Big Sky
Sports Medicine & Athletic Training Conference

2020

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Use Cases
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consumer, acute care and rehab environ-
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life.

Use Cases
- Shoulder calcifications
- Insertional tendonitis
- Myofascial trigger points
- Muscle and connective tissue activation
A little history...

The Big Sky Athletic Training Sports Medicine Conference started as a winter ski trip in 1986 which turned into a series of meetings that initially hosted eight people. Since 1995 our gathering has evolved and now has grown to over three hundred registrants a year.

The 2020 Big Sky Athletic Training Sports Medicine Conference is a continuation of those educational sessions that started with Denny Miller of Purdue, Randy Cohen of Arizona and Jeff Monroe of Michigan State.

The meeting is possible because of the profound generosity of our Sponsors. The monies pledged to the meeting are unrestricted and go to those meeting expenses that make this possible. We have tried to keep our sponsors involved in the meeting by promoting sponsored functions for all, which in turn promotes congeniality among attendees and sponsors. Your Directors encourage you to visit all our sponsors, express what works with their products or services and to establish a dialogue on your uses of such.

In the continuing education side of the program, a special thanks goes to the at the Western Michigan University Homer Stryker M.D. School of Medicine for management of CMEs for Physicians. EBP/CEU credits for athletic trainers will come through the BOC office. 28.25 EBP and CME credits have been granted for this year’s meeting.

Here are the list of functions and special sponsorships:

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<td>Dry Needling Workshop</td>
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<td>4:00 pm</td>
<td>Super Bowl Welcome Party, Huntley Dining Room, Sponsored by DJO Global, Brian Moore, Host. Families and friends welcome.</td>
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<tr>
<td>Monday 2.3</td>
<td>7-10:30 am</td>
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<td>Poster Presentations in meeting room, Sponsored by MioTech, Ken Zisholz</td>
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Sunday Morning, February 2\textsuperscript{nd}, 2019 MLB Session, Madison Room:
This Sunday session is organized and provided for by the BSATSMC Planning Committee, with Rick Griffin AT of
the Seattle Mariners as lead member. It is hoped the \textit{morning session} will be well received on Super Bowl Sun-
day with less haste to return from the day’s activities.

6:30am – 10:00 am Special demonstration of computerization of foot orthotics during Sunday Morning Reg-
istration

7:00 am Opening remarks: Jeffrey S Monroe, Executive Director, Moderated by Rick Griffin AT, Seattle Mari-
ners Baseball Organization

7:05 am “Blood Flow Restriction Therapy in Professional Baseball” Jeremiah Randall Head ATC/Head PT,
Houston Astros Baseball Organization, Houston, Texas
Objectives
• Recognize the importance of using personalized pressure when using any type of Blood Flow Restriction
  Training Device
• Explain the clinical applications of Blood Flow Restriction Training in the early stages of the post surgical pro-
cess

7:30 am “Latissimus Dorsi Injuries in Baseball” David Lintner MD, Head Team Orthopedic Physician, Hou-
ston Astros Baseball Club and Houston Texans, Chief of Sports Medicine & Fellowship Director, Houston Meth-
odist Hospital
Objectives:
• Restate indications for this new surgical approach
• Summarize the rehabilitation techniques after each surgery

8:00 am “Latissimus Dorsi Injuries in Professional Baseball: A Growing Concern” Matt Toth MS AT, Seattle
Mariners Baseball Organization
Objectives:
• The attendee will be able to describe the pertinent anatomy of the latissimus dorsi and how it integrates into
  other parts of the body. The audience will also be able to describe the various classifications of the injury,
  pitching mechanics that may lead to this injury as well has the various considerations in the rehabilitation pro-
cess.

8:30 am “Using the Failure Mode and Effects Analysis in Emergency Action Planning” Andy Massey MS AT, Sara Massey BS
Objectives:
• Illustrate the pre-mortem planning tool utilizing an adaptation of the Failure Mode Effects Analysis tool
• Practice using the tool in a realistic scenario

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Cont'd:

9:00 am “Comparison of the Vestibular/Ocular-Motor Screening (VOMS) and Sport Concussion Assessment Tool-3 (SCAT-3): An NCAA-DoD Concussion Assessment, Research and Education (CARE) Consortium Analysis” Nicholas Port PhD, University of Indiana
Objectives:
- Describe VOMS and how do you preform it
- Paraphrase the evidence and clinical value of adding VOMS to your concussion protocol

9:30 am “When Things Go Wrong with Sports Medicine Programs” Doug McKeag MD, Former Team Physician, Michigan State University, Former Chair of Family Practice at the University of Indiana
Objectives:
- Demonstrate what happens when the ‘system’ falters? And Why does it happen?
- Summarize the warning signs? What is the best way to proactively prevent this? Lessons from real life and present day

10:00 am “Something Else to Blame On Your Parents: Genetic Association to Prolonged Concussion Recovery” Jane McDevitt PhD AT, Athletic Training Program, College of Public Health, Temple University
Objectives:
- Generalize the proteins involved during neuronal recovery
- Recognize the advantages and limitations of current concussion genetic markers

10:30 am End of Morning Program

Workshop Presentation: Sunday Afternoon, February 2nd

2:00-3:30 pm “Dry Needling: Explore conditions appropriate for dry needling in a safe and effective manner.” Doug West PhD AT, University of Iowa
Objectives:
- Categorize states that allow needling to be performed by profession.
- Define the role of dry needling for muscular skeletal injuries.
- Examine effective needling techniques for patient comfort. And establish the appropriate equipment needed for dry needling.

4:00 pm Super Bowl Party, Hosted by DJO Orthopedics, Jefferson Room, Families and Friends Invited
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Monday, February 3rd, AM Scientific Presentations

7:00 am “Hydrotherapy in the Recovering Injured Athlete” Doug Boersma AT, Head Athletic Trainer at Purdue University
Objectives:
• Demonstrate safe and reliable aquatic training techniques
• Describe the safe rehabilitation activities

7:20 am “How to Implement Pressure Wave Therapy Into Your Training Room” presented by: Gerhard Kinas with assistance from Merri-Edna Milano for live demo
Objectives:
• Demonstrate how to implement pressure wave therapy
• Describe how to treat using pressure wave therapy

7:40 am “Prevention and Performance: airPHX Technology Applied to High Performance Athletic Programs” Bill Pommerening, President of airPHX
Objectives:
• Introduce cost-effective new technology for continuous infection control in athletic facilities
• Provide data validating the effectiveness of the technology in a variety of facilities.

8:00 am “Contrast Therapy: What’s hot and cold?” Valerie Hairston MS AT, Kelvi Technology
Objectives:
• Analyze current evidence on contrast therapy.
• Forecast potential use cases and research opportunities for contrast therapy with KelviTEC technology.

8:20 am “Managing Head Impacts Through Analytics” Matt Shimshock, Riddell Corporation
Objectives:
• Discuss how Riddell is changing the game of protection and performance through 3D printing and smart helmet technology.
• Analyze Riddell’s national data set of 7+ Million head impacts, and what that means for football and head protection.

8:40 am Exhibit Hall Break

9:00 am “Utilizing Technology to Optimize Rehab” Michael Voight DPT, Vanderbilt School of Medicine
Objectives:
• Illustrate the importance of looking at the movement system in the global rehabilitation program for the injured athlete.
• Consider the decision making process when faced with new technology for the rehab process.

9:20 am “Indiba, Radio frequency and how it fits into the Training Room” Pat Karns AT and Mike McGee RPT
Objectives:
• The participant will develop a fundamental knowledge of radio frequency and its role in rehabilitation for tissue repair.
• The participant will develop fundamental knowledge of the biochemical reactions of the cellular matrix following the application of a monopolar 448kHz current.

9:45 am “Onsite Digital Analysis of Custom Orthotic Solutions” Pete Iverson, Podiatech

10:05 am Morning session complete
• GUEST SPEAKER •

Mike Voight, DPT, OCS, SCS, ATC
Professor, Dept of Physical Therapy,
Belmont University, Vanderbilt University

“Integrating Technology to Optimize Rehabilitation”
Monday, February 3rd at 9:30AM

TRAZER is a technology platform that objectively quantifies the mind-body connection to advance human health and performance.

Notes:
Workshop Presentation, Monday, February 3rd
1:00 – 3:00 pm “Advance Manual Therapy Techniques of the Lower Extremity” Jill Manners PT AT, Athletic Training Program Director, University of Georgia
Objectives:
- At the end of this workshop, participants will be able to identify indications for mobilization and manipulation techniques in acute or chronic lower extremity conditions.
- Participants will also be able to perform advanced mobilization and manipulation techniques to the lower extremity.

Monday Afternoon, February 3rd, PM Scientific Presentations Cont’d
3:30 pm “DXA in Athletics – Using body composition and bone density data to improve performance & reduce injury”
Objectives:
- DXA is a multi-functional tool that can be used by the performance staff (ATC, Dietitian, S&C Coach) to develop training, dietary, and rehabilitation programs.
- DXA data via Dexalytics takes body composition analysis to the next level as an aid for the performance staff.

3:50 pm “Preventing Heat Illness in Team Sports” Randy Cohen PT AT, Director of Sports Medicine, University of Arizona, Sponsored by School Health
- Develop a plan to prevent heat illness
- Education of coaches and athlete education to prevent heat illness

4:10 pm “Photobiomodulation for Head, Neck and Shoulder Pain” John Bruno AT, Multi-Radiance
Objectives:
- Explore the mechanism of action, parameter optimization, and dose for novel use of laser for managing head, neck and shoulder pain.
- Discuss the evidence based research studies available

4:30 pm “Current Concepts In Pneumatic Compression Therapy” JoHan Wang AT, RP Sports
Objectives:
- Review lymphatic system physiology and its role in injury and recovery.
- Describe and characterize treatment parameters to optimize lymphatic function.

