

# BRIAN W. NOEHREN

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Updated 8/14/19

## EDUCATION

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**University of Delaware:** Newark, Delaware

- Ph.D. – Biomechanics and Movement Science, 2009

**University of Connecticut:** Storrs, Connecticut

- M.S. – Physical Therapy, 2001
- B.S. – Pre-Physical Therapy, 2000
  
- Licensed Physical Therapist, State of Kentucky
- APTA Credentialed Clinical Instructor as of April 2004

## EMPLOYMENT

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- 7/16-current **Associate Professor of Orthopaedic Surgery**, University of Kentucky, Lexington, Kentucky
- 7/16-current **Associate Professor of Physical Therapy**, University of Kentucky, Lexington, Kentucky
- 8/09 -6/16 **Assistant Professor of Physical Therapy**, University of Kentucky, Lexington, Kentucky
- 7/05 - 6/09 **Ph.D. Candidate & Research Assistant**, University of Delaware, Newark, Delaware
- Responsible for coordinating the Motion Analysis Lab's gait retraining running study. Duties included data collection, analysis, and recruitment of subjects.
- 7/01 – 7/05 **Physical Therapist**, Alleghany Regional Hospital, Low Moor, Virginia
- Staff physical therapist in both outpatient orthopedics and inpatient acute care.
- 7/02 – 7/05 **Per Diem Physical Therapist**, Aegis Therapies, Clifton Forge, and Lexington, Virginia
- Responsible for evaluation and treatment of patients in a skilled nursing home setting.
- 10/02 – 7/05 **Per Diem Physical Therapist**, Santera Rehabilitation, Clifton Forge, Virginia
- Responsible for evaluation and treatment of patients in a skilled nursing home setting.
- 4/03 – 7/05 **Per Diem Physical Therapist**, Brian Care Center, Low Moor, Virginia
- Responsible for evaluation and treatment of patients in a skilled nursing home setting.

## AWARDS

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- 5/2018 **2018 University of Kentucky Research Professor Award**, presented by UK President Capiluto
- 2/2018 **Early Investigator Award Biomechanics Special Interest Group**, American Physical Therapy Association
- 6/2017 **Eugene Michels Young Investigator Award**, American Physical Therapy Association
- 4/2017 **Outstanding Mentor Award**, Center for Clinical and Translational Science, University of Kentucky

- 3/2017 **Excellence in Research Senior Investigator Award**, College of Health Sciences, University of Kentucky
- 2/2016 **Excellence in Research Award Finalist**, Sports Physical Therapy Section of the American Physical Therapy Association-Presented at Combined Sections Meeting
- 2/2015 **Excellence in Research Award Finalist**, Sports Physical Therapy Section of the American Physical Therapy Association-Presented at Combined Sections Meeting
- 5/2014 **Fellow, American College of Sports Medicine**
- 4/2013 **Excellence in Research Young Investigator Award**, College of Health Sciences, University of Kentucky
- 2/2012 **Excellence in Research Award**, Sports Physical Therapy Section of the American Physical Therapy Association-Presented at Combined Sections Meeting 2012
- 6/2008 **Biomechanics Interest Group's Student Research Award**, American College of Sports Medicine
- 9/2006 **Clinical Biomechanics Award**, American Society of Biomechanics Annual Conference
- 5/2001 **Distinguished Clinician Award**, University of Connecticut Physical Therapy Department Awarded by Department Chair in recognition of excellent performance in clinical affiliation.

## **GRANTS**

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### **Funded - Current**

- (2017-2021) **NIH\NIAMS** Mechanistic Assessment of Blood Flow Restricted Training for an ACL Injury, \$3,287,074. Role: PI
- (2018-2022) **NIH\NIAMS** Myostatin alters muscle composition as the result of an ACL injury, \$2,186,072. Role: CO-I
- (2017-2019) **Smith and Nephew** Assessment of the JOURNEY II TKA to improve knee range of motion, patient reported outcomes, muscle strength, and joint kinematics, \$385,000. Role: CO-I

### **Funded – Completed:**

- (2018-2019) - **ICON Health and Fitness Inc.** Randomized Trial Testing Alterations in Biomechanics Due to Treadmill Design; (\$82,932.) Role: PI
- (2015-2019) - **NSF AIR-TT** Kinect based low cost motion analysis system; (\$199,888.) Role: Co-I
- (2017-2018) - **VPR Office, University of Kentucky**, Motion Capture System Upgrade; (\$80,000.) Role: PI
- (2013 - 2018) - **NIH K-23** Prolonged alterations to muscle following knee surgery and physical therapy; (\$627,055.) Role: PI
- (2017) - **UK Center for Muscle Biology** Evaluating alterations after ACL injury; (\$2500.) Role: PI

