



ACL Research Retreat V
March 25-27th, 2010
Detailed Program



Thursday, March 25th

4:00 – 5:30 p.m.

Pre-Registration in Lobby, Proximity Hotel

6:00 – 9:00 p.m.

Opening Reception @ Natty Greene's Pub & Brewing Co. (Shuttle Service Available)

Friday, March 26th

7:15 – 8:00 a.m.

Registration and Breakfast

8:00 – 8:10 a.m.

Welcome and Introductions

8:10 – 8:45 a.m.

OPENING KEYNOTE: Dr. Edward Wojtys, MD
"ACL Injuries in the Prepubescent and Adolescent Athlete: Clinical and Research Considerations"

8:45 – 9:10 a.m.

Discussion of Keynote (Lindsay Distefano, PhD, ATC and Susan Sigward, PhD, PT, ATC)

9:10 – 10:10 a.m.

ABSTRACT PRESENTATIONS (10 min present / 5 min Q & A)
RISK FACTOR ASSESSMENT: Trunk and Spinal Control
Moderator: Troy Blackburn, PhD, ATC

9:10 –

Influence of Trunk Neuromuscular Control on Run-to-Cut Maneuver: A Risk Factor for ACL Rupture. Chaudhari AMW, Jamison ST: The Ohio State University; Columbus, OH.

9:25 –

Frontal Plane Trunk Position: Compensatory Strategy for Decreased Hip Strength. Nguyen A, Cone JR, Schmitz RJ, Shultz SJ: College of Charleston, Charleston, SC.

9:40 –

Spinal Control Differences Between the Sexes. Johnson ST, Hoffman MA: Oregon State University, Corvallis, OR.

9:55 –

H-Reflex Profile Differences Between the Sexes. Hoffman MA: Oregon State University, Corvallis, OR.

10:10 – 10:30 a.m.

Break

10:30 – 11:30 a.m.

ABSTRACT PRESENTATIONS (10 min present / 5 min Q & A)
RISK FACTOR ASSESSMENT: Muscle Strength and Fatigue
Moderator: Kurt Kornatz, PhD

10:30 –

Muscle Strength Differences in Elite Female Team Handball and Football Players With and Without Previous Anterior Cruciate Ligament Injuries. Nilstad A, Kristianslund E, Steffen K, Krosshaug T, Bahr R, Andersen TE: Oslo Sports Trauma Research Center, Norwegian School of Sports Sciences, Oslo, Norway.

10:45 –

A Single Session of Repeated Wingate Anaerobic Tests Caused Alterations in Peak Ground Reaction Force during 60 cm Drop Landings. Dominguese DJ, Seegmiller JG, Clevidence MW, Krause BA: Ohio University, Athens, OH.

11:00 –

The Effect of Hamstrings Fatigue on Landing Knee Mechanics. O'Connor K, Johnson C, Laughlin W: University of Wisconsin-Milwaukee, Milwaukee, WI.

11:15 –

Changes in Lower Extremity Coordination and Variability Following Neuromuscular Fatigue and Verbal Feedback. McGrath ML, Padua DA, Stergiou N, Blackburn JT, Lewek MD, Giuliani C: University of Nebraska at Omaha, Omaha, NE.

11:30 – 12:30 p.m.

ABSTRACT PRESENTATIONS (10 min present / 5 min Q & A)

RISK FACTOR ASSESSMENT: Anatomical and Hormonal

Moderator: Ajit Chaudhari, PhD

11:30 –

Relationship of Foot Type and Fatigue to Hip Neuromuscular Control and Lower Extremity Kinetics. Stearne DJ, Sato N, Sitler MR, Tierney RT: Temple University, Philadelphia, PA.

11:45 –

The Relationship Between Hamstring Properties and Anterior Knee Joint Stability. Blackburn JT, Norcross MF, Padua DA: University of North Carolina at Chapel Hill, Chapel Hill, NC.

12:00 –

Cyclic Variations in Varus/Valgus and Internal/External Torsional Knee Joint Laxity and Stiffness Across the Menstrual Cycle. Shultz SJ, Schmitz RJ: University of North Carolina at Greensboro, Greensboro, NC.

12:15 –

Presence of a Bony Ridge on the Anteromedial Aspect of the Femoral Intercondylar Notch among Non-Contact ACL Injured Patients. Everhart JS, Flanigan DC, Chaudhari AMW: Ohio State University, Columbus, OH.

12:30 – 1:00 p.m.

Discussion of Morning Papers (Troy Blackburn and Ajit Chaudhari)

1:00 – 1:45 p.m.

Lunch Sponsored by Innovative Sports Training, Inc

1:45 – 2:20 p.m.

KEYNOTE: Dr. Christopher M. Powers PhD, PT

“Mechanisms Underlying ACL Injury Prevention Training: The Brain-Behavior Relationship”

2:20 – 2:45 p.m.

Discussion of Keynote (Riann Palmieri-Smith, PhD, ATC and Mark Hoffman, PhD, ATC)

2:45 – 3:15 p.m.

