journal of Sports Medicine*. 2017; 53(5): 1–11.
5. Thomas AC, Wojyts EM, Brandon C, Palmieri-Smith RM, “Muscle atrophy contributes to quadriceps weakness after anterior cruciate ligament reconstruction”, *Journal of Science and Medicine in Sport.* 2016; 19(1): 7-11.

Biography

Robert Panariello MS, PT, ATC, CSCS is a Founding Partner and Chief Clinical Officer at Professional Physical Therapy with 185 facilities in 5 states, as well as the 20,000 square foot Professional Athletic Performance Center in Garden City, New York. He has four decades of experience in the related professional fields of Sports Physical Therapy, Athletic Training, and the Performance Enhancement Training of Athletes. He has studied the science of athletic performance and art of coaching with national weightlifting teams and other national sport team athletes in Bulgaria, the former Soviet Union, and former East Germany. He previously held the position as Head Strength and Conditioning Coach at St. John’s University of New York, the World League of American Football NY/NJ Knights, and the WUSA NY POWER Woman’s Professional Soccer League.

Rob has more than 60 peer reviewed sports medicine, sports physical therapy, and strength and conditioning publications. He is the recipient of the 2016 National Strength and Conditioning Association Sports Medicine/Sports Rehabilitation Specialist of the Year Award, 2015 American Academy of Sports Physical Therapy Lynn Wallace Clinical Educator Award and was elected as one of the inaugural inductees to the 2003 USA Strength and Conditioning Coaches Hall of Fame.

Frank Velasquez Jr. ATC, CSCS'R – Allegheny Health Network, Director Sports Performance

Title:

GO, STOP, GO, CUT, JUMP, LAND, GO! Reducing the Risk of Ligament and Tendon Related Knee Injuries in Field and Court Sport Athletes"

Education Delivery Method for Presentation

This presentation will be an interactive virtual PowerPoint slideshow style lecture to occur during a traditional 50-55min time period with approximately 5-10 min of Q&A. Verbal participation in the form of questions and statements from the session attendees will be strongly encouraged.

Conflict of Interest – None

Abstract

This presentation will discuss and review a kinetic chain and movement assessment that is used to identify potential "red flags" (muscular imbalances, areas of muscular weakness, and areas of tightness or laxity) for ligament/tendon knee injuries in field and court sport athletes. Then discuss "corrective" stretches and exercises that will be prescribed into a strength training and conditioning program to be used throughout a championship season. Pre-season, in-season, post-season programs will be discussed. The plan will help reduce the risk of injury and enhance performance in court and field sport athletes.

Educational Need and Professional Practice Gap Analysis

The occurrence of ligament/tendon knee injuries for field/court sport athletes are at an all-time high. The participant will be able to identify potential "red flags" for their athletes, prescribe corrective exercises to help correct imbalances and areas of restriction and/or weakness as well as know how to properly write a 12 month program for these field/court athletes that will help reduce the risk for such knee injuries and enhance performance.

Presentation Objectives

- Attendees will learn what to identify muscle imbalances, areas of movement restriction and muscular weakness
- Session attendees will learn proper corrective stretches and exercises to correct imbalances, restrictions and muscular weakness found in the evaluation.
- Attendees will learn how to build an appropriate and effective 12 month strength training program for a field/court sport athlete's championship season.
- Attendees will be able to ask questions in regards to any portion of the presentation and be able to take one thing away that can be implemented immediately to improve their current program.

Biography

A Certified Athletic Trainer and Certified Strength & Conditioning Specialist, Velasquez has also worked extensively with local school districts and colleges to provide strength training and conditioning service to scholastic athletes.

Velasquez, who served as an athletic trainer and strength and conditioning coach in professional baseball for 16 years and founded the highly regarded Vesla 360 Sports Performance & Physical Therapy program in Cranberry Township in 2012, will now oversee AHN's growing Sports Performance program as a member of the Network's nationally recognized Sports Medicine team. The program will be based at the soon to open Allegheny Health Network Sports Complex at Cool Springs in Bethel Park with plans to expand to additional locations, including the Network's Wexford Health + Wellness Pavilion.

"Like AHN, Frank has worked to help athletes at all levels achieve the greatest possible success," said Patrick J. DeMeo, MD, Chair, AHN Orthopaedic Institute and Medical Director of the Pittsburgh Pirates Baseball Organization. "From his tenure with the Pittsburgh Pirates to his work with middle and high school athletes, Frank is dedicated to helping athletes build strength, avoid injury and excel at their sport."