4:50 pm Exhibit Break

5:10 pm “Test, Don’t Guess: Using Isokinetics with the ACL Patient” Laura Opstedal DPT
Objectives:
- Learn the importance of isokinetic testing for ACL return to play decisions
- Learn how isokinetics can be applied to the rehab of an ACL patient

5:30 pm “Argument for the Importance of Early Surgical Management of Initial Shoulder Dislocations in Athletes and the Risk of Conservative Management” Roger Chams MD, Illinois Bone & Joint Institute Sports Medicine / Arthroscopic Surgery of the Knee and Shoulder
Objectives:
- Describe the problems with playing with a rehabilitated non-surgical throwing shoulder

6:00 pm Sponsors Reception, Exhibit Hall, attendees are encouraged to attend. Refreshments provided
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Tuesday, February 4th, AM Sessions, Concussion Day

7:00 am Opening remarks, Jeffrey Kutcher MD, Director, The Sports Neurology Clinic, Brighton, MI “Update from the Inaugural International Congress for Athlete Brain Health - CLINICIAN RECOMMENDATIONS“ Jeffrey Kutcher MD, Director, The Sports Neurology Clinic, Brighton, MI

7:30 am Update From the Inaugural International Congress for Athlete Brain Health – PATIENT RECOMMENDATIONS Ben Utecht, Former NFL Tight End for the Super Bowl XLI Champion, Indianapolis Colts

Objectives:
• Emotionally connecting the patient to their memories
• What Has Relevance If You Can't Remember It?

8:00 am “Update from the Inaugural International Congress for Brain Health – RESEARCH RECOMMENDATIONS” Chris Giza MD, Professor of Pediatric Neurology and Neurosurgery, Director, UCLA Steve Tisch BrainSPORT Program

Objectives:
• Incorporate important aspects of brain health into the clinical evaluation and assessment for sports medicine and sports neurology.
• Identify the current research recommendations from the International Congress for Athlete Brain Health.

8:30 am Exhibits

8:45 am “Best Concussion Practices in the Setting of Less Than Perfect Laws and Policies” Kate Essad MD, Aurora Health Care

Objectives:
• Demonstrate how to apply guidelines and legislation to concussion management practices
• Generalize how to apply current evidence-based practices to concussion management

9:10 am “An evidence-based, sports-specific approach to acute concussion in motor sports: Lessons from NASCAR”

Objectives:
• Identify the unique environment and needs for identifying concussion in motorsport athletes
• Formulate an effective approach to concussion evaluation in motor sports taking into account existing evidence

9:35 am “A New Dynamic Exertion Test to Inform Return to Play Following Concussion” Anthony Kontos, PhD, Research Director UPMC Sports Medicine Concussion Program, University of Pittsburgh

Objectives:
• Analyze evidence for a new dynamic exertion test (EXIT) protocol for informing return to play in concussed athletes.
• Compare scores on the new EXIT among between concussed athletes and age-, sex-, and sport-matched healthy controls.

10:00 am “Sleep and Circadian Science its Effect on Athletic Performance and Health and Explore the Bi-Directional Relationship with Injuries/Concussion Symptoms” Meeta Singh MD, Henry Ford Health Systems

Objectives:
• To learn why sleep is important for the athletic performance and well being
• To learn the science behind wakefulness and sleepiness
• To learn practical interventions that can be used to help the audience address sleep issues in the athletic population

10:25 am End of Morning Session

Notes:
SMART HELMET TECHNOLOGY
Two Workshop Presentations, Tuesday, February 4th

1:00 - 2:00 pm “Spine Boarding to Stabilize the Cervical Spine – What Does the Evidence Say?” Katie Walsh Flanagan PhD AT, Director of Athletic Training, East Carolina University
Objectives: At the conclusion of the presentation, the attendee will be able to:
• Discuss the evidence that supports and disputes long board spine boarding to prevent further injury to the cervical spine.
• Successfully apply long spine board to a patient with a suspected cervical spine injury.
• Safely remove football protective equipment and spine board a patient with suspected cervical spine injury through practice.

2:00 - 3:00 pm "Leading from the Field: How the Self-Serving Bias Influences Ethical Decision-Making in Sports Medicine" Kimberly S. Peer, EdD, ATC, FNATA; Professor, ATP Coordinator, Kent State University, Kent, OH
The purpose of this presentation is to provide evidence through headline cases of the complex and challenging decision-making processes that often have conflicting perspectives within the practice of Sports Medicine.
Objectives:
• Understand and appreciate that the self-serving bias impacts ethical decision making in health care settings;
• Integrate this inherent construct into strategies for considering multiple perspectives when acting on ethical issues in Sports Medicine;
• Reflect on contemporary cases in Sports Medicine to consider the ethical complexities inherent in decision-making on the field and in clinical practice overall; and
• Appreciate how situational factors can greatly impact decision making to encourage policy review and procedural reconsideration to prevent potentially ethical situations from arising.

Notes:
3:30 pm "Using Mobile Technology (Apps) to Assist Return to Activity Following Sport Related Concussions" Michael Hutchison PhD, University of Toronto
Objectives:
• Identify and review the potential uses of mobile apps in concussion management.
• Identify and review the potential concerns with mobile apps in concussion management.

3:55 pm “Distinguishing CTE from genuine neurodegenerative disease: update on CTE research” Rudy Castellani MD, West Virginia University Medical School
Objectives:
• Differentiate modern CTE and dementia pugilistica
• Distinguish CTE and dementia pugilistica from genuine neurodegenerative disease

4:20 pm “Precision Vestibular Treatment following Concussion: Results from a Randomized Controlled Trial (RCT) and A Case Study” Michael W. Collins, PhD Executive/Clinical Director, UPMC Sports Medicine Concussion Program- University of Pittsburgh
Objectives:
• Critically analyze emerging evidence for precision vestibular treatments from a new randomized controlled trial (RCT).
• Discuss a case study involving vestibular treatment for an athlete following concussion.

4:45 pm Exhibits

5:00 pm Concussion Poster Recognitions, Jeffrey Kutcher MD, Moderator

5:15 pm “Common modifiers to concussion outcome: gender and mental health” Meeryo Choe MD, Professor of Pediatric Neurology and Neurosurgery, UCLA Steve Tisch BrainSPORT Program
Objectives:
• To understand whether sex and gender are determinants of concussion incidence
• To understand the role of mental health on concussion and athlete brain health
• To understand whether there are differences in outcome after concussion attributable to sex and/or premorbid mental health conditions

5:40 pm “Panel Discussion on Current Trends in Sports Concussion Management” Jeffrey Kutcher MD, Moderator

6:30 pm Conclusion of Tuesday programming

Notes:
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Wednesday, February 5th, AM Session, Ortho Day, Upper Extremity Issues
7:00 AM Opening remarks, Geoffrey Baer MD, University of Wisconsin Team Physician

7:05 AM “Pitching Behaviors in Youth Athletes: A Comparison to Pitch Smart Guidelines” Justin Greiner MD, University of Wisconsin
Objectives:
• Understand the prevalence of overthrowing in youth baseball players
• Understand the risk factors associated with overthrowing in youth baseball players

7:30 AM “Elbow Injuries in the Athlete” Jon Tueting MD, Rush Orthopedics

7:55 AM “Treating the Superior Labral Tear from Anterior to Posterior (SLAP) in the Athlete – Fix It” Stephen Brockmeier MD, Team Physician, University of Virginia
Objectives:
• To review the current management algorithm for superior labral tears with an emphasis on scenarios where SLAP repair is indicated.
• To present case examples of athletes and active patients with SLAP lesions with the goal of stimulating discussion regarding patient evaluation, management strategies, and the role of SLAP repair in 2019.

8:20 AM “Treating the Superior Labral Tear from Anterior to Posterior (SLAP) in the Athlete – Move It” Grant Jones MD, Team Physician, The Ohio State University
Objectives:
• To describe the different treatment options for SLAP lesions in athletes.
• To discuss the results of biceps tenodesis for SLAP lesions in athletes

8:45 AM “Shoulder Instability in the Athlete” Brian Grogan MD, University of Wisconsin
Objectives:
• Define risk factors for recurrent instability
• Outline current surgical and non-surgical treatment options for the treatment of shoulder instability in the Athlete

9:10 AM “Muscle Transfer for Rotator Cuff Insufficiency” Keith Kenter MD, Homer Stryker School of Medicine, Western Michigan University
Objectives:
• To have a better understanding of rotator cuff anatomy and pathology
• To gain knowledge in treatment options for rotator cuff insufficiency

9:35 AM “Lower Extremity Pain in Distance Runners” Dave Bernhardt MD, University of Wisconsin
Objectives:
• Characterize the differential diagnosis of the distance runner with lower extremity pain
• Demonstrate to patients on risk factors for bone stress injuries, recovery and return to running program

10:00 AM “Finger-Tip to Elbow – Surgery, Bracing and Return to Play in the Elite Athlete” John Tueting MD, Rush Orthopedics and Brian Lund MS AT ATC, Head Football Athletic Trainer, University of Wisconsin
Objectives:
• Demonstrate splinting techniques that allow appropriate return to play for upper extremity injuries.
• Explain the differences in anatomical, surgical and player-position requirements that dictate recommendations for safe return to play.
• Summarize effective communication strategies between athletic training, medical, and when appropriate, the coaching staff that facilitate return to play

10:30 AM Presentation/Workshop on “The use of Blood Flow Restriction Therapy Following an ACL Injury” Zachary Dunkle, Owens Recovery Science and Delphi Medical

Too often during the acute post injury/operative phase, treatment emphasis focuses on symptom management while muscle is neglected. However, this is a crucial period for muscle (Shad et al, 2019). Blood Flow Restriction (BFR) in combination with low intensity loads has been shown to significantly increase muscle mass and strength, similar to those gains observed when high intensity loads were used. As a result, BFR has become an increasingly popular intervention in those who are load compromised, such as individuals recovering from an ACL injury.
Objectives:
• Understand the importance of addressing muscle adaptations acutely following an ACL injury
• Recognize the benefits of using BFR acutely following an ACL injury/surgery
1:00 - 3:00 Workshop Presentation: "Intro to Musculoskeletal Ultrasound Workshop" Kory Gill D.O. the Texas A&M Sports Medicine Fellowship Director, Texas A&M Team Physician

Abstract/Description:
This workshop is designed for Athletic Trainers and other sports medicine care providers who wish to learn about diagnostic musculoskeletal ultrasound. There will be significant hands-on experience in conjunction with this presentation.

Objectives:
• Understand the indications and benefits of musculoskeletal ultrasound.
• Identify important anatomical landmarks and begin to develop skills for performing musculoskeletal ultrasound to assess injuries.