- (2013 - 2017) - **NIH UO-1:** Effectiveness of TENS in the treatment of fibromyalgia; (3.5 Million). Role: Co-I when the grant was awarded, then changed to consultant/collaborator when the grant moved to Vanderbilt with Dr. Leslie Crofford.
- (2012 - 2015) - **NSF R1 Medium Collaborative Research:** High accuracy motion analysis using commodity depth camera for clinical lower extremity research; (\$300,000). Role: Co-I
- (2013 - 2015) - **NIH\NIAMS Building Interdisciplinary Research Teams (BIRT);** (\$50,000.) Role: Collaborator
- (2014-2015) - **NSF-ICORPS:** Assessment of the feasibility of commercialization of a 3D markerless motion capture system with application to physical therapy (\$50,000) Role: PI
- (2014 - 2015) - **UK Office of Research Grant:** Disturbance of neuromuscular control in ACL injury: A functional neuroimaging study; (\$12,000). Role: PI
- (2011 - 2014) - **APTA Orthopedic Section Research Grant:** Defining muscular weakness and gait alterations in chronic patellofemoral instability; (\$15,000). Role: PI
- (2011-2013) - **NIH R-34:** Effectiveness of TENS on Fibromyalgia; (\$100,000). Role: Co-I.
- (2011-2013) - **CTSA KL-2** Micro and macro alterations to muscle following knee surgery and rehabilitation; (\$160,000). Role - PI
- (2008-2009) - **American College of Sports Medicine Student Research Grant** (\$5000)
- (2008) - **Foundation for Physical Therapy Promotion of Doctoral Studies Award** (PODS 2, \$15,000)
- (2007) - **Foundation for Physical Therapy Promotion of Doctoral Studies Award** (PODS 1, \$7,500)
- (2006) - **Foundation for Physical Therapy Promotion of Doctoral Studies Award** (PODS 1, \$7,500)

## TEACHING

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PT 867 Research Topics: Design: Instructor Spring 2018  
 PT 645 Research and Measurement: Instructor Summer 2018-Current  
 PT 654 Motor control theory and intervention: Co-instructor, Spring 2010 - 2018  
 PT 805 Normal functional anatomy: Co-instructor, Spring 2010 - Current  
 PT 815 Basic Clinical Skills 2010 - Current  
 PT 826 Orthotics: Guest Lecture Fall 2010 - 2012  
 PT 652 Pathomechanics: Co-instructor, Fall 2009 – 2011

## GUEST LECTURES

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Orthopedic Grand Rounds: 2013, 2014, 2015  
 Orthopedic resident class: January 2013  
 KHP 615 Biomechanics of Fundamental Movements October 2012

## **ADVISING\MENTORING**

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### **Currently the Research Advisor to 9 Physical Therapy Students**

Projects include:

Training program for BFRT testing two protocols (3 students class of 2020)

A retrospective chart review of treatment for Patella Instability (2 students class of 2020)

Evaluation of muscle endurance after an ACL reconstruction (4 students class of 2021)

### **Orthopedic Residents:**

- Ben Willson (2015-2018)
- Chris Yonz (2013- 2017)
- Jeremy Burnham (2013- 2016)
- Ryan Seal (2013- 2016)
- Chris Hayes (2014- 2016)

### **Post Doctoral Scholars**

- Kristin Morgan (2014 - 2016) Now at University of Connecticut in a tenure track line
- Anne Schmitz (January 2012 - July 2014) Now at Gannon University in a tenure track line

### **Graduate Students: currently chair 6 committees and am a member of an additional 4 committees, 10 students in total**