Velasquez earned a bachelor's degree in Kinesiology from the University of Michigan where he served as a student athletic trainer in several sports, including Big 10 Championship teams in football and women's swimming and diving.

He became certified as an athletic trainer and worked in outpatient physical therapy before accepting a position as minor league athletic trainer in the Texas Rangers Baseball Organization. Four years later, he became strength and conditioning coordinator for all of the Rangers minor league teams both in the United States and its two Latin American baseball academies in Venezuela and the Dominical Republic.

In 2003, Velasquez joined the Pittsburgh Pirates Baseball Organization as Major League Strength and Conditioning Coach. He served in that role for nine seasons, developing and overseeing the strength training, conditioning and overall wellness programs for the team's 40 man roster. In 2008 Velasquez and the Pirates Sports Medicine staff were awarded "MLB Sports Medicine Staff of the Year" by Baseball Prospectus magazine for helping the Pirates be among the teams with the fewest days on the disabled list in a three year period.

Velasquez is currently a Senior Advisor for the Professional Baseball Strength & Conditioning Coaches Society where he plays an active role in planning the continuing education seminar for the strength coaches in professional baseball at the Baseball Winter Meetings.

Since 2012, Velasquez served as co-owner of Vesla 360 Sports Performance & Physical Therapy, providing strength training, physical therapy and massage services for active adults and developing athletes.

AHN's Sports Performance program will provide comprehensive care for athletes, active adults, and individuals recovering from injuries. Housed in the AHN Sports Complex at Cool Springs, the program will provide access to outpatient orthopaedic care, diagnostics, athletic training programs complemented by a state-of-the-art facility that features a regulation-sized soccer field, strength training facility, basketball and volleyball courts, batting cages and a high-tech, multi-sport simulation center. The complex is scheduled to open on November 1 and will also serve as the new practice facility for the Pittsburgh Riverhounds professional soccer team.

Dr. James Cerullo
Jim Cerullo, Ph.D., ATC, CSCS Program Director, Assistant Professor – Athletic Training
Department of Health and Human Performance Alfred University

Title:
"Lower Extremity Power Training: Benefits & Risk"

Education Delivery Method for Presentation:
This presentation will be a traditional seminar style lecture to occur during a 50-55 minute period, with approximately 5 minutes for questions.

Conflict of Interest – None

Abstract:
Strength and conditioning specialist and athletic trainers use a variety of exercises to strengthen and develop power in the lower extremity to enhance performance and rehabilitate from injury. Strength coaches, athletes and fitness enthusiasts alike, have utilized Olympic style weightlifting and variations of these lifts to enhance explosive power. The purpose of this presentation is to address both the benefits of improving lower extremity power and acute loads imposed on the lumbar spine when performing these Olympic style lifts.

Educational Need and Professional Practice Gap Analysis:
Olympic style weightlifting has been used for decades as a technique for developing lower extremity explosive power amongst athletes at all levels.
The attendee will gain knowledge of the loads imposed on the lumbar spine when performing these types of lifts and adaptations to consider, thus decreasing the risk of injury to the low back.

Learning Outcomes:
1) Session attendees will discuss the National Institute for Occupational Safety and Health (NIOSH) recommended spine compression limit.

2) Session attendees will gain knowledge on the compression and shear forces imposed on the lumbar spine when performing Olympic style weightlifting.
3) Session attendees will discuss adaptations to the Olympic lifts when prescribing these exercises to develop lower extremity power.

Biography

Dr. James Cerullo has an extensive background in sports medicine and strength and conditioning. He is a NATA-BOC Certified Athletic Trainer, a NSCA Certified Strength and Conditioning Specialist, and has served as an Invited Volunteer Athletic Trainer for the US Olympic Committee at the Chula Vista Elite Athlete Training Center in California.
His clinical experience includes working as Head Athletic Trainer at Case Western Reserve University, Head Athletic Trainer for the US Olympic Luge Team, Head Athletic Trainer for the Senior National Luge Team, and Assistant Athletic Trainer for the University of Pittsburgh football team.

Brian D. Duke, LAT, ATC, CSCS, RPR-1
Athletic Trainer & Strength Coach, Hughesville High School (UPMC Outreach)

Title:
"Sled Dragging for Rehabilitation, Prevention, and Performance"

Educational Delivery Method for Presentation
This presentation will be an interactive virtual seminar style lecture with PowerPoint slides, to occur during a traditional time period of 50-55 minutes with approximately 5-10 minutes for questions.