POSTER BREAK

Sex Differences in Lower Extremity Alignment in Japanese Collegiate Athletes. Shimokochi Y, Uota S, Kunimasa Y, Ambegaonkar JP: Osaka University of Health and Sport Sciences, Kumatori-cyo, Osaka, Japan.

Influence of Hip Motion, Strength and Postural Alignment on Hip Internal Rotation Angle: The JUMP-ACL Study. Goto S, Marshall SW, Beutler AI, Boling MC, Goerger BM, Padua DA: University of North Carolina at Chapel Hill, Chapel Hill, NC.

The Influence of an External versus Internal Focus of Attention with Regard to Motor Learning and Skill Acquisition for ACL Injury Prevention. Pantano KJ, Wu Y, Borotikar BS: Cleveland State University, Cleveland, OH.

Patterns of Hip Flexion Motion Predict Knee Abduction Torques during a Single-leg Land and Cut Maneuver. Kipp K, McLean SG, Palmieri-Smith RM: University of Michigan, Ann Arbor, MI.

3:15 – 4:30 p.m.

ABSTRACT PRESENTATIONS (10 min present / 5 min Q & A)

ACL PREVENTION STRATEGIES

Moderator: John Cone PhD, CSCS

3:15 –

Knee Kinematics during Single- and Double-legged Jump Landings following Six Weeks of Neuromuscular Training. Brown TN, Palmieri-Smith RM, McLean SG: University of Michigan; Ann Arbor, MI

3:30 –

Post-training Increases in Knee and Hip Flexion during Landing Decrease Tibiofemoral Joint Shear and Compressive Loads. Tsai L-C, Lyle MA, Popovich JM, Powers CM: University of Southern California; Los Angeles, CA.

- 3:45 – *Neuromuscular Warm-Up Reduces Injury Rates Among Female Athletes in Urban Public High Schools: A Cluster-Randomized Controlled Trial.* Huxford M, LaBella C, Grissom J, Kim K, Peng J, Christoffel K: Children's Memorial Hospital; Chicago, IL.
- 4:00 – *Effects of an Age-Specific Anterior Cruciate Ligament Injury Prevention Program on Cutting Biomechanics in Youth Athletes.* DiStefano LJ, Blackburn JT, Garrett WE, Guskiewicz KM, Marshall SW, Stephenson LJ, Padua DA: University of Connecticut, Storrs, CT.
- 4:15 – *The Effect of Core Stability and Plyometric Training Programs on Hip Biomechanics During a Drop Vertical Jump in High School Female Athletes.* Jackson KR, Hertel J, Hart JM, Herman D, Kerrigan DC, Ingersoll CD: University of Toledo, Toledo, OH.

4:30 – 5:00 p.m.

Discussion of Injury Prevention Studies (John Cone)

6:00 – 8:00 p.m.

Host Dinner @ Green Valley Grill (Hotel Shuttle Available)

Saturday, March 27th

7:15 – 7:45 a.m.

Breakfast

7:45 – 8:20 a.m.

KEYNOTE: Dr. Steve Marshall, PhD
“Epidemiologic Studies of ACL Injury: Past, Present, & Future”

8:20 – 8:45 a.m.

Discussion of Keynote (Sandy Shultz, PhD, ATC, CSCS and Jennifer Hootman, PhD, ATC)

8:45 – 9:45 a.m.

ABSTRACT PRESENTATIONS (10 min present / 5 min Q & A)
INJURY MECHANISM STUDIES
Moderator: Scott McLean, PhD

8:45 –

Simulated Non-contact ACL Injuries Using a Stochastic Biomechanical Model. Yu B, Lin CF, Gross MT, Ji CS, Padua D, Weinhold P, Garrett WE: University of North Carolina at Chapel Hill, Chapel Hill, NC.

9:00 –

Reconstruction of the Mechanism for Non-contact ACL Injury Among Female Basketball and Team Handball Players Using a Model-Based Image-Matching Technique. Koga H, Nakamae A, Shima Y, Iwasa J, Myklebust G, Engebretsen L, Bahr R, Krosshaug T: Norwegian School of Sport Sciences, Oslo, Norway.

9:15 –

Musculoskeletal Modeling of a Forward Lunge Movement: Implications for ACL Loading. Alkjaer T, Wieland MR, Andersen MS, Simonsen EB, Rasmussen J: University of Copenhagen, Denmark.

9:30 –

Biomechanical Response of the Knee to Injury Level Forces in Sports Loading Scenarios. Meyer EG, Haut RC: Trinity College, Dublin, Ireland.

9:45 – 10:15 a.m.

POSTER BREAK

What is the True Evidence for Gender Related Differences in ACL Injury During Plant and Cut Maneuvers? A Systematic Review. Benjaminse A, Gokeler A, Fleisig GS, Otten E: University Medical Center Groningen, University of Groningen, The Netherlands.

