SCIENTIFIC PRINCIPLES OF SPORTS REHABILITATION
THE CLINICALATHLETE COMMUNITY

prides itself on having the premiere network of Healthcare Professionals who manage athletes, in one virtual setting.

The courses we offer, along with the instructors, are well worth the time and investment towards your education.

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Scientific Principles of Sports Rehabilitation is a seminar dedicated to understanding and implementing scientific principles for clinical decision making regarding the diagnosis, treatment, and rehabilitation of common athletic injuries. The course discusses a wide array of topics ranging from cuing/scaling exercise prescription, loading across the lifespan, muscle strains, tendinopathies, low back pain, and return to sport for ACL injuries. After completion of the course, attendees will have a broad understanding of the current best scientific evidence regarding the aforementioned topics and how to apply such knowledge to clinical practice. The course will be lecture and demonstration based involving audio/visual presentation and attendee participation for select topic discussions.
Michael Ray  M.S., DC – Course Instructor

Dr. Ray earned a M.S. in Exercise Science from the University of South Carolina and worked in cardiology as an Exercise Physiologist before going to Sherman College to obtain his Doctorate in Chiropractic. Upon relocating to Harrisonburg, VA in late 2015 he opened Shenandoah Valley Performance Clinic. He enjoys working with athletes and aiding them in injury risk management, rehabilitation, and sports performance. He is also adjunct faculty at James Madison University’s Kinesiology department. Treatment philosophy: increase functional longevity - meaning to decrease the number of years patients live with pain, disease, and dysfunction thus increasing the number of years they are able to be active and do what they love. Being a Chiropractor has provided him with an interesting perspective on the world of rehab and further empowered him to focus on interventions that have gone through the rigors of scientific testing.

Michael is the Co-Author, along with Derek Miles on The Logic of Rehab website.
Physical Therapist Derek Miles is currently located at UF Health in Gainesville, Florida. He earned a B.S. from Clemson University in Biochemistry and worked for a year as a research assistant in genetics lab before returning for a Doctorate in Physical Therapy. His love of the scientific method carried over to where now PubMed is still the primary source of information but now instead of an actual lab, a gym serves the purpose. Upon graduation from UF DPT in 2008 he completed a one year orthopedic residency. Since, he has practiced at UF with a good mix of the spine and athletic population. He enjoys hanging around people smarter than himself and luckily Gainesville has afforded him a surplus of that population. He has been fortunate to have conversations with some of the best pain researchers in the country as well as some minds in philosophy that make any topic an interesting discussion.

Derek and Michael are two of the biggest contributors in the ClinicalAthlete Forum.
Understand and implement scientific principles for clinical decision making and rehabilitation of common athletic injuries

Discuss methodology for justifying those principles using the best current evidence

Provide information regarding cueing and scaling for exercise prescription in attempt to mitigate deconditioning of the athlete during rehab

Explain the difference between acute and chronic pain in athletes, as well as treatment modifications for each

Discuss the current evidence regarding loading strategies across the lifespan for youth to elderly patient populations

Provide current evidence regarding low back pain management in athletic populations

Discuss and understand the current evidence in the treatment of tendinopathies and muscle strains

Understand the current evidence on return to sport criteria for ACL injuries in athletic populations
The course objectives align with the APTA’s vision statement, “Transforming society by optimizing movement to improve the human experience.” This course will predominately discuss current, best evidence regarding the diagnosis and rehabilitation of athletic based injuries which is a direct reflection of the the APTA’s goal. Through this course, we aim to improve our understanding of the diagnosis and treatment of athletic based injuries in an effort to improve patient outcomes for the Physical Therapist.
The course objectives align with the American Chiropractic Association’s mission to “provide leadership in health care and a positive vision for the chiropractic profession and its natural approach to health and wellness.” This course will predominately discuss current, best evidence regarding the diagnosis and rehabilitation of athletic based injuries, which is a direct reflection of the ACA’s goal to improve the health and wellness of patients naturally. Through this course, we aim to improve attendees understanding of the diagnosis and treatment of athletic based injuries in an effort to improve patient outcomes for the Chiropractor.
Relevance of Objectives for Athletic Trainer

The course objectives align with the National Athletic Trainer Association’s mission statement: “.....to represent, engage and foster the continued growth and development of the athletic training profession and athletic trainers as unique health care providers.” This course will predominately discuss current, best evidence regarding the rehabilitation of athletic based injuries, which is a direct reflection of the NATA goals. Through this course, we aim to improve attendees understanding of the treatment and rehabilitation of athletic based injuries in an effort to improve patient outcomes for the Athletic Trainer.
Morning Schedule

INTRODUCTIONS AND TOPIC 1 (MIKE)
SCIENCE BASED REHAB: HOW THE EVIDENCE LEADS US
· What is EBP?
· Logical Fallacies and Biases
· Understanding and implementing scientific principles into clinical practice

TOPIC 2 (DEREK)
CUEING AND SCALING WITH EXERCISE PRESCRIPTION: MITIGATING DE-CONDITIONING
· Internal vs. External Cuing
· Regressions and Progressions for Exercise Prescription
· Programming through rehab (Off-season, pre-season, on-season POC)

MORNING BREAK

TOPIC 3 (MIKE)
CONSIDERATIONS FOR ACUTE VERSUS CHRONIC PAIN IN THE ATHLETE
· Recognizing differences between acute vs. chronic pain
· Normative healing parameters for acute injuries
· Understanding chronic pain
· Treatment considerations for acute vs. chronic pain

TOPIC 4 (MIKE)
LOADING ACROSS THE LIFESPAN: INDICATIONS FOR RESISTANCE TRAINING IN DIFFERENT POPULATIONS
· Current evidence for youth strength training
· Importance of strength training in geriatric populations
· Acute: Chronic Workload Ratios - mitigating injury risk
· Screening: what to look for in the athlete

LUNCH BREAK
Afternoon Schedule

**TOPIC 5 (DEREK)**
LOW BACK PAIN IN THE ATHLETE: WHAT REALLY MATTERS?
- Understand base rates for common low back pathologies
- Current evidence regarding LBP management in athletes
- A biopsychosocial approach to treatment for LBP

**TOPIC 6 (DEREK)**
CURRENT CONCEPTS IN THE TREATMENT OF TENDINOPATHY AND MUSCLE STRAINS
- Muscle strains and management
- Tendinopathy staging
- Tendinopathy POC based on current evidence
  (isometrics → eccentrics → HSR)

**TOPIC 7 (MIKE & DEREK)**
RETURN TO SPORT CRITERIA FOR ACL REHAB
- Modifiable and non-modifiable factors for risk reduction
- Current evidence for graft selection and healing
- Criteria for return-to-sport post-ACL reconstruction

**Q & A WITH PRESENTERS**
THANK YOU!

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