- Brian Eckenrode (2019 - current) Ph.D. committee member
- Allysa Bird (2018 - current) Ph.D. committee member
- Rachelle Hart (2018 - current) Masters committee member
- Josh Van Wyngaarden (2017 - current) Ph.D. chairperson
- Lauren Erikson (2017 - current) Ph.D. chairperson
- Richard Watson (2017 - current) Ph.D. chairperson
- Alex Spencer (2017 - current) Masters committee chairperson
- Baily Peck (2017-current) Ph.D. member
- Katie Lucas (2016 - current) Ph.D. chairperson
  - Recipient of ACSM doctoral student grant
- Chelsey Roe (2016 - current) Ph.D. chairperson
- Paul Kline (2013 - 2017) Ph.D. chairperson
  - Recipient of TL-1 funding from CCTS, first in CHS
- Shelby Biaz (2016 - 2019) Ph.D. committee member
- Ryan McCann (2015 - 2017) Ph.D. member
- Jeff Mettler (2015 - 2016) Masters committee member
- Mitch Todd (2013 - 2015) Masters committee chairperson
- Mike Baggaley (2012 - 2014) Masters committee member
- Tomas Cunningham: (2009 – 2012) Ph.D. committee member
- Zack Sanchez: (2009 – 2011) Masters committee chairperson
- Megan Quinlevan: (2009 – 2011) Masters committee chairperson
  - Recipient of NATA student research grant \$1000
- Megan Miller: (2010 – 2011) Masters committee chairperson

### **Research Mentor to Undergraduate Students: 8 Currently Working in BioMotion Lab**

- Hunter Faulkner (2019 -current)
- Madison Grzesiak (2019 -current)
- Maddie Romines (2017-current)
- Morgan Dearing (2017-current)
- Olivia Lohre (2018-current)
- Becky Wang (2018-current)
- Victor Huynh (2018-current)
- Ashley Holzer (2018-current)

**Undergraduate Students: Former. To date 27/27 or 100% have gone on to graduate school**

- Gaelen Athanaze (2017-2019) Accepted to Army's PT program at Baylor
- Samantha Price (2016-2018) Accepted to University of Dayton PT program
- Jessica Schilling (2016- 2018) Taking gap year applying to MD programs 2020
- Mia McDonald (2016-2018) Accepted to med school at UK
- Richard Lawless (2016- 2017) Started PhD program at Vanderbilt
- Hayley Reed (2015- 2018) Accept to PT school at Wash U
- Molly Lex (2016- current) Accepted to PA school at UK
- Grant Burgess: (2012-2017) We were awarded an NSF undergraduate fellowship which Grant was the recipient of for 2013-2014
- Amanda Hickey (2015-2017) Accepted to PT school at UK
- Madison Marquez (2015-2017) Accepted to PT school at OSU
- Tyler Bayers (2015-2016) Accepted to Medical School at U of L
- Chris Alcorn: (2013-2015) Accepted to Medical School at IL
- Catie Garcia (2013-2015) Accepted to PT school at UK
- Chelsea Beegam (2013-2015) Accepted to PT school at UK
- Fatemeh Omidy (2013-2015) Accepted to PT school at UK
- Ryan Williamson (2013-2015) Accepted to PA school
- Allie Rommies (2013-2015) Accepted to PA school at UK
- Colleen Benish (2014-2016) Accepted to PT school at St Louis
- Rachele McCKinley: (2013 – 2014) Accepted to PT school at UK
- Kaley Robertson: (2013 –2014) Accepted to PT school at UK
- Chelsea Oswald: (2013-2014) Accepted to PT school at OSU
- Katelyn Ackerman: (2011 – 2012) Accepted to PT school at UK
- Kate Grim: (2011 – 2012) Accepted to PT school at UK
- Ross Hempell: (2011 – 2012) Accepted to Medical school UL
- Susan Myers (2012-2013) Accepted to PA school at UK
- Akash Patel (2012-2013) Accepted to Medical school Emory
- Cody Hospkins (2012-2013) Accepted to PT school at UK

**Research Mentor to High School Students**

- Ally Tripure (2018-2019) Senior research project, Kentucky Young Researchers Program, Now attends Bellarmine University
- Aaron Dupont (2014-2015) Senior research project, attends UK
- Grant Burgess: (2010 – 2012) Kentucky Young Researchers Program
  - Placed second in district science fair, won Army research award for his research completed in the lab.
- Rebecca Williams (2012-2013) Kentucky Young Researchers Program, now attending Vanderbilt

## PUBLICATIONS

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Kline PW, Jacobs CA, Duncan ST, **Noehren B**. Step descent strategy is altered bilaterally despite unilateral muscle strength impairment after total knee arthroplasty. *Knee Surg Sports Traumatol Arthrosc*. 2019 *In Press*

Van Wyngaarden JJ, **Noehren B**, Archer KR. Screening for Psychosocial Risk Factors in the Physical Therapy Setting. *Journal of Applied Biobehavioral Research*, 2019 *In Press*.