Notes:
Wednesday, February 5th, PM Session, Ortho Day, Lower Extremity Issues

3:00 pm "Why Is That Kneecap So unstable? - Anatomic Risk Factors for Patella Instability" David Diduch MD, is the Allen F. Voshell Professor of Sports Medicine and Chief of Sports Medicine at the University of Virginia

Objectives:
- Provide an overview for the various anatomic risk factors for patella instability and how they can be diagnosed
- Provide a framework for decision making to manage these risk factors to ensure success for surgery

3:25 pm “Multi-ligament Knee Injuries in the Athlete” Geoff Baer MD, Team Physician, University of Wisconsin

3:50 pm “Optimizing Hip Arthroscopy Outcomes in the Athlete: The Use of Functional Testing Protocols” Brian Walczak DO – University of Wisconsin

Objectives:
- Understand the rationale for the use of functional testing protocols after hip arthroscopy in athletes.
- Describe how functional testing can be incorporated in the postoperative rehabilitation of athletes following hip arthroscopy.

4:15 pm “Diagnosing Femoroacetabular Impingement (FAI) and Treating with Hip Arthroscopy” Andrea Spiker MD, University of Wisconsin

Objectives:
- Learn the indications for hip arthroscopy
- Recognize the basic principles of hip arthroscopy

4:40 pm “Building a Comprehensive Sports Science Program” James Cook DVM, PhD, OTSC, Center Chief, Orthopaedic Research Division, University of Missouri

Objectives:
- Outline successful sports science programs and their impact on athletes
- Describe the development and implementation of a comprehensive sports science program at a Division 1 program

5:05 pm “Special Panel Discussion on “How Would You Manage…” Moderated by Geoff Baer MD, with Panelists: Grant Jones MD, Stephen Brockmeier MD, Keith Kenter MD, Michael Lund MS AT, Mary Vander Heiden MS AT

6:00 pm End of Wednesday Programming

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7:00 am “ACL Rehabilitation – Where We are in 2020” Kirk Schulz PT, University of Wisconsin
Objectives:
• Describe the activity level for the post surgical ACL athlete.
• Characterize the atypical response to rehabilitation that changes your rehab program.

7:25 am “ACL Reconstruction – What should We Be Doing for Our Athletes?” Peter Eggert MD, University of Wisconsin
Objectives:
• Provide an up to date literature review of current ACL graft choices
• Discuss sport specific considerations for athletes undergoing ACL reconstruction

7:50 am “Management of Plantar Plate Injuries in the Athlete” Joseph S. Park, MD, Associate Professor, Department of Orthopedic Surgery, University of Virginia Health System
Objectives:
• Understand the anatomy, pathophysiology, diagnosis, and non-operative management for plantar plate injuries in the athlete.
• Describe the operative treatment and post-operative management for plantar plate injuries.

8:15 am “Injury, Specialization and Quality of Life in Athletes” Drew Watson MD, University of Wisconsin
Objectives:
• To present and discuss the relationship between sport participation and quality of life.
• To present and discuss the effects of sport specialization and injury on quality of life in athletes.

8:40 am “PRP and BMAC treatments based on patient demographics and the ability to quantify the components of PRP/BMAC” Elizabeth Batterton MD, Texas Health
Objectives:
• Review hemoanalytic data obtained on PRP and BMC preparations used to treat patients seeking non-surgical pain relief for a variety of musculoskeletal pathologies (e.g., osteoarthritic joints) in the context of providing customized orthobiologics.
• Examine the influence of patients’ demographic factors on the composition of the PRP and BMC preparations.

9:05 am “Panel Discussion on Lower Extremity Cases” Moderated by Geoffrey Baer MD, Panelists: Dave Diduch MD, Kirk Schulz PT, Andrea Spiker MD, Brian Walczak DO, Joe Park MD, Tyler Beckley DO, Ben Pearl DPM, Michael Lund MS AT, Dennis Miller PT AT

10:00 End of Morning Session

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Thursday Afternoon, February 6th, 2019

4:00 pm "Highlights and Clinical Implications from the NCAA-DOD CARE Consortium Concussion Study" Alison Brooks, MD MPH, Associate Professor, Team Physician, Sports Medicine, University of Wisconsin-Madison Department of Orthopedics
Objectives:
• Discuss clinically relevant findings from the CARE Concussion study
• Apply these findings to the management or education of concussed athletes

4:25 pm "Vocal Cord Dysfunction: Not all wheezing is asthma" John Wilson MD, Team Physician, University of Wisconsin
Objectives:
• Be able to recognize the clinical features and associated risk factors in athletes with vocal cord dysfunction.
• Understand treatment strategies for vocal cord dysfunction in athletes.

4:50 pm "How to Implement an Injury Prevention Program in the Workplace" Michael Chapman PhD AT, Amazon.com
Objectives:
• To introduce industrial athletic training and the world of US OSHA.
• To provide guidance on how to implement a new program in a struggling or successful organization.
• To introduce human factors engineering and its impact on human performance.

5:15 pm "The effects of shoe collar height on proximal and distal lower limb muscular response to unexpected perturbation" Justin Stanek Ed.D
Objectives:
• Analyze how shoe collar height affects the body’s muscular response to unexpected gait perturbation.
• Evaluate the complex variables that partially contribute the body’s response to unexpected gait perturbation

End of Conference

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Nature and impact of non-sport-related concussion injuries in collegiate student-athletes

Abigail C Bretzin, PhD, ATC; Bernadette D’Alonzo, MPH; Douglas J. Wiebe, PHD

Sport-related concussion (SRC) is an assumed risk of participation in collegiate sports, with the national incidence estimated at 10,560 SRC annually. Collegiate student-athletes also report mechanisms for concussive injuries that occur outside of their primary sport, yet influences both athletic and academic participation. The nature and impact of these non-sport related concussions (non-SRC) are understudied.

The purpose of this study was to examine and describe non-SRC in a large cohort of student-athletes, participating in the Ivy League-Big Ten Epidemiology of Concussion Study. Athletic trainers identified and enroll student-athletes into this prospective cohort study across 22 participating sites. Athletic trainers collect detailed information on injury mechanism and monitor each athletes’ recovery and through return to learn and play. To date, there are 415 non-SRC retained in the study database. We examined the following outcomes; mechanism, symptom presentation, academic accommodations, and time to symptom resolution, return to full sport, and return to academics that resulted from the non-SRC. A majority of the non-SRC were reported by females (62.65%, n = 260/415), and occurred early in the student-athlete’s college career: freshman: 29.23%, n = 121/415; sophomore: 29.71%, n = 123/415; junior: 25.36%, n = 105/415; senior: 15.46%, n = 64/415; fifth year: 0.24%, n = 1/415. The highest proportions of student-athletes participated in rowing (16.39%, n = 6/415) or track and field/cross country (14.94%, n = 62/415). The most common reported mechanisms involved head impact against a stationary object (33.98%; n = 140/412), fall or slip (33.01%, n = 136/412), car accident (10.19%, n = 42/412), participation in a sport that was not their current sport (e.g., intramural, club, pick-up; 8.74%, n = 36/412), alcohol (7.28%, n = 30/412), bike (4.85%, n = 20/412), fight (4.13%, n = 17/412), horseplay (2.67%, n = 11/412), snow or water sport (1.94%, n = 8/412), and moped or scooter (1.46%, n = 6/412). A majority of these mechanisms occurred in isolation (74.22%; n = 308/415). Non-SRC were reported at a median of 1 [0-2] days from when the injury occurred. Student-athletes experienced a median of 10 [5-15] of 22 total symptoms that resolved in a median of 10 [6-17] days.

The most common symptoms experienced included headache (98.94%, n = 341/363), “don’t feel right” (83.73%, n = 247/295), “pressure in head” (82.71%, n = 244/295), feeling slowed down (76.86%, n = 279/363), feeling like “in a fog” (73.55%, n = 267/363), difficulty concentrating (73.00%, n = 265/363), and fatigue or low energy (70.80%, n = 257/363). Student-athletes returned to full sport in a median of 19 [13-31] days, and returned to academics in a median of 6 [2-14] days. Over half of student-athletes (55.36%, n = 160/289) had academic accommodations while returning to academics. A greater proportion of females (62.63%; n = 119/190) had academic accommodations compared to male student-athletes (41.41%; n = 41/99; χ² = 11.86, p ≤ .001). Collegiate student-athletes endure concussive injuries not related to their sport. Track and field and rowing accounted for the highest proportion of student-athletes in this sample, yet future research should determine why student-athletes in these sports reported non-SRC and if these proportions are representative of true incidence of non-SRC. In addition, future investigations of non-SRC management practices, including roles and responsibilities for identification and monitoring recovery. Last, this crude recognition of non-SRC mechanisms provides an opportunities for prevention in future research.
Concussions in Female Youth Soccer Players: Mechanisms, Symptoms, and Setting of Injury, Original Research

Authors: Taylor A. Farley, Sarah L. Strand

Institutions/Departments: Loyola Marymount University, Department of Health and Human Sciences

Background: The purpose of this study is to determine the relationships between variables between youth female soccer players who have received a concussion and those who have not to find which positions are more at risk, mechanism of the injury, most common symptoms, and settings the concussions occur in. This can help with medical coverage of the teams and return to play protocol.

Methods: The participant group was youth female soccer players between the ages of 11 to 13 years-old. They filled out an online validated concussion history questionnaire and self-reported their concussion history.

Results: Statistical analysis determined significant findings between the mechanism of the concussion to multiple other variables which include when the athlete returned to play (p=0.028), the age of the athlete (p=0.014), and if the player went to the hospital (p=0.003). A significant difference was also found between the player experiencing symptoms of a headache and having their symptoms last over 24 hours after the injury (p=0.018). Additionally, there was a significant correlation found between athletes who experienced symptoms of a headache and also experiencing symptoms of dizziness (p=0.021). All other statistical analysis results yielded no significant findings.

Conclusion: This study demonstrated that the mechanism of the head injury appears to be significant in determining multiple outcomes of the occurrence of the concussion and ultimate medical care of the concussion. The results of this study can be used for better management of concussions, better coverage of soccer games, and further education about signs and symptoms of a concussion for this age group.