Conflict of Interest – None

Abstract:
This presentation will discuss the methodology and progression of weighted sled use as a tool for the development of work capacity, ground force production, and strength through specific movement patterns. The presentation will describe the benefits of integrating sled dragging into rehabilitation and physical preparation phases across a variety of readiness and training stages.

Educational Need and Professional Gap Analysis:
The development of strength, muscular endurance, and work capacity are common goals whether preparing for sport, or rehabilitating an injury. Athletes returning from lower extremity injury often encounter difficulty when running is reintroduced to the rehab protocol. When utilized in an organized and comprehensive plan, the weight sled can be a very useful tool to overcome the deficits that contribute to this difficulty.

Presentation Objectives:
1. Session attendees will understand the benefits of sled dragging as a mode of rehabilitation, injury prevention, and performance preparation.
2. Session attendees will be able to design an effective progression of sled dragging methods.

3. Session attendees will have the ability to integrate sled dragging methods into both rehabilitation and physical preparation plans.

Biography:
Brian Duke is a NATA-BOC Certified Athletic Trainer and a NSCA Certified Strength and Conditioning Specialist. A University of Pittsburgh graduate, he has been the Athletic Trainer for Hughesville High School since 2000, providing service for 14 Varsity/JV athletic programs. Always involved in the design and implementation of strength and conditioning, he was named the school district's strength coach in 2005. Each summer, Duke is responsible for providing athletic development sessions for all Hughesville student athletes, and spends a week as an instructor/ coordinator at the UPMC Student Athletic Trainer Workshop. In 2020, he began as a volunteer assistant strength coach at Bucknell University.

Jeremy Shreck, BS, ATC/LAT, CSSCA, CSCS, WSSC, NCSF-CPT
Head Strength & Conditioning Coordinator, Bucknell University

Title:

"A Time-Tested Jump Training Progression to Reduce Lower Body Injuries and Maximize Athletic Power Potential"

Education Delivery Method for Presentation

This presentation will be an interactive virtual seminar-style lecture to occur during a traditional 50-55min time period with approximately 5min for questions. Verbal participation in the form of questions and statements from the session attendees will be strongly encouraged.

Conflict of Interest – None

Abstract

This presentation is designed to get into specific details on evaluating an athlete's movement pattern and then how to prescribe specific exercises or mobility stretches to address the athlete's weakness or imbalance. Being able to access the athlete's weakness or imbalance is a vital part of the training process in lowering the percentage chance of injuries particularly to the knees and ankles of the participating athlete.

The presentation will go into details on the methods of identifying weaknesses of the body and how to address them with specific exercises. It will also highlight proactive objectives to prevent common athletic injuries while training for maximal power output.

Educational Need and Professional Practice Gap Analysis

Associated with the training of the jump athlete (i.e. basketball, volleyball players, etc.) is the concern of power exercises (jumps) with regard to possible injury to the knees and ankles.

Although the need for specific training protocols for the power athlete is recognized, knee and ankle injuries still are a major problem and concern in sports that involve jumping.
The participate will be able to design an appropriate jump exercise program with modifications for various physical pathologies addressing excessive knee and ankle impact for assisting in injury prevention and optimal athletic performance

Presentation Objectives

- Attendees will learn what to identify as a weakness or imbalance when evaluating their athlete's movement patterns with weight and non-weighted jumping mechanics.
- Session attendees will be presented with the presenter's progressive jump program which focuses on deceleration mechanics to maximize acceleration techniques which ultimately tries to train athletes to move better and reduce the likely hood injury.
- Attendees will be able to ask questions in regards to any portion of the presentation and be provided precise answers to their questions with the hope the attendee can take away information that will benefit their athletes training in a positive manner.

Biography

Coach Shreck is the Head Strength & Conditioning Coach and Fitness Facilities Coordinator at Bucknell University in Lewisburg, Pennsylvania. Jerry is also the Head Strength Coach for Bucknell's club power lifting team.
The following is a list of certifications and professional memberships that Coach Shreck is currently involved in.