Chelsey Roe MS, ATC, Cale Jacobs, PhD, ATC, Paul Kline, PT, DPT, PhD, Katie Lucas, PT, DPT, Darren Johnson, MD, Mary Lloyd Ireland, MD, Christian Lattermann, MD, **Brian Noehren**, PhD, PT,. Associations of Single Leg Performance Tests to Patient Reported Outcomes Following Primary ACL Reconstruction. *Clinical Journal of Sport Medicine* 2019 *in press*.

Peck BD, Brightwell CR, Johnson DL, Ireland ML, **Noehren B**, Fry CS. Anterior Cruciate Ligament Tear Promotes Skeletal Muscle Myostatin Expression, Fibrogenic Cell Expansion, and a Decline in Muscle Quality. *Am J Sports Med*. 2019 May;47(6):1385-1395

Kline PW, Jacobs CA, Duncan ST, **Noehren B**. Rate of torque development is the primary contributor to quadriceps avoidance gait following total knee arthroplasty. *Gait Posture*. 2019 Feb;68:397-402

Lucas, K.; Jacobs, C.; Lattermann, C.; **Noehren, B**. Similarities in Gait and Strength in Patellar Instability and Patellofemoral Pain. *Clinical Journal of Sport Medicine*. 2019 (*Under Review*)

Erickson LN, Lucas KCH, Davis KA, Jacobs CA, Thompson KL, Hardy PA, Andersen AH, Fry CS, **Noehren B**. Effect of blood flow restriction training on quadriceps muscle strength, morphology, physiology, and knee biomechanics before and after anterior cruciate ligament reconstruction: protocol for a randomized clinical trial. *PTJ*. 2019;99(8):1010-1019.

Morgan, K.D. and **B. Noehren**. Identification of Knee Gait Waveform Pattern Alterations in Individuals with Patellofemoral Pain using Fast Fourier Transform. 2018 *Plos One* 14 (12)

Bogges G, Morgan K, Johnson D, Ireland ML, Reinbolt JA, **Noehren B**. Neuromuscular compensatory strategies at the trunk and lower limb are not resolved following an ACL reconstruction. *Gait Posture*. 2018;60:81-87.

Kline PW, Burnham J, Yonz M, Johnson D, Ireland ML, **Noehren B**. Hip external rotation strength predicts hop performance after anterior cruciate ligament reconstruction. *Knee Surg Sports Traumatol Arthrosc*. 2018;26(4):1137-1144.

**Noehren B**, Kosmac K, Walton RG, Murach KA, Lyles MF, Loeser RF, Peterson CA, Messier SP. Alterations in quadriceps muscle cellular and molecular properties in adults with moderate knee osteoarthritis. *Osteoarthritis Cartilage*. 2018 Oct;26(10):1359-1368.

Wilson BR, Robertson KE, Burnham JM, Yonz MC, Ireland ML, **Noehren B**. The Relationship Between Hip Strength and the Y Balance Test. *J Sport Rehabil*. 2018:1-6.

Fry, C. S., D. L. Johnson, M. L. Ireland and **B. Noehren** (2017). "ACL injury reduces satellite cell abundance and promotes fibrogenic cell expansion within skeletal muscle." *J Orthop Res* 35(9): 1876-1885.

Kline, P. W., J. Burnham, M. Yonz, D. Johnson, M. L. Ireland and **B. Noehren** (2017). "Hip external rotation strength predicts hop performance after anterior cruciate ligament reconstruction." *Knee Surg Sports Traumatol Arthrosc.*

**Noehren, B.**, Andersen, A., Hardy, P., Johnson DR., Ireland, ML., Thompson, KL., Damon, B., (2016) Cellular and Morphological Alterations in the Vastus Lateralis Muscle as the Result of ACL Injury and Reconstruction. *Journal of Bone & Joint Surgery, American Volume*, 98 (18) 1541-1547

Burnham, J., Yonz, C., McKinley, R., Robertson, R., Johnson, D., Wilson, BR., Ireland ML., **Noehren, B.**, (2016) Relationship of Hip and Trunk Muscle Function with Single Leg Step-Down Performance: Implications for Return to Play Screening and Rehabilitation. *Physical Therapy in sport*. 22 (66-73)

Kline PW, Johnson DL, Ireland ML, **Noehren B.** Clinical Predictors of Knee Mechanics at Return to Sport Following ACL Reconstruction. *Med Sci Sports Exerc.* 2016 May;48(5):790-5.