Reliability of the Landing Error Scoring System-Real Time (LESS-RT): The JUMP-ACL Study. Boling MC, DiStefano LJ, Marshall SW, Beutler AI, Onate JA, Padua DA: University of North Florida, Jacksonville, FL.

Validation of a Single Camera 3D Motion Tracking System. Weinhandl, JT, O'Connor KM, Armstrong BSR, Kusik TP, Barrows RT: Univ. of Wisconsin-Milwaukee, Milwaukee, WI.

Influence of High Knee Abduction Angle During Landing on Ambulation: Do ACL Injury Programs Negatively Impact Walking Biomechanics? Herman DC, Jamison ST, Chaudhari AM: University of Virginia, Charlottesville, VA.

- 10:15 – 11:45 a.m. **ABSTRACT PRESENTATIONS (10 min present / 5 min Q & A)**
LANDING AND CUTTING STRATEGIES
Moderator: Randy Schmitz, PhD, ATC
- 10:15 – *Knee Kinematics and Kinetics at Two Landings in a Vertical Stop Jump Task. Dai B, Gillette JC: University of North Carolina at Chapel Hill; Chapel Hill, NC.*
- 10:30 – *The Effect of Single-Leg Landing Style on Hamstrings Muscle Forces. Laughlin W, Weinhandl J, Bazett-Jones, D, O’Connor K: University of Wisconsin-Milwaukee, Milwaukee, WI.*
- 10:45 – *Gender Differences in Lower Extremity Landing Mechanics in Youth Soccer Players Performing a Single-Leg Landing. Pfeiffer RP, Kipp K, Sabick MB, Kuhlman S, Sutter J, Shea KG: Boise State University, Boise, ID.*
- 11:00 – *The Influence of Sex and Maturation on Landing Strategies: Implications for ACL Injury. Sigward SM, Pollard CD, Cheng W-C, Lee S-P, and Powers CM: University of Southern California, Los Angeles, CA.*
- 11:15 – *Sex Differences in Frontal-Plane Kinematics and Kinetics of the Knee and Hip During Running and Rapid Change-of-Direction Tasks. Golden GM, Pavol MJ, Hoffman MA: Oregon State University, Corvallis, OR.*
- 11:30 – *Hip and Knee Mechanics Following Anterior Cruciate Ligament Reconstruction in the Soccer Athlete during Side-step Cutting. Stearns KM, Pollard CD: University of Southern California, Los Angeles, CA.*
- 11:45 – 12:15 p.m. **Discussion of Morning Papers (Scott McLean and Randy Schmitz)**
- 12:15 – 1:00 p.m. **Lunch**
- 1:00 – 1:35 p.m. **KEYNOTE: Dr. Darin Padua, PhD, ATC**
“Executing a Collaborative Prospective Risk Factor Study: Findings, Successes and Challenges”
- 1:35 – 2:00 p.m. **Discussion of Keynote (Yum Nguyen PhD, ATC and Grace Golden PhD, ATC)**
- 2:00 – 3:00 p.m. **ABSTRACT PRESENTATIONS (10 min present / 5 min Q & A)**
RISK FACTOR SCREENING
Moderator: Susan Sigward, PhD, PT, ATC
- 2:00 – *The Landing Error Scoring System (LESS) Prospectively Identifies ACL Injury. Padua DA, Marshall SW, Beutler AI, DiStefano LJ, DiStefano MJ, de la Motte SJ, Goss D: University of North Carolina at Chapel Hill, Chapel Hill, NC.*
- 2:15 – *Three-Dimensional Lower Extremity Kinematics Predict Total Score on the Landing Error Scoring System. Joyce CJ, Boling MC, Buckley BD, Thigpen CA, Padua DA: University of North Florida, Jacksonville, FL.*
- 2:30 – *The relationship between frontal plane knee separation distance and lower extremity joint angles during a drop land: Implications for clinical screening. Havens KH, Sigward SM, Cheng WC, Pollard CD, Powers CM: University of Southern California; Los Angeles, CA*
- 2:45 – *Can Performance in the Star Excursion Balance Test Identify Athletes with Poor Knee and Hip Stability? Steffen K, Nilstad A, Kristianslund E, Krosshaug T, Myklebust G, Bahr R: Oslo Sports Trauma Research Center, Norwegian School of Sport Sciences, Oslo, Norway*
- 3:00 – 3:30 p.m. **Discussion of Papers (Susan Sigward)**
- 3:30 – 5:00 p.m. **CONSENSUS MEETING –Identifying Important Updates to 2008 Document**

Neuromechanical Factors –McLean and Schmitz, Consensus Leaders
Anatomical and Hormonal Factors – Nguyen and Chaudhari, Consensus Leaders
Injury Risk Screening and Prevention – Padua and Sigward, Consensus Leaders

6:30 – 8:30 p.m.

Informal Dinner Reception @ Dave Perrin's

Professor, Provost and Vice Chancellor for Academic Affairs, UNCG