***
Concussion Risk Prediction in Collegiate Athletes and Military Cadets: A Machine Learning Approach Using Baseline Data from the CARE Consortium Study

Joel Castellanos\(^1\), Cheng Perng Phoo\(^3\), James T. Eckner\(^1\), Lea Franco\(^1\), Steven P. Broglio\(^5\), Mike McCrea\(^6\), Thomas McAllister\(^7\), Jenna Wiens\(^1\)

\(^1\)Physical Medicine & Rehabilitation, Michigan Medicine, University of Michigan, Ann Arbor, Michigan, USA; \(^2\)Anesthesiology, School of Medicine, University of California San Diego, San Diego, California, USA (current affiliation); \(^3\)Computer Science & Engineering, University of Michigan, Ann Arbor, Michigan, USA; \(^4\)Computer Science, Cornell University, New York, USA (current affiliation); \(^5\)Kinesiology, University of Michigan, Ann Arbor, Michigan, USA; \(^6\)Neurosurgery, Medical College of Wisconsin, Milwaukee, Wisconsin, USA; \(^7\)Psychiatry, Indiana University, Indianapolis, Indiana, USA; \(^1\)co-first authors \(^\ast\)corresponding author

**Objective:** To develop a predictive model for sport-related concussion in collegiate athletes and military service academy cadets using baseline data collecting during the pre-participation examination.

**Methods:** Baseline assessments were performed in 15,682 participants from 21 US academic institutions and military service academies participating in the CARE Consortium Study during the 2015-2016 academic year. Participants were monitored for sport-related concussion during the subsequent season. 176 baseline covariates mapped to 957 binary features were used as input into a support vector machine model with the goal of learning to stratify participants according to their risk for sport-related concussion. Performance was evaluated in terms of area under the receiver-operating characteristic curve (AUROC) on a held-out test set. Model inputs significantly associated with either increased or decreased risk were identified.

**Results:** 595 participants (3.79%) sustained a concussion during the study period. The predictive model achieved an AUROC of 0.73 (95% confidence interval 0.70-0.76), with variable performance across sports. Features with significant positive and negative associations with subsequent sport-related concussion were identified.

**Conclusion:** This predictive model using only baseline data identified athletes and cadets who would go on to sustain sport-related concussion with comparable accuracy to many existing concussion assessment tools for identifying concussion. Furthermore, this study provides insight into potential concussion risk and protective factors.

**Acknowledgements:**
This project was supported, in part, with support from the Grand Alliance Concussion Assessment, Research, and Education (CARE) Consortium, funded, in part by the National Collegiate Athletic Association (NCAA) and the Department of Defense (DOD). The U.S. Army Medical Research Acquisition Activity, 820 Chandler Street, Fort Detrick MD 21702-5014 is the awarding and administering acquisition office. This work was supported by the Office of the Assistant Secretary of Defense for Health Affairs through the Combat Casualty Care Program, endorsed by the Department of Defense under Award No. W81XWH-BA170608. Opinions, interpretations, conclusions and recommendations are those of the author and are not necessarily endorsed by the Office of the Assistant Secretary of Defense for Health Affairs.

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Post-Concussion Syndrome Manifesting as Anxiety and Panic Attacks

**Authors:** Joshua Knudson, MD. Robert Baker MD, ATC, PhD.

**Institution/Departments:** Western Michigan University Homer Stryker M.D. School of Medicine. Departments of Family Medicine and Sports Medicine.

**Background:** Joshua Knudson, a Family Medicine PGY2 Resident, working with Dr. Robert Baker, Program Director of the Sports Medicine program at Western Michigan University. This is a case presentation done to show manifestations of post-concussion syndrome relating to mood.

**Methods:** In office clinical visits and assessments with the patient following the course of their recovery from a concussion and post-concussive symptoms.

**Results:** The patient’s Anxiety/Panic attacks that manifested as part of her concussion symptoms remitted with initiation of CBT therapy.

**Conclusion:** This case demonstrates mood changes related to concussion that can present latent and be treated with CBT.
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6-year Comprehensive PreParticipation Examinations (PPE’s) within Sports Medicine in Rochester, Minnesota

Authors: Corey Kunzer, PT, DPT, SCS, ATC, Jolene Baker, Chad Eickhoff, MA, ATC/L, CSCS, David Soma, MD

Institutions/ Department: Sports Medicine, Mayo Clinic, Rochester, MN

Background: The goal of the preparticipation physical is to promote health and safety of athletes in training and competition, not to exclude. The three primary objectives are to detect any condition that may limit participation, detect any condition that may be life threatening, and meet legal requirements. The secondary objectives are to determine general health, serve as an entry point to the healthcare system, and provide opportunity to initiate discussion on health-related topics. It has been noted that 3.1% to 13.9% of athletes required further evaluation before clearance.

Methods: This study was retrospective review of over a 6 year period (2014-2019) the 1,117 total athletes who presented to Mayo Clinic Sports Medicine for station based PreParticipation Examinations. The PPE’s were held on a single Saturday AM at our clinic in the end of July or early August. Athletes presented for walk-in preparticipation examinations with the following stations:

- Completion of History Form
- Vitals (height, weight, wingspan, vision, blood pressure)
- MSK/ Orthopedics Exam
- Medical Exam
- Final Review/ Check Out

Results: Of the 1,117 athletes who participated, a total of 21 athletes (1.9%) were not cleared to participate in sporting events without further evaluation. The main reasons these athletes were not cleared were due to cardiac concerns and abnormalities.

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<td>146</td>
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<td>Cleared, but with concerns</td>
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<td>26</td>
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<td>Not cleared</td>
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Conclusions: The National Federation of State High School Associations (NFSH) considers the PPE necessary for all athlete participation, but leaves up to the state to mandate and standardize. In the state of Minnesota, the PPE is required every 3 years for participation. For the 1,117 athletes who presented to Mayo Clinic Sports Medicine for station based PPE’s 2%-18% of athletes who were seen were cleared but with concerns and recommendations, while <1%-6% were not cleared. These results were consistent with expected clearance based on previous published literature.

Clinical Relevance: This demonstrates the importance of the PPE, but also the timing is important to allow time for further testing prior to start of season if needed.
Time to turn outside the clinic: Exploring performance testing for return to play following concussion.

**Authors:** Lucy Parrington & Laurie A. King

**Institutions/Departments:** Oregon Healthy & Science University, Portland, OR; Veterans Affairs Portland Oregon Health Care System, Portland, OR

**Background:** Competitive team sport requires athletes to complete dynamic perceptual-motor tasks in complex and constrained environments. Despite this, the process for determining readiness to return to sport following a concussion still relies heavily on techniques that do not quantify complex perceptual-motor skills. Most team sports require fast-paced, and often unanticipated turning motions that are executed with the assistance of oculomotor, vestibular, and cognitive information. Thus, testing more complex, unanticipated turns during agility tasks may capture deficits more likely to be task-relevant for returning to sport. The purpose of this abstract was to explore area under the curve (AUC) for discriminating between concussed athletes and healthy controls.

**Methods:** Participants were athletes divided into three groups: never been concussed (NORM, N=5); previously concussed but returned to play (RTP, N=7); and concussed who had not yet returned to play (NO-RTP, N=4). Agility performance was evaluated using a reactive agility task, where unanticipated turns were cued by a light stimulus. Performance was measured using 1) wearable inertial sensors on the pelvis which estimated peak turning velocity (yaw, °/s), and 2) timer gates measuring start reaction time, reaction time into turns, and agility course completion time. Participants also completed the modified Balance Error Scoring System (mBESS) assessment and Sports Concussion Assessment Tool (SCAT) symptom questionnaire. Receiver operator characteristic curves (ROC) were generated for each measure and the area under the curve (AUC) was calculated for 1) NORM + RTP versus NO-RTP, to determine if agility performance could distinguish between competing athletes and those who have not returned to play, and 2) NORM versus RTP + NO-RTP, to determine if agility performance could distinguish between athletes with and without a history of concussions.

**Results:** In distinguishing between healthy competing athletes and those who have not returned to play, the largest AUC was found for peak turn velocity of the first unanticipated turn (AUC = 0.782) followed by the agility course completion time (AUC = 0.673). The AUC for SCAT symptoms and timer gate reaction time data ranged between 0.600 and 0.677, while the peak turn velocity of the second unanticipated turn was low (AUC = 0.455). The lowest AUC for distinguishing between healthy competing athletes and those who have not returned to play, however, was found for the mBESS (AUC = 0.218). When looking at athletes with and without a history of concussion the largest AUC was again found for peak turn velocity of the first unanticipated turn (AUC = 0.729) followed by the agility course completion time (AUC = 0.667). The peak turn velocity of the second unanticipated turn had better discriminant ability (AUC = 0.646), while the AUC for SCAT symptoms and timer gate reaction time data were weaker at distinguishing between athletes with and without a history of concussion (AUC range 0.542 – 0.667). The mBESS was again found to have the lowest AUC (AUC = 0.417).

**Conclusions:** Preliminary analysis suggests peak turning velocity into an unanticipated turn performed during a performance based agility task has the potential to discriminate between healthy and previously concussed athletes, as well as between active athletes (including previously concussed who have returned to play) and athletes who have not returned to play. BESS and mBESS testing remain a default procedure to aid in diagnosis and tracking of recovery after a concussion, despite known limitations of using this method outside of the acute injury period. These findings suggest that placing athletes in a more functionally active environment, where unanticipated turns occur, may better help to distinguish when an athlete is ready, or not yet ready, to return to play. While promising, this preliminary analysis is constrained by sample size. Nonetheless, findings provide a foundation for future work in this area.
Concussion Knowledge Differences between US Born versus Internationally Born Collegiate Student-Athletes in a NAIA School

Authors: Payne EK*, Gray A*, Hoersten T†, Hageman J‡, & Gear WS§

Institutions/Departments: Moravian College, Bethlehem, PA*, Wright State University Boonshoft School of Medicine, Dayton, OH†, Mercy Health St. Rita’s, Lima, OH‡, University of Wisconsin Green Bay, Green Bay WI§

Background: With no standard protocol for concussion education, there is currently limited knowledge available indicating whether or not there is a gap in concussion knowledge between US born and internationally born collegiate student-athletes. This study aimed to directly compare concussion knowledge between US and internationally born collegiate student-athletes to determine if there is a significant difference between the two populations. Furthermore, we investigated if length of time in the US impacted concussion knowledge scores.

Methods: Collegiate student-athletes were recruited via convenience sampling during pre-participation physicals from an NAIA school in the midwest US. The students were asked to complete a demographic section, focusing on their location of birth (US born or internationally born), sport, and time spent in the US, among other variables. 301 participants (128 females, 172 males, and 1 did not identify, age (19.50 ± 0.08)) fit the inclusion criteria, allowing them to complete the Rosenbaum Concussion Knowledge and Attitudes Survey (RoCKAS) instrument, which was administered via pen and paper. Student’s t-Test was used to determine if a statistically significant difference for CKI scores was present between US born and internationally born participants. A one-way analysis of variance (ANOVA) was used to determine statistical significance for length of time in the United States.