Morgan KD, Zheng Y, Bush H, **Noehren B.** Nyquist and Bode stability criteria to assess changes in dynamic knee stability in healthy and anterior cruciate ligament reconstructed individuals during walking *Journal of Biomechanics.* 2016 (9):1686-91

Butowicz CM, Ebaugh DD, **Noehren B.** and Silfies SP. VALIDATION OF TWO CLINICAL MEASURES OF CORE STABILITY. *Int J Sports Phys Ther* 11: 15-23, 2016.

DiCesare CA, Bates NA, Barber Foss KD, Thomas SM, Wordeman SC, Sugimoto D, Roewer BD, Medina McKeon JM, Di Stasi S, **Noehren BW.** Ford KR, Kiefer AW, Hewett TE, and Myer GD. Reliability of 3-Dimensional Measures of Single-Leg Cross Drop Landing Across 3 Different Institutions: Implications for Multicenter Biomechanical and Epidemiological Research on ACL Injury Prevention. *Orthop J Sports Med* 3:, 2016.

**Noehren B.** Shuping L, Jones A, Akers DA, Bush HM, and Sluka KA. Somatosensory and Biomechanical Abnormalities in Females With Patellofemoral Pain. *Clin J Pain* 32: 915-919, 2016.

Malempati C, Jurjans J, **Noehren B.** Ireland ML, Johnson DL. Current Rehabilitation Concepts for Anterior Cruciate Ligament Surgery in Athletes. *Orthopedics.* 2015 Nov 1;38(11):689-96.

Kline PW, Morgan KD, Johnson DL, Ireland ML, **Noehren B.** Impaired Quadriceps Rate of Torque Development and Knee Mechanics After Anterior Cruciate Ligament Reconstruction With Patellar Tendon Autograft. *Am J Sports Med.* 2015 Oct;43(10):2553-8.

Baggaley M, **Noehren B.** Clasey JL, Shapiro R, Pohl MB. Frontal plane kinematics of the hip during running: Are they related to hip anatomy and strength? *Gait Posture.* 2015 Oct;42(4):505-10.

Myer GD, Bates NA, DiCesare CA, Barber Foss KD, Thomas SM, Wordeman SC, Sugimoto D, Roewer BD, Medina McKeon JM, Di Stasi SL, **Noehren BW.** McNally M, Ford KR, Kiefer AW, Hewett TE. Reliability of 3-Dimensional Measures of Single-Leg Drop Landing Across 3 Institutions: Implications for Multicenter Research for Secondary ACL-Injury Prevention. *J Sport Rehabil.* 2015 May;24(2)

**Noehren B.** Andersen A, Feiweier T, Damon B, Hardy P. Comparison of twice refocused spin echo versus stimulated echo diffusion tensor imaging for tracking muscle fibers. *J Magn Reson Imaging.* 2015 Mar;41(3):624-32.

Schmitz A, Ye M, Boggess G, Shapiro R, Yang R, **Noehren B.** The measurement of in vivo joint angles during a squat using a single camera markerless motion

capture system as compared to a marker based system. *Gait Posture*. 2015 Feb;41(2):694-8.

**Noehren B**, Dailey DL, Rakel BA, Vance CG, Zimmerman MB, Crofford LJ, Sluka KA. Effect of transcutaneous electrical nerve stimulation on pain, function, and quality of life in fibromyalgia: a double-blind randomized clinical trial. *Phys Ther*. 2015 Jan;95(1)

Schmitz A, **Noehren B**. What predicts the first peak of the knee adduction moment? *Knee*. 2014 Dec;21(6):1077-83. doi: 10.1016/j.knee.2014.07.016.

**Noehren B.**, Curry, M, Abraham, A., Johnson, D., Ireland, M.L. (2014) Trunk and Hip Neuromuscular Control following Rehabilitation For an Anterior Cruciate Ligament Reconstruction *Journal of Orthopedic Research* (10) 1305-1310

Cunningham T.J., Mulineaux D.R., **Noehren B.**, Shapiro T., Uhl T.L., (2014) Coupling angle variability in healthy and patellofemoral pain runners *Clin Biomech* (29) 317-322

Witvrouw, E, Callaghan, M.J., Stefanik, J.J., **Noehren, B.**, Bazett-Jones D.M., Willson, J.D., Earl-Boehm, J.E., Davis, I.S., Powers, C.M., McConnell, J., Crossley, K.M., (2014) Patellofemoral pain: consensus statement from the 3<sup>rd</sup> International Patellofemoral Pain Research Retreat held in Vancouver, September 2013. *British Journal of Sports Medicine* (48) 411-440