- National Athletic Trainers Association (NATA), Certified/Licensed Athletic Trainer (ATC/LAT)
- National Strength and Conditioning Association (NSCA-CSCS)
- National Council of Strength & Fitness (NCSF-CPT)
- Westside Special Strengths Certified (WSSC)
- Member of the National Athletic Trainers Association (NATA)
- Member of the National Strength and Conditioning Association (NSCA)
- Member of Collegiate Strength & Conditioning Coaches Association (CSSCA)
- Member of the National Council of Strength and Fitness (NCSF)
- Member of Anti-Drug Athletes United Power Lifting Association (ADAU)
- Member of Eastern Athletic Trainers Association (EATA)
- Member of Pennsylvania Athletic Trainers Society (PATS)

Alan DeGennaro MS, ATC, CSCS, PA-PT
Director of Strength & Conditioning, Carnegie Mellon University

Title:
"Mitigating Tendon Injuries in Sport: A Coaching Perspective"

Education Delivery Method for Presentation

Virtual Lecture using PowerPoint

Conflict of Interest – None

Abstract

Overuse tendon injuries are common in sport. Effective rehabilitation and prevention strategies can both reduce time lost after injury and prevent future injuries from occurring. Prevention strategies can also set the stage for more effective agility, plyometric, and strength training. This presentation will explore the paradox of loading that is intrinsic to the rehabilitation and prevention process. It's common for clinicians to rest tendons after injury; however, mechanical loading is a requirement for return to sport.

Educational Need and Professional Practice Gap Analysis

Current tendon histological research has exploded and best practices may not be known by many practicing clinicians and coaches.

Tendons don't like rest, they like to be loaded. Often, clinicians rest athletes with tendon injuries instead of offering them appropriate loading parameters. This presentation will address this gap in knowledge.

Learning Outcomes

1. Attendee will understand the importance of loading a tendon during the rehabilitation process
2. Attendee will learn the various types of loads tendons experience and how to load them properly based on the current evidence available
3. Attendee will understand the role of isometrics in the management of tendinopathies
4. Based on current evidence based practices, attendee will understand the treatments to avoid in athletes with lower limb tendon pain
5. Attendee will understand the diverse functions tendons play in movement and sport and how to train them most effectively
6. Attendee will understand how nutrition effects tendon healing

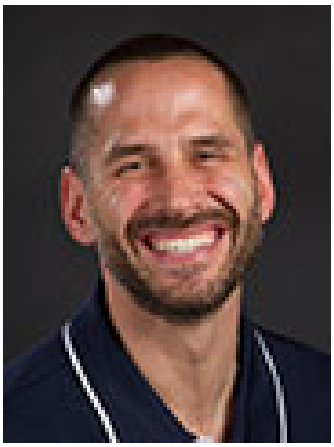
Biography

Alan DeGennaro was named the full-time strength and conditioning coach for Carnegie Mellon Athletics in 2011. The University of Pittsburgh graduate has worked in many venues including the National Football League (NFL) and University of Pittsburgh Medical Center.

DeGennaro returns to Pittsburgh after spending three seasons as the assistant strength and conditioning coach with the Cleveland Browns. Prior to his stint in the NFL, DeGennaro worked in the Pittsburgh and Western Pennsylvania area, coaching speed development programs to high school and amateur athletes.

DeGennaro earned his bachelor's degree in athletic training from the University of Pittsburgh in 1997 and earned his master's degree in kinesiology in 1999 from the University of Tennessee. At Tennessee, he worked with the strength and conditioning staff for the Vols' football program from 1998-99 while attending graduate school.

The Altoona, Pa. native then joined the University of Pittsburgh staff as an assistant strength and conditioning coach for two seasons before directing the sports performance program at the University of Pittsburgh Medical Center from 2001-03. From 2004-05, DeGennaro worked at Velocity Sports Performance, also located in Pittsburgh.



Andy Bosak, Ph.D., ACSM EP-C, CSCS, *D, Liberty University
Professor and Director, Exercise Science Graduate Program
Dept. of Health Professions

Title: "An Assessment of Sport Science Technology, Data Collection, and Barriers that Impact Human Performance."

EDUCATION DELIVERY METHOD FOR PRESENTATION

This presentation will be interactive seminar-style lecture to occur during a traditional 50-55min time period with approximately 5min for questions. Verbal participation in the form of questions and statements from the session attendees will be strongly encouraged.