Results: A statistically significant difference was found for CKI score between US born (19.22 ± 2.38) and internationally born participants (18.01 ± 2.57) (t = 3.895, p = 0.000). The ANOVA demonstrated a statistically significant difference for CKI scores (F2,300 = 13.883, p = 0.001). Post-hoc analysis found significant differences in CKI scores between US born (19.22 ± 2.38) and internationally born participants in the US less than 2 years (17.31 ± 2.52) (p = 0.000). Additionally, there was a statistically significant difference between internationally-born participants in the US 2 or more years (19.15 ± 2.25) and internationally born participants in the US less than 2 years (17.31 ± 2.52) (p = 0.002).

Conclusions: Among this population, being born in the US and length of time in the US seem to be contributing factors to collegiate student-athletes’ knowledge of concussions. With a gap in knowledge between groups, the recognition and management of concussion injuries can be affected.

The Influence of Concussion History on Balance Performance

Authors: Ryan Pelo, Peter C. Fino, Leland E. Dibble

Institutions/Departments: University of Utah, College of Health, Department of Health, Kinesiology and Recreation

Background: A variety of studies have shown increasing impairment with subsequent concussions. Time to recovery, along with physical and cognitive performance has shown to be increasingly impaired as the number of concussions increases. Balance specific performance in regard to number of concussions sustained is less studied. The Balance Error Scoring System (BESS) is a common balance performance measure that has been utilized in the Sport Concussion Assessment Tool (SCAT) and is easily performed in a clinical setting.

Methods: The BESS test consists of eye-closed balance on both a firm and foam surface in 3 standing positions (feet-together, single-leg stance, tandem stance). Inertial sensors were used to assess sway in both the coronal and sagittal planes.

Results: 155 male and female athletes from 18 different University of Utah varsity sports were tested. Coronal and sagittal sway in the feet-together position was compared based on number of lifetime concussions and time since last concussion. No significant difference was found within any comparison group.

Conclusions: Unlike previous studies that have shown a change in physical and cognitive performance based on concussion history, we found no significant difference in balance performance. These findings could indicate that balance is less impaired long-term after concussion or the performance of the BESS test may not adequately capture balance changes that may occur in athletes post-concussion injury.
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Elizabeth Batterton MD

Elizabeth Batterton, M.D. is a board-certified, fellowship-trained primary care sports medicine physician. As the former captain of her college varsity and lacrosse teams, Dr. Batterton understands the desire of athletes and active individuals to maintain their musculoskeletal health with little downtime. She completed her residency in Family Medicine at Louisiana State University Health Science Center in Shreveport, Louisiana as well as a fellowship in Primary Care Sports Medicine from John Peter Smith Health System in Fort Worth, Texas. Dr. Batterton is a member of the American Medical Society for Sports Medicine and the American Academy of Family Physicians.

Geoffrey Baer MD

Dr. Baer is board certified in orthopedic surgery and fellowship trained in sports medicine. He is a team physician for the University of Wisconsin Athletic Department and provides orthopedic medical coverage for Badger Football, Badger Men’s and Women’s Ice Hockey, Badger Men’s Soccer, Badger Wrestling and the Badger Spirit Squad. His special interests include sports medicine surgical procedures involving the knee and shoulder.

David Bernhardt MD

Dr. David Bernhardt specializes in primary care sports medicine. He is board certified in pediatrics and fellowship trained in sports medicine. He is a team physician for the University of Wisconsin Athletic Department. In this role, he provides medical coverage for Badger men’s basketball, cross country and track, as well as women’s volleyball, crew, cross country and track. His special interests include pediatric and adolescent athlete concerns, medical problems including concussions, along with other routine musculoskeletal injuries commonly seen in distance runners and triathletes.

His Professional Activities include: Team Physician, University of Wisconsin Athletic Department and Former Medical Director, Madison Marathon

Stephen F Brockmeier MD

Dr. Stephen Brockmeier is an Associate Professor of Orthopaedic Surgery at the University of Virginia, where he specializes in Sports Medicine and Shoulder Reconstruction. He is the fellowship director for the UVA Sports Medicine Fellowship and serves as team physician for the University of Virginia as well as an associate team physician for James Madison University. Dr. Brockmeier joined the faculty at UVa in 2010 after spending three years in practice in Charlotte, North Carolina, specializing in sports medicine, arthroscopy, and shoulder surgery. While in Charlotte, he served as team physician for the NBA Charlotte Bobcats.

President. He is the principle investigator currently on a multi-center clinical trial evaluating shoulder instability in NCAA football players and a prospective clinical trial evaluating outcomes and healing after biceps tenodesis. In addition, he has authored numerous textbook chapters, review articles, and peer-reviewed studies and has given local, regional, and national talks and presentations in the areas of sports medicine and knee/shoulder surgery

Alison Brooks MD

Dr. Brooks is an Associate Professor in the Department of Orthopedics, Division of Sports Medicine at the University of Wisconsin School of Medicine & Public Health in Madison, WI. She is board certified in Pediatrics and fellowship-trained in Sports Medicine and serves as a team physician for Badger Men’s soccer and Women’s ice hockey and the Forward Madison FC in the USL League One. Dr. Brooks serves as the site-PI for the NCAA-DOD CARE Consortium Concussion study at UW-Madison. Dr. Brooks currently is chair-elect of the Executive Committee for the American Academy of Pediatrics Council on Sports Medicine & Fitness. She has previously served on the Board of Directors for the American Medical Society for Sports Medicine.

John C Bruno AT

John C. Bruno, AT is a certified athletic trainer. He is Clinical Director for Sports Medicine and Rehabilitation for Multi Radiance Medical. He also lectures and in-services rehab professionals on the science and clinical application of super pulsed laser technology to rehab professionals in professional and college sports and the military.

John’s professional experience includes working as an athletic trainer at the college, professional and clinic levels. He worked with the New Jersey Nets, NY Cosmos, NY Giants, Fitness Institute, and Ramapo College. In 1982, he was named to the sports medicine staff for the NBA all-star game. John has worked in sales for capital equipment and medical device companies in the rehab industry for over 34 years.
Doug Boersma MS AT oversees the medical treatment, rehabilitation and pre-hab for all 18 Purdue Athletics sports programs as well as the areas of strength & conditioning, nutrition and sports psychology. He was named director of sports medicine in 2012 and promoted to assistant athletics director in 2013 and associate athletics director in 2016. A 1997 Purdue graduate, Boersma returned to his alma mater from Bowling Green State, following stints at Kentucky and Notre Dame.

Rudy Castellani MD
Dr. Rudy J. Castellani is board certified in anatomic pathology and neuropathology. He is currently a professor of pathology and neuroscience, vice chair for pathology research, and section chief of neuropathology at West Virginia University. Dr. Castellani has research interests and numerous publications in neurodegenerative diseases and traumatic brain injury, with an H Factor of 68. He was an invited panelists and only neuropathologist at the International Consensus Conference on Concussion in sport in 2016, and serves on the scientific committee for the International Concussion and Head Injury Research Foundation. He is the recipient of the 2010 Alzheimer medal from the Journal of Alzheimer’s disease.

Michael Chapman EdD AT
Michael (Mike) Chapman is an Environmental Health and Safety Manager at a fortune 100 company specializing in injury prevention and human factors engineering. He also serves as adjunct professor at the University of Louisville focusing on the care and prevention of musculoskeletal disorders. His doctoral concentration surrounded organizational change management and how to effectively implement an injury prevention program and its impact on performance.

A graduate of Michigan State University, Mike continued on to obtain his master’s degree from Wingate University and Doctorate at Gardner-Webb University, both based out of the Charlotte, NC area.

Meeryo Choe MD
Meeryo Choe, MD grew up in the Los Angeles area, traveled east to attend Amherst College, where she majored in Fine Arts completing a senior thesis in Printmaking. She then returned to L.A. to attend medical school at the Keck School of Medicine at the University of Southern California. She started at UCLA in 2004 for a child neurology residency. After completing training, she combined her personal interest in sports with her professional interest in the developing brain by serving as a Neurotrauma/Sports Neurology Fellow at UCLA with Dr. Christopher Giza. During this time, she began working with the Operation Mend Program doing evaluations for traumatic brain injury (TBI).

Randy Cohen AT, DPT
Randy has been Associate AD for Medical Services and Football AT at University of Arizona since 2001. He serves on the Arizona Interscholastic Athletic Sports Medicine Advisory Board that is developing recommendations to Arizona HS’s that cannot change practice times when a heat advisor is in effect.

Michael W. Collins, PhD
Michael (Micky) Collins, Ph.D., a nationally renowned sports concussion clinician and researcher, joined the UPMC Sports Medicine Concussion Program as assistant director when the program was established in September, 2000, under the direction of Dr. Mark Lovell. In 1999, Dr. Collins was the author of two major multi-site studies involving the effects of concussion and return-to-play evaluation methods. These studies were published in the Journal of the American Medical Association (JAMA). Dr. Collins is a co-developer of ImPACT, a computerized neuropsychological testing system that evaluates the severity of concussion in athletes and provides a more accurate determination of when an athlete can safely return to sports following a concussion. Dr. Collins received his bachelor’s degree in psychology and biology at the University of Southern Maine in 1991, his master’s degree in psychology at Michigan State University in 1995, and his doctorate degree in clinical psychology at Michigan State in 1998.

James Cook DVM
After receiving his bachelor’s degree from Florida State University and competing for 5 years as a professional waterskier, Dr. James (Jimi) Cook completed his DVM in 1994 and PhD in 1998. In 1999, he founded the Comparative Orthopaedic Laboratory at the University of Missouri. He has over 250 peer-reviewed publications, over $25 million in research funding, received numerous awards including America’s Best Veterinarian (2007) and a member of the inaugural CoMO 100 class recognizing those who shaped the city of Columbia, Missouri. He is currently Director of the Mizzou BioJoint® Center, Director of The Thompson Laboratory for Regenerative Orthopaedics, Director of Mizzou Sports Science, and the William and Kathryn Allen Distinguished Chair in Orthopaedic Surgery, and serves as Chief of the Division of Research for the Department of Orthopaedics at the University Hospital’s Missouri Orthopaedic Institute.
David R Diduch MD

Dr. David Diduch is the Allen F. Voshell Professor of Sports Medicine and Chief of Sports Medicine in the department of orthopedic surgery at the University of Virginia. He has been on faculty for 25 years at UVA. He serves as the head orthopedic team physician for UVA, providing primary coverage for men’s basketball, football and women's soccer. His practice focuses on knee and shoulder problems as well as general sports medicine, with a subspecialty interest in complex patella instability. His research interests include patella instability, meniscal, ligament, and cartilage problems, and he has over 100 peer reviewed publications.