Fry, C.S., **Noehren, B.**, Mula, J., Ubele, M.F., Westgate, P.M., Kern, P.A., Peterson, C.A., (2014). Fiber type-specific satellite cell response to aerobic training in sedentary adults. *Journal of Physiology* (592) 2625-2635

Schmitz, A., Russo, K., Nicholson, L., **Noehren, B.** (2014). Do Novice Runners Have Weak Hips and Bad Running Form? *Gait and Posture* (40) 82-86

**Noehren, B.**, Schmitz, A., Hempel, R., Westlake, C., Black, W. (2014) Assessment of Strength, Flexibility, and Running Mechanics in Males with Iliotibial Band Syndrome. *Journal of Orthopaedic and Sports Physical Therapy*. (44) 217-222

Schmitz, A., Mao, Y., Shapiro, R., Yang, R., **Noehren, B.** (2014). Accuracy and Repeatability of Joint Angles Measured using a Single Camera Markerless Motion Capture System. *Journal of Biomechanics*. 47: 587-591.

Schmitz, A., Pohl, M.B., Woods, K., **Noehren, B.** (2014) Variables during Swing Associated with Decreased Impact Peak and Loading Rate in Running. *Journal of Biomechanics*. 47: 32-38.

**Noehren, B.**, Hamill J., Davis, I., (2013) Prospective Evidence for a Hip Etiology in Patellofemoral Pain. *Medicine and Science in Sport and Exercise* (6) 1120-1124

**Noehren, B.**, Willson, H., Miller, C., Lattermann, C., (2013) Long Term Gait Deviations in Anterior Cruciate Ligament Reconstructed Females. *Medicine and Science in Sport and Exercise* (7) 1120-1124

Duncan, S.T., **Noehren, B.**, Lattermann, C., The Role of Trochleoplasty in Patellofemoral Instability (2012) *Sports Med Arthrosc.* (3) 171-180.

**Noehren, B.**, Sanchez, Z., Cunningham, T., McKeon, P.O., (2012) The Effect of Pain on Hip and Knee Kinematics During Running in Females with Chronic Patellofemoral Pain, *Gait Posture* (3) 596-599.

**Noehren, B.**, Duncan, S., Lattermann, C.L., (2012) Radiographic Parameters Associated with Lateral Patella Lesions in Young patients. *KSSTA*. (12) 2385-2390



**Noehren, B.**, Pohl, M.B., Sanchez, Z., Cunningham, T., Lattermann, C.L., (2011) Proximal and Distal Kinematics in Femal Runners With Patellofemoral Pain, *Clinical Biomechanics* (4) 366-371.

**Noehren, B.**, Barrance, P.B., Pohl, M.B., Davis, I.S., (2011) A Comparison of Tibiofemoral and Petellofemoral Alignment During a Neutral and Valgus Single Leg Squat: An MRI Study, *The Knee* (4) 380-386.

**Noehren, B.**, Scholz, J., Davis, I. (2011) The Effect of Real-time Gait Retraining on Hip Kinematics, Pain and Function in Subjects with Patellofemoral Pain Syndrome. *BJSM*, (45) 691-696  
-Manuscript was selected as the editors choice.

**Noehren, B.**, Manal, K., Davis, I. (2010) Improving Between-Day Kinematic Reliability Using a Marker Placement Device, *JOR* (11) 1405-1410

Ferber, R., **Noehren, B.**, Hamill, J., Davis, I., (2010). Competitive Female Runners With a History of Iliobitlial Band Syndrome Demonstrate Atypical Hip and Knee Kinematics, *JOSPT* (40) 52-58

Hamill, J., Miller, R., **Noehren, B.**, Davis, I., (2008). A Prospective Study of Iliotibial Band Strain in Runners, *Clin Biomech* (23) 1018-1025

**Noehren, B.**, Davis, I., Hamill, J., (2007). Clinical biomechanics award winner 2006. Prospective Study of the Biomechanical Factors Associated with Iliotibial Band Syndrome. *Clin Biomech* (22) 951-956.

### **Book Chapters:**

- Ireland, M. L., Bolgla, L. A., & **Noehren, B.** (2018). Gender differences in core strength and lower extremity function during static and dynamic single-leg squat tests. In ACL Injuries in the Female Athlete: Causes, Impacts, and Conditioning Programs (pp. 239-257). Springer Berlin Heidelberg
- **Noehren, B.**, Ireland M.L., Bolgla L.A., Sex difference in core strength and lower extremity function during static and dynamic single leg squat tests 2<sup>nd</sup> edition ACL Injuries in the Female Athlete (Springer) (2017)
- Pagorek, S., **Noehren, B.**, Malone, T., Principles of Rehabilitation of Muscle and Tendon Injuries, in: Rehabilitation of the Injured Athlete, 4<sup>th</sup> edition, (Saunders). (2012).