Conflict of Interest – None

ABSTRACT

Understanding the application of laboratory and field based test results to sport performance, with direct focus on which athlete parameters need to be improved and monitored, is often "lost in translation" between sport scientists, athletic trainers, and coaches. Also, knowing what type of technological "tool" to use in order to obtain the most relevant athlete information, which can be used to improve performance and even help to reduce the potential chance of injury, is often difficult to determine. Hence, the focus of this presentation is to assess the variables that contribute to the physiological changes of collegiate and high school athletes during sport seasons as well as examine athletes' individual variability pertaining to recovery, detraining, and overtraining. Furthermore, a review of the various types of "athlete monitoring tools" will be provided to the session attendees. College and varsity sports often provide many barriers to obtaining data from athletes and establishing which laboratory and field based tests should be selected. Despite being teammates, strong variability exists between athletes and differing "playing position demands", as well as the ability of some athletes to adequately recover, which often makes it troublesome for certain athletes to train together. For this presentation, understanding how laboratory data applies to field/court application, data collection barriers, and specific team sport training aspects will be explored while overtraining and detraining concepts and monitoring tools, analysis of particular team sport seasons, and suggestions for more

accurate training will be discussed. Despite research being conducted in this area, more is needed with an emphasis on the importance of collegiate and high school athletes and coaches recognizing that there is great athlete variability and that there are many "physiological and lifestyle barriers" that must be overcome in order to successfully improve athletic performance. By understanding how and which type of technological monitoring and recovery tool(s) to use, the "barriers" may be reduced which may contribute to improvements in athletic performance.

EDUCATIONAL NEED AND PROFESSIONAL PRACTICE GAP ANALYSIS

Knowing which type of technological "tool" to use to obtain the most relevant athlete information which can be used to improve performance and even help reduce the likelihood of injury is often difficult to determine. By understanding how and which type of technological monitoring and recovery tool(s) to use, the "barriers to success" may be reduced which may contribute to greater athletic performance. This presentation will assist the practitioner in being able to evaluate the variables that contribute to the physiological changes of athletes during sport seasons as well as examine athletes' individual variability pertaining to recovery, detraining, and overtraining.

LEARNING OUTCOMES

1) Session attendees will understand the basic types of "athlete monitoring tools" and be able to determine which laboratory and/or field based test to use in order to obtain essential athlete information.

2) Session attendees will review how laboratory data applies to field/court application and will be able to understand various data collection barriers to athlete performance.

3) Session attendees will be exposed to the concepts of overtraining and detraining while also comprehending the correct monitoring tools to use for proper analysis of particular team and individual athletes' sport seasons.

BIOGRAPHY- Andy Bosak, Ph.D., ACSM-EP, CSCS, *D is a professor and director of the Exercise Science Graduate Programs in the Department of Allied Health Professions at Liberty University. Dr. Bosak earned a BS degree in PE (Emphasis: Exercise Science) and a MS degree in PE (Emphasis: Exercise Physiology) from Western Kentucky University, and completed a Ph. D. in Human Performance/Kinesiology (Emphasis: Exercise Physiology) at the University of Alabama. Dr. Bosak holds certifications from the NSCA and ACSM. Dr. Bosak's research interests include: 1) evaluating the recovery aspects from sport and occupational performance, 2) improving athletes' and emergency service workers' performance, 3) assessing athletes' and sports officials' physiological changes pre, post, and during the sporting seasons, 4) analyzing the prevalence of low back pain in physically demanding occupations, and 5) evaluating the physiological responses to and the metabolic costs of exergaming. Dr. Bosak has presented his research and related works at various state, regional, national, and international conferences with over 120 primary presentations and over 95 co-author presentations. Dr. Bosak previously served as a sports scientist for the Professional Referee Organization (PRO) and as an occupational performance specialist with the fire cadets of the Lynchburg City Fire Department. Currently, Dr. Bosak resides in Goode, VA with his wife and six children and he serves as a middle and high school soccer coach in the local area.

Will Peveler, Ph.D., Liberty University Assistant Professor of Exercise Physiology

Title:
"Overtraining"

Education Delivery Method for Presentation:
This presentation will be a traditional seminar style lecture to occur during a 50-55 minute period, with approximately 5 minutes for questions.

Conflict of Interest – None

Abstract
The purpose of this presentation is to examine the current literature on overtraining in sports. Competitive athletes continually walk the line between optimal training and overtraining. Developing a program that optimizes recovery while providing the precise amount of stimulus is vital for overall progression and safety. As a coach, athletic trainer, and athlete it is important to know the common causes of overtraining as well as the signs and symptoms of overtraining. This presentation will focus on the common causes of overtraining, common symptoms of overtraining and how to address overtraining.

Learning outcomes:
- Develop and understanding of the common causes of overtraining.
- Identify key symptoms of overtraining.
- How to address overtraining.

Speakers Biography
Education
- Ph.D. University of Alabama
- M.S. Western Kentucky University
- B.A. Western Kentucky University