Zac Dunkle BS PT

Zac is a board certified orthopedic clinical specialist. After leaving the Marine Corps, he attended the Pennsylvania State University, where he graduated with a Bachelor of Science degree in Kinesiology. While at Penn State, Zac assisted lead researchers in the Neuromotion laboratory investigating gait changes following ACL ruptures. After graduating from Emory University’s Doctor of Physical Therapy program, he completed an orthopedic residency at Emory University. Along with being a practicing physical therapist at PhysioEdge in Marietta, GA, Zac currently teaches Blood Flow Restriction certification courses with Owens Recovery Science.

Peter Eggert MD

Dr. Eggert is an orthopedic surgery sports medicine fellow at the University of Wisconsin-Madison. He recently completed his orthopedic residency training at the Medical College of Wisconsin.

Kate Essad MD

Dr. Essad is a board-certified neurologist and the System Director of Concussion Management and Lead of Sports Neurology at Advocate Aurora Health Care in Milwaukee, WI.

She completed her sports neurology fellowship at The Sports Neurology Clinic in Brighton, MI, during which she served as consulting neurologist for the Western Michigan University Broncos. She completed residency in adult neurology at Dartmouth-Hitchcock Medical Center in Lebanon, NH where she served as consulting neurologist for the athletic departments of Dartmouth College and Colby-Sawyer College.

Kory L. Gill MD

Dr. Kory L. Gill is a specialist in primary care sports medicine. He is also an educator in the field of sports medicine. He serves at Texas A&M Health Science Center (TAMHSC) College of Medicine as an Assistant Professor of Family & Community Medicine and is the Director of the Sports Medicine Program for Texas A&M Family Medicine Residency. Dr. Gill also serves on the medical staff for Texas A&M University Athletics and is medical team manager for Texas Task Force 1 Search and Rescue. He is currently an active member of the American Medical Society for Sports Medicine and the American Academy of Family Physicians.

Chris Giza MD

Christopher Giza graduated from Dartmouth College, received his M.D. from West Virginia University and completed his training in Neurology at UCLA. He then worked on the Yosemite Search and Rescue team before joining the UCLA Brain Injury Research Center in 1998. He served on the California State Athletic Commission from 2005-2015, and traveled to Afghanistan in 2011 as a civilian advisor to the Department of Defense. He directs the UCLA Steve Tisch BrainSPORT program and serves as Medical Director for the Operation MEND mild TBI program. Dr. Giza co-authored concussion / mild TBI guidelines for the AAN, CDC and the Concussion in Sport Group (Berlin guidelines), and has been a clinical consultant for the NFL, NHL/NHLPA, NBA, MLB and Major League Soccer. He is a Professor of Pediatric Neurology and Neurosurgery at UCLA.

Justin Greiner MD

Justin Greiner received his M.D from the University of Iowa Carver College of Medicine. He is currently a fourth year orthopedic surgery resident at the University of Wisconsin. He will be applying for an orthopedic sports medicine fellowship following residency.
Brian Grogan MD
Dr. Grogan is a board certified orthopedic surgeon. A native of Janesville, WI, he obtained his medical degree from the University of Wisconsin School of Medicine and Public Health. Dr. Grogan completed orthopedic surgery residency on active duty with the United States Army at San Antonio Uniformed Services Health Education Consortium, Brooke Army Medical Center, San Antonio Military Medical Consortium, Ft. Sam Houston, TX. Dr. Grogan completed fellowship training in Shoulder, Elbow, and Sports Medicine at Columbia University Medical Center, New York, NY and served as a Fellow Team Physician for the New York Yankees (MLB), New York City FC (MLS), Rockland Boulders (CANAM) and Columbia University football (NCAA Division I). Dr. Grogan is a team physician for the University of Wisconsin Athletic Department and provides orthopedic medical coverage for Badger Volleyball, Badger Men's and Women's Swimming and Diving, and Badger Men's and Women's Tennis.

Michael Hutchison PhD
Michael Hutchison  an Assistant Professor in the Faculty of Kinesiology and Physical Education at the University of Toronto. Michael Hutchison holds a PhD in Rehabilitation Science and is a Registered Kinesiologist, who specializes in sport-related concussion research in various populations ranging from adolescent students, university level students, and professional athletes and has published presented internationally in the area of sport concussion. Finally, Dr. Hutchison is also the Director of Concussion Program within the David L. MacIntosh Sport Medicine, University of Toronto, where he oversees a multidisciplinary team of health professionals for sport or physical activity related concussion.

Grant Jones MD
Grant Jones, MD is a Professor in The Ohio State University Department of Orthopaedic Surgery and is in his 21st year as a Team Physician for the Ohio State University Department of Athletics. He serves as the Head Team Physician for OSU’s basketball team and an orthopaedic consultant for OSU’s other varsity teams. He has also been the Head Team Physician for the Columbus Clippers (Triple-A Affiliate of the Cleveland Indians) since 2009 and Team Physician for the Columbus Destroyers (Arena League Football) since 2019. Furthermore, he is the Head Team Physician for the Upper Arlington Public School System.

In 2007, Jones was awarded the Ohio Athletic Trainers Association Team Physician of the Year Award. In 2008, Jones participated in the AOSSM Traveling Fellowship to South America (one of four American orthopedic surgeons selected to travel and give lectures). Finally, he is a member of the exclusive Magellen Society, an international group consisting of the top sports medicine orthopaedic surgeons in the world and was chosen as the North American (AOSSM) representative to the Board of Directors of the Society and President Elect. He was recently selected for the Herodicus Society, another prestigious international group of orthopaedic sports medicine physicians.

Patrick Karns BS AT
Pat is a Certified Athletic Trainer. He has worked extensively with Olympic and Professional athletes for over 35 years, including time as the Head Athletic Trainer for the Colorado Avalanche during their two Stanley Cup wins; the Minnesota Timberwolves in the NBA; and Olympic sports, including soccer, luge, tennis and ice hockey.

Pat currently is the NATA District 7 representative for AT’s Care, providing peer-to-peer support for Athletic Trainers after critical incidents. As a former instructor at the University level, Pat’s research has been published in numerous countries. Pat is a graduate of St. Cloud State University and holds a graduate degree from the University of Northern Colorado. Currently Pat is the sales manager for Sports and Performance at Indiba, a radio frequency device designed to promote tissue repair and pain relief.

Keith Kenter, MD
Dr. Kenter is Professor and Chair of the Department of Orthopaedic Surgery and acting Associate Dean of Clinical Affairs at Western Michigan University Homer Stryker MD School of Medicine in Kalamazoo, Michigan. He also serves as faculty for the Master of Science program in Biomedical Engineering. He completed his medical school education at the University of Missouri-Columbia. His Internship and Orthopaedic Surgery Residency was at Duke University Medical Center and then he completed a fellowship in Sports Medicine and Shoulder Reconstruction at The Hospital for Special Surgery in New York City.

His clinical interests are shoulder reconstruction, which includes arthroscopic surgery, fracture management, rotator cuff surgery, shoulder instability, muscle transfers and shoulder replacements. He also is actively involved with the treatment of all musculoskeletal injuries and cares for professionals, collegiate, high school and recreational athletes.
Gerhard Kinas, BioMedical Engineering

Gerhard Kinas is the founder and CEO of Advanced Musculoskeletal Therapies. With a degree in biomedical engineering, he worked at Storz Medical AG, a leading manufacturer of shock wave technology and has over 30 years of experience in shock wave therapy and its technology. He supported the German Sports Medicine team during the 1996 Olympic Games in Atlanta, Georgia. He has been bringing shock wave technology to the United States since 2000 and is currently serving over 1000 practitioners across 48 states.

Anthony Kontos PhD

Dr. Anthony P. Kontos is Research Director for the UPMC Sports Medicine Concussion Program and Associate Professor in the Departments of Orthopaedic Surgery and Sports Medicine and Rehabilitation at the University of Pittsburgh. He has specialized in concussion research for 15 years and has 237 professional publications and 312 professional presentations. His research is funded by the Centers for Disease Control and Prevention, Department of Defense, National Institutes of Health, and National Football League and focuses on risk factors; neurocognitive/neuromotor effects; psychological issues; active, precision treatments; and concussion in military, pediatric, and sport populations.

Dr. Kontos is a fellow and past-president of the Society for Sport, Exercise & Performance Psychology, and a fellow of the National Academy of Kinesiology, Association for Applied Sport Psychology, and Eastern Psychological Association. He is also the lead co-author (with Dr. Collins) of Concussion: A Clinical Profile Based Approach to Assessment and Treatment.

Jeffrey Kutcher MD

After completing his undergraduate degree at the University of Michigan in 1989, Dr. Kutcher worked as a consultant in epidemiology in Washington, DC until 2003. He then attended the Tulane University School of Medicine, where he remained to complete his internship in Internal Medicine. Dr. Kutcher returned to the University of Michigan in 1999 where he completed his residency in neurology, as well as his fellowship training in stroke. After fellowship, he joined the faculty at the University of Michigan and has served as an Assistant Professor and Service Chief for Inpatient Neurological Services since 2004.

In 2006, Dr. Kutcher founded Michigan NeuroSport, an academic and clinical program dedicated to the neurologic care of the athlete. He is a Team Physician for the University of Michigan, Eastern Michigan University and the USA Hockey Developmental Program. He is also the Medical Director for the Eastern Michigan University Athletic Training Education Program. Dr. Kutcher has research interests in the diagnosis and management of sports concussion, as well as the short and long-term consequences of the injury, with a particular focus on how other neurologic diagnoses can improve our understanding.

He is working within the neurologic community to help build and promote the field of Sports Neurology. Under his leadership, the Sports Neurology Section of the American Academy of Neurology was founded in 2009. He is currently co-lead author, with Dr. Chris Giza, on the AAN’s committee to establish new practice parameters on sports concussion. He is currently employed at the Sport Neurology Clinic in Brighton, MI.