### **PEER REVIEWED PUBLISHED ABSTRACTS\ INTERNATIONAL PRESENTATIONS**

**\*Primary Author, # Senior Author**

- Davis K, Jacobs CA, Johnson DL, **Noehren B.** Reduced total support moment during stair descent in ACL-deficient individuals. In: International Society of Biomechanics Conference; Calgary, Canada, (2019) #
- Spencer A, **Noehren B.**, Activity Classification Using Foot Contact Force Features from Instrumented Insoles. International Society of Biomechanics Annual Meeting, Calgary, AB, (2019) #
- Spencer A, **Noehren B.** Rate of Torque Development Declines at Lower Relative Torque Outputs in ACL Reconstructed Limbs. International Society of Biomechanics Annual Meeting, Calgary, AB, (2019) #
- Morgan, K.D. and **B. Noehren.** Classifying Individuals with Patellofemoral Pain from Gait Waveform Pattern Kinematics using Fast Fourier Transform. World Congress of Biomechanics, 2018, Dublin, Ireland. #

- **Noehren B.**, Davis K., Jacobs, C., Johnson DL., Ireland, ML., Impairment in quadriceps rate of torque development as a result of an anterior cruciate ligament tear: World Congress of Biomechanics (2018)\*
- Jacobs C., Ireland ML., Johnson DL., **Noehren B.**, Earlier Timing of Anterior Cruciate Ligament Reconstruction Resulted in Greater Quadriceps Strength and Self-Reported Function: ACL Study Group Meeting (2018) #
- **Noehren B.**, Jacobs C., Ireland ML., Johnson DL., Fry, C., Myostatin Regulation in the Quadriceps Muscle Following an ACL Tear: ACL Study Group Meeting (2018) \*
- Ireland ML., Johnson DL., Jacobs C., **Noehren B.**, Fear of Re-injury Coincides with Inferior Quadriceps Strength and Function and Patient-Reported Outcomes Six Months After ACL Reconstruction ACL Study Group Meeting (2018) #
- **Noehren, B.** Kosmac, K., Walton R., Lyles, M.F., Loeser, R.F., Messier., S.P., Peterson, C.A., Alterations In Quadriceps Muscle Physiology As The Result Of Knee Osteoarthritis: Osteoarthritis Research Society International Annual Meeting (2017)
- **Brian Noehren**, Dylan Lawless, Anders Andersen, Peter Hardy, Moriel Vandsburger; Evaluation of T1p time in the quadriceps muscle after an Anterior Cruciate Ligament Reconstruction: Relationship to muscle strength and injury recovery: International Society for Magnetic Resonance in Medicine Annual Meeting (2017)
- **Brian Noehren**, Dylan Lawless, Anders Andersen, Peter Hardy, Moriel Vandsburger; Evaluation of T1p time in the quadriceps muscle after an Anterior Cruciate Ligament Reconstruction: Relationship to muscle strength and injury recovery: (2017) CEST music city meeting
- Schmitz, A., Ye, M., Shapiro, R., Yang, R., **Noehren, B.** (2014) Can the Kinect Measure In Vivo Joint Angles as well as a Marker-Based System? 7<sup>th</sup> World Congress of Biomechanics#
- Boggess, G., Schmitz, A., **Noehren, B.** (2014) The Relationship between Trunk Power, Rotation and Muscle Endurance. World Congress of Biomechanics#
- Schmitz, A., Norberg,J., **Noehren, B.** (2014) Does the GRF Pass through the COM during Gait? World Congress of Biomechanics #
- **Noehren, B.**, Hosey, R., Lattermann C., (2013) Defining the differences in gait mechanics between those with patellofemoral pain and patella instability. The International patellofemoral pain retreat\*
- **Noehren, B.**, Lattermann C., (2013) The association between mechanical pain threshold and hip adduction angle in patients with patellofemoral pain. The International patellofemoral pain retreat\*
- **Noehren, B.**, Duncan, S., Powers, C., Lattermann, C.L., (2011) Lateral tilting of the effect of patella height and trochlear groove depth. International Patellofemoral Pain Syndrome Retreat. \*
- **Noehren, B.**, Sanchez, Z., McKeon, P., (2011) The effect of fatigue on joint kinematics in female runners with patellofemoral pain syndrome. International Patellofemoral Pain Syndrome Retreat. \*