David M Lintner MD

In June 2005, Dr. Lintner was named Chief of Sports Medicine at The Methodist Hospital in Houston after serving in a similar capacity at Baylor College of Medicine for four years. In 2011 he was named to the US News and World Report list of The Best Doctors in America, and once again listed as a Texas Super Doc by Texas Monthly magazine. He is the past President of the Major League Baseball Team Physicians Association, and a member of the Baseball Commissioner’s Medical Advisory Committee.

Dr. Lintner specializes in arthroscopic and reconstructive surgery of the knee, shoulder and elbow and is active in teaching orthopedic surgeons the latest techniques. He also specializes in injuries to throwers’ shoulders and elbows including labral repair and “Tommy John” reconstructions, having written more than thirty scientific articles about ACL injuries, thrower’s injuries, and other sports medicine issues.

Brian Lund MS AT

Brian Lund is his eighth year as part of the University of Wisconsin Sports Medicine staff, and his third as the Badgers’ head football athletic trainer, in 2019. Lund was promoted to head athletic trainer in 2017 after spending five seasons with the Wisconsin football program as an assistant athletic trainer. Prior to joining the Badgers, Lund served eight seasons as a football athletic trainer at Indiana. Lund began his professional career by spending five years as head athletic trainer at Buena Vista University in Storm Lake, Iowa. A native of St. Croix Falls, Wisconsin, Lund received his master’s degree in kinesiology
Jill Manners, ScD, LAT, ATC, PT, COMT

Dr. Jill Manners completed her Bachelor of Science (BS) in Athletic Training / Exercise Science from Ithaca College, Master of Science (MS) in Athletic Training from West Virginia University, Master of Physical Therapy (MPT) from Western Carolina University, and Doctor of Science (ScD) in Physical Therapy from Texas Tech University Health Sciences Center. In addition to her athletic training and physical therapy credentials, Jill is a Certified Orthopedic Manual Therapist through the International Academy of Orthopedic Medicine. Currently, Dr. Manners is the Director of the Athletic Training Program at the University of Georgia and an adjunct professor for the Master of Science in Athletic Training and Doctor of Athletic Training programs at Moravian College.

Andrew Massey MS AT

Andy Massey enjoyed a 32-year career as a clinical athletic trainer, with one year in the high school setting and the remainder in the collegiate setting serving at Wofford College, Appalachian State University and Tulane University. His 16 years as a lecturer in the athletic training education program at Appalachian, coupled with his Master of Arts in Teaching degree, reinforced his commitment to life-long learning, especially as it relates to one’s vocation. His main interests lie in organization and administration, insurance and risk management, baseball injuries and concussions. He is currently an athletics risk consultant with Relation Insurance Services and co-owner and Vice President of Syn-Mass, LLC providing consultant services in sports medicine and athletic training.

Sara Massey BS, HR

Sara Massey is an experienced leader with a demonstrated history of growing for-profit and nonprofit companies in complex business environments. A graduate of Lenoir-Rhyne College (University), Sara spent 11 years as a corporate banker for Wachovia Bank, then eight years as the executive vice president of finance of a privately-owned conglomerate operating long-term care facilities, restaurants and real estate. Subsequently, she served as the executive director of a grantmaking education foundation supporting experiential learning opportunities for public school students and provided business and fundraising counsel to numerous nonprofits. This breadth of experience positioned Sara for her role as the President of Communities In Schools in New Orleans following Hurricane Katrina.

Jane McDevitt PhD AT

Dr. Jane McDevitt completed her PhD in Kinesiology at Temple University, where she also completed a Master of Science in Kinesiology. She earned a BS in Athletic Training at East Stroudsburg University. Dr. McDevitt has published numerous articles and has presented at regional, national and international conferences.

Since 2015, Dr. McDevitt has been an assistant professor at East Stroudsburg University and is currently holding an assistant professor position at Temple University in the College of Public Health's athletic training programs. In addition to teaching she continues to pursue her research investigating genetic markers and their association to concussions. As well as moving forward with designing a concussion specific outcome measure to identify the patient’s prospective as they recover from his/her concussion.

Michael McGee RPT

Michael is a Physical Therapist and a 1987 graduate of SUNY Upstate Medical University in Syracuse, NY. He was rewarded the excellence in research award by the NYS APTA in 1987 for the numerous research projects he performed while in school. During the past 32 years he has worked with numerous athletes from both the professional and collegiate level. As a member of the St. Margaret Memorial Sports Medicine team helped provide pre-season evaluations for both the Pittsburgh Steelers and Pittsburgh Penguins from 1987-1992.

Michael has lectured throughout the US for BACK to GOLF teaching the biomechanics of golf as well as the RAPS (Reaction Agility Power Strength) performance system developed by former NFL/CFL running back Robert Drummond. In 2018 Michael sold his private practices to become the Head Clinical Trainer for Indiba USA. Indiba is a medical device company located in Barcelona Spain and are the founders of RF technology.
Doug McKeag MD

As the One America Professor Emeritus of Sports Preventive Medicine and a former chair for the Department of Family Medicine at the IU School of Medicine, McKeag has turned what once was a health-care afterthought – sports medicine – into a major wing of the industry’s growing focus on health and wellness. The lessons McKeag and his fellow physicians and researchers in the field learn are changing attitudes – and lives – for millions of people worldwide, from professional athletes to “weekend warriors” to those who walk or run for a healthier life. The Michigan State graduate comes by his passions naturally.

As a former college athlete who now consults with the Indianapolis Colts and is the trainer for IUPUI Jaguars’ teams, he knows the importance of proper training, nutrition and a physician’s care and support have for world-class athletes.

Laura Opstedal, DPT, OCS, SCS

Laura graduated from the University of Puget Sound with a Doctorate in physical therapy and a Bachelor of Science degree in biology with a Minor in mathematics. She has 19 years of experience in sports medicine and owns a sports physical therapy practice in Bozeman, MT. Laura’s clinical interests are ACL rehabilitation & return to play decision making

Joseph Park MD

Joseph Park, MD is an Associate Professor of Orthopaedic Surgery at the University of Virginia, where he is the Foot and Ankle Division Head. Dr. Park graduated Magna Cum Laude from the University of Pennsylvania and received his medical degree from the University of Virginia, where he was a member of the Alpha Omega Alpha Honor Society. Dr. Park completed his Orthopaedic Surgery residency training at NYU Hospital for Joint Diseases in 2009. Dr. Park is part of the teaching faculty for the Foot and Ankle and Sports Medicine Fellowships, and is a Team Physician for UVA Athletics. His clinical expertise includes treatment of sports related injuries to the foot and ankle, complex reconstruction for posterior tibialis tendon dysfunction, operative management of forefoot deformities, Achilles tendon reconstruction, ankle arthroplasty, and hindfoot arthrodesis.

Kimberly S. Peer, Ed.D, ATC, FNATA

Dr. Peer is a Full Professor at Kent State University and holds an adjunct appointment at Northeast Ohio College of Medicine and KSU College of Podiatric Medicine. She holds a Doctorate in Higher Education Administration with a Cognate in Health Care Management. Kimberly served as the Editor-in-Chief for the Athletic Training Education Journal and serves on the commission on Accreditation of Athletic Training Education Ethics Committee, NATA Committee on Professional Ethics as well as the Governor appointed Ohio licensure board.

As a Fellow of the NATA, Dr. Peer has published and presented extensively on the international and national levels on professional ethics and has co-authored textbooks on professional ethics. Kimberly has been lauded with national, regional, and state level awards for her contributions to the profession and athletic training education.

Bill Pommerening BS MBA

William Pommerening is President of airPHX. He has spent his career advising a variety of commercial businesses in process improvement, strategic planning, market positioning, corporate valuations and, most recently, in technology start-ups in environmental management and infection control.

Previous positions are managing director of RP Financial, LC and President of TransHawk Systems, LLC. His current position is President of airPHX | COMPANIES where, since 2015, he has overseen the development and distribution of airPHX surface and air decontamination technology in athletic facilities, commercial gyms, hospitals/health care facilities and to the U.S. Air Force. Bill has a B.S. degree in mathematics and computer science from the College of William & Mary and an MBA from the Darden Graduate School of Business Administration at the University of Virginia.

Nicholas Port PhD

Dr. Port’s research training began at New York University as an undergraduate in the laboratory of Dr. Tony Movshon, where he completed an honors thesis in 1991 on visual motion processing. In 1992, Dr. Port attended Oxford, he studied the neurophysiology of blindsight. He received his doctoral training at the University of Minnesota, after receiving his PhD in 1997. Since 2005, Dr. Port has been a professor at Indiana University in the IU School of Optometry, including joint appointments with the Program in Neuroscience, the Cognitive Science Program, and the Department of Psychological and Brain Sciences.
Jeremiah Randall PT AT

Jeremiah Randall was named the Astros Major League Head Athletic Trainer on Nov. 9, 2015. The 2019 season will be his fourth atop the Astros athletic training staff. Prior to joining the Astros, he spent the previous three seasons with the Pittsburgh Pirates serving as the club’s Major League Rehab Coordinator and Physical Therapist/Assistant Athletic Trainer. Prior to joining the Pirates, Randall worked two seasons with the Los Angeles Dodgers, serving as their Minor League Rehab Coordinator in 2010 and as their Major League Physical Therapist for the 2011 season. In addition to his time in Major League Baseball, Randall spent time as an intern in the NFL with the Seattle Seahawks and New England Patriots. Jeremiah received his Doctor of Physical Therapy Degree in 2009 from the University of Miami (FL). He received his undergraduate degree in biology from Tabor College in Hillsboro, Kan., and went on to the University of Kansas to obtain his athletic training degree.

Kirk Schultz PT, OCS, TPI-M3

Kirk holds a Bachelor of Science degree in Physical Therapy from the University of Wisconsin-LaCrosse and is a board certified orthopedic physical therapy specialist by the American Physical Therapy Association. He is a Titleist Performance Institute Medical 3 Certified and a certified strength and conditioning specialist by the National Strength and Conditioning Association.

Matthew Shimshock

Matt Shimshock is the Business Manager for Riddell’s Smart Helmet Technologies team. During his time with Riddell, he’s gotten hundreds of football programs at the college, high school and youth level to embrace head impact monitoring and understand how they can use it to get better as coaches. He has given numerous presentations on the impact of analytics in football and featured in dozens of articles noting the effectiveness of impact sensing technology. Matt is a graduate of Colgate University with a Bachelor of Arts in History. He was also a three-year letter winner on the school's football team.

Meeta Singh MD

Dr Meeta Singh is a sleep doctor whose work and research focuses on “Coaching the Sleep Muscle” to help maximize performance in both individual athletes and sports teams. She also works with C suite executives to help with jetlag management and enhancing sleep with the goal to maximize performance and wellbeing.

She is the Service chief of the sleep medicine, and section head and medical director at the Henry Ford sleep laboratory in Michigan. She did her training in psychiatry at the Mayo clinic and a sleep fellowship at the Henry Ford hospital. She is board-certified by the American Board of Psychiatry and Neurology (under the American Board of Medical Specialties) as a psychiatrist and sleep medicine subspecialist. She has served as a consultant for multiple NFL, MLB, NHL and NBA teams and most recently she worked with the Washington Nationals.

Andrea M Spiker MD

Andrea M. Spiker, MD, is an Assistant Professor of Orthopedic Surgery and a dual fellowship trained, Board Certified Orthopedic Surgeon at the University of Wisconsin-Madison, where she specializes in Sports Medicine and Hip Preservation. She is team physician for UW Badger Athletics and provides orthopedic coverage for the UW Women’s Basketball, Men’s and Women’s Soccer teams. Her clinical interests are in the non-operative and operative treatment of all sports and athletic injuries of the hip and knee, with additional expertise in hip arthroscopy, surgical hip dislocation and periacetabular osteotomy. Dr. Spiker received her undergraduate degree from Wellesley College in Massachusetts. She then received her medical degree from Georgetown University School of Medicine in Washington, D.C. and completed her orthopaedic surgery residency at the Johns Hopkins University in Baltimore, MD.

Justin Stanek Ed.D AT

Justin Stanek, Ed.D, ATC is a certified athletic trainer, athletic training professor and program director at Illinois State University in Normal, IL. He teaches in both of the CAATE accredited undergraduate and graduate athletic training programs. Throughout his career, he has worked clinically in the high school, collegiate, and clinical settings with patients of all ages. His research focuses on the prevention and treatment of lower extremity pathologies and he has authored or co-authored numerous articles appearing in the Journal of Athletic Training, Journal of Sport Rehabilitation, International Journal of Sports Physical Therapy, and the International Journal of Athletic Therapy and Training.
Valerie Tinklepaugh-Hairston

Valerie Tinklepaugh-Hairston is the Clinical Product Manager for Kelvi. Her role encompasses education, training, research and clinical feedback. She came to Fort Worth after spending the previous four years at Villanova working with the women’s basketball and swimming and diving teams. She obtained a Master’s in Public Administration at Villanova and served as an adjunct professor at Eastern University. Prior to her time Philadelphia, she attended Bloomsburg University to obtain a master’s degree in Exercise Physiology while working as a graduate assistant. Hairston received her undergraduate degree from Texas Tech and majored in exercise and sport science with a minor in biology and did her internship at Disney’s Wide World of Sports.

Matthew Toth MS AT

Matt Toth is in his eighth season in the Majors, but his 14th in the Mariners organization. He began the big league portion of his Mariners career focusing on assisting players who were rehabilitating injuries. Following the 2013 season the Mariners Athletic Training Staff was honored with the Martin-Monahan Award as the best medical staff in MLB.

Matt is a graduate of John Carroll (OH) University and has an M.S. in Health and Human Performance from Oregon State. Matt spent the 2009-2011 seasons as the athletic trainer for (AA) Jackson. He was with (A) Wisconsin in 2008, after spending 2006 (Inland Empire) and 2007 (High Desert) in the California League. Matt was an athletic trainer with the OSU football and baseball teams in 2004. He worked as an athletic trainer in the Milwaukee organization in 2002-03 after beginning his career in the Cubs organization in 2001. Matt resides in Auburn, Wash., with his wife, Annie, son Alex and daughter Ellie

John Tueting MD

Jonathan Tueting, MD is an Associate Professor and Chief of Hand and Upper Extremity Surgery for the Department of Orthopedic Surgery at the University of Wisconsin in Madison. His clinical interests include the management of shoulder arthritis and all as complex reconstruction of hand, wrist and elbow trauma and degenerative conditions. He also assists the University of Wisconsin Head Team Physicians in managing hand, wrist and elbow injuries in Badger athletes. He also serves as the Vice Chair for Quality and Peer Review and oversees the quality and peer review initiatives for the faculty and residents in the Department of Orthopedic Surgery. Outside of work, he enjoys cycling, cross-country skiing, kite-boarding, guitar, and cooking.

Mary Vander Heiden MS AT

Mary Vander Heiden serves as University of Central Florida’s Director of Sports Medicine/Head Football Athletic Trainer. Prior to her current post, she proudly served the department as Head Football Athletic Trainer since 2007. She has been a full time part of the UCF Sports Medicine staff since 2001. Vander Heiden completed her MA degree in Exercise Physiology in 2001 from UCF while serving as a Graduate Assistant athletic trainer for the football team. A 1998 Graduate from Wisconsin Eau-Claire, Vander Heiden earned a BS in Kinesiology with a minor in exercise management and a concentration in sports medicine. She was an instructor in the NATA/BOC Accredited Athletic Training Program at UCF from 2001-2004, teaching Intro to Pharmacy and assisting with Bio-mechanics and Modalities as a lab instructor. Vander Heiden remains a Clinical Instructor.

Michael Voight DPT

Presently, Dr. Voight the Director of Sportsmedicine at the Nashville Hip Institute and is also a tenured professor with Belmont University’s School of Physical Therapy in Nashville TN. He also holds a position of Adjunct Associate Professor in the Vanderbilt School of Medicine – Department of Orthopedics where he is the Co-Director of the Vanderbilt/Belmont Sports Physical Therapy Residency program. Dr. Voight has served as a Team Physical Therapist for teams in both the NFL and NBA. In addition, Dr. Voight has consulted with various teams in MLB, NHL and the MLS. Presently, Dr. Voight still maintains a clinical practice at the Nashville Hip Institute, specializing in orthopedic and sports related injuries particularly with PGA tour players

Brian Walczak MD

Dr. Walczak is a orthopedic surgeon and clinician-scientist at the University of Wisconsin-Madison where he specializes in sports medicine and musculoskeletal disease. He is fellowship trained in sports medicine and musculoskeletal oncology. He serves as the team physician for Badger Men’s Hockey. His clinical research interests include functional outcomes following arthroscopy for femoroacetabular impingement and anterior cruciate ligament reconstruction. He is also a member of the Musculoskeletal Biology and Regenerative Medicine laboratory where he is working on optimizing stem cells for orthopedic regenerative applications.
Katie Walsh Flanagan PhD AT
Dr. Katie Walsh Flanagan is a professor and program director of athletic training at East Carolina University in Greenville, North Carolina. She earned her BS at Oregon State, MS at Illinois State and EdD at the University of Southern California. For the past 24 years, she has been the Director of Sports Medicine/Athletic Training Program at East Carolina University, in Greenville, North Carolina.
She is a practicing athletic trainer, researcher and educator and has held leadership roles thorough her career. Dr. Flanagan is considered an expert in policy; especially with lightning safety. In that area, she is internationally known for her lightning safety policies that govern recreation and sport. Katie is currently the District 3, Mid-Athletic Athletic Trainer’s Association Director and sits on the NATA Board of Directors. She is married to Sean Flanagan and they reside in Greenville, NC.

JoHan Wang MS AT, Sports Science Advisor
JoHan Wang is a graduate of the University of California/Davis, where he achieved his BS in Exercise Science with an emphasis in Exercise Physiology. His Master of Science in Exercise and Sports Studies (MSESS) with an emphasis in Biomechanics was completed at Boise State University where he was awarded the Most Outstanding Graduate Student as well as the Tinactin Tough Cases National Award Recipient.
JoHan worked as Performance Director for the Golden State Warriors and Associate Director of Sports Medicine for Texas Christian University. He adds his expertise to RP Sports’ emphasis on providing innovative sports technologies to the marketplace

Andrew Watson MD
Dr. Watson is board certified in Pediatrics and Sports Medicine. He is an Assistant Professor at the University of Wisconsin School of Medicine and Public Health in the Departments of Orthopedics and Rehabilitation, with affiliate appointments in the Departments of Pediatrics and Kinesiology. He is a team physician for University of Wisconsin Athletic Department, providing coverage for Men’s Hockey, Men’s and Women’s Golf, and the spirit squad.
Utilizing a combination of physiologic testing and advanced cardiovascular imaging, his research primarily focuses on evaluating the effects of exercise training on cardiac function, and the cardiovascular limitations to exercise capacity in youth and adult athletes. He also conducts research among collegiate and youth athletes to identify modifiable risk factors for injury and utilize real-time predictive modeling to intervene and reduce injury risk. He is a member of the American Medical Society for Sports Medicine, the American College of Sports Medicine, and a fellow of the American Academy of Pediatrics.

Doug West PhD, AT
Doug West is in his 16 year at Iowa, during this time he has worked directly with track and field and football, and supervised and worked with several other teams.
West earned his BA from Coe College in 1992, MA from Western Michigan in 1994, and PhD from University of Iowa in 2001. West has served as president of the IATS, on the board of directors and chairperson the annual meeting of the Mid-American Athletic Trainers’ Association. West has received the assistant athletic trainer of the year and service awards from the NATA and is in the Iowa Athletic Trainers’ Society Hall of Honor.
West has credentials as a Certified Strength & Conditioning Specialists, full body ART®, Graston Technique®, Kinesiotaping Credential 1 & 2, Lower Quarter Mulligan Concept, Manipulation, Fascial Abrasion Tool, and Intergrative Dry Needling.

John Wilson MD
John J. Wilson, MD, specializes in primary care sports Medicine. Dr. Wilson is board certified in family medicine completed his sports medicine fellowship and clinical research fellowship at the University of Wisconsin-Madison. He is a team physician for the University of Wisconsin Athletic Department. In this role, he provides medical coverage for the Badger men’s football and men’s and women’s swimming and diving teams. His special interests include treatment of sports related injuries, tendonitis and arthritis in active individuals.
His research lab focuses on clinical trials investigating the use of biologic enhancement of soft-tissue and tendon healing using platelet-rich plasma. He has authored numerous textbook chapters, review articles, and peer-reviewed scientific journal articles on various sports medicine topics. He is also an active member of the American Medical Society for Sports Medicine, and served as an AMSSSM international traveling fellow to Italy in 2016.
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