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## PEER REVIEWED PUBLISHED ABSTRACTS\ NATIONAL PRESENTATIONS

\*Primary Author, # Senior Author

- Erickson, Lauren; Lucas, Kathryn; Jacobs, Cale; Johnson, Darren; Ireland, Mary Lloyd; **Noehren, Brian** (2019) Early Brace Progression Following Anterior Cruciate Ligament Reconstruction Leads to Improved Knee Range of Motion: American College of Sports Medicine Annual Meeting.
- Romines M, Erickson LN, Davis KA, Hardy PA, Andersen AH, Jacobs CJ, **Noehren B.** (2019) Differences in T1ρ Relaxation Time in the Vastus Lateralis after an Anterior Cruciate Ligament Tear.
- Van Wyngaarden JJ, Archer KR, Jacobs C, Matuszewski PE, **Noehren B.** (2019) Can Psychosocial Screening Predict the Transition to Chronic Pain Six Months after Lower Extremity Trauma? Orthopaedic Trauma Association Meeting.
- Comadoll SM, Van Wyngaarden JJ, Jacobs C, Archer KR, Aneja A, **Noehren B,** Matuszewski PE. (2019) Can External Fixator Use Influence Patients' Experience of Pain? Orthopaedic Trauma Association Meeting.
- Van Wyngaarden JJ, Archer KR, **Noehren B.** Change in Patient Reported Psychosocial Measures one, six, and twelve-weeks after definitive fixation for Patients with Lower Extremity Fracture. (2019) Combined Sections Meeting, American Physical Therapy Association.
- Van Wyngaarden JJ, **Noehren B,** Archer KR. Reliability and Validity of a Modified STarT Tool for Patients with Lower Extremity Fracture. (2019) Combined Sections Meeting, American Physical Therapy Association.
- Erickson LN, Ireland ML, Johnson DL, Jacobs CA, **Noehren B.** (2019) Early Psychological readiness and self-efficacy following anterior cruciate ligament reconstruction predicts knee function at return to sport: American Physical Therapy Association's Combined Sections Meeting
- Reed H, Roe CE, Schilling J, Price S, Athanaze G, **Noehren B.** The Development of a Single Leg Hurdle Test to Assess Return to Sport. American College of Sports Medicine Annual Meeting 2018.
- Athanaze G, Roe CE, Price S, Reed H, Shilling J, **Noehren B.** The Relationship between 2D and 3D Biomechanics Data in a Single Leg Hurdle Task. American College of Sports Medicine Annual Meeting 2018.
- Price S, Roe CE, Reed H, Athanaze G, Shilling J, Davis K, **Noehren B.** The Relationship between Side Hop Test Endurance and Energy Absorption. American College of Sports Medicine Annual Meeting May 2018.
- Shilling J, Roe CE, Price S, Athanaze G, Reed H, **Noehren B.** Development of a Lateral Hop Endurance Test. American College of Sports Medicine Annual Meeting 2018.
- Lucas, Kathryn; Johnson, Darren L.; Ireland, Mary Lloyd; **Noehren, Brian** (2018). Does Blood Flow Restricted Training Improve Quadriceps Strength Following an ACL Injury? American College of Sports Medicine Annual Meeting.
- Lucas, Kathryn; Kline, Paul; Jacobs, Cale; Johnson, Darren; Ireland, Mary; **Noehren, Brian** (2018). Between-Limb Asymmetries During the Second Landing of a Drop Vertical Jump Following an Anterior Cruciate Ligament Reconstruction. American Physical Therapy Association Combined Sections Meeting.
- Spencer, Alex; Jacobs, Cale; Davis, Kylie; Johnson, Darren; Ireland, Mary Lloyd; **Noehren, Brian** (2018). Quadriceps Force Steadiness following Anterior Cruciate Ligament Reconstruction during a Maximum Voluntary Isometric Contraction: Mid-South Biomechanics Conference

- Spencer, Alex; Jacobs, Cale; Davis, Kylie; Johnson, Darren; Ireland, Mary Lloyd; **Noehren, Brian** (2018). Quadriceps Force Steadiness and Functional Implications following Anterior Cruciate Ligament Reconstruction. American College of Sports Medicine Annual Meeting
- **Brian Noehren**, Paul Kline, Mary Lloyd Ireland, Darren Johnson, Kinesiophobia is strongly associated with altered loading after an ACL reconstruction: Implications for re-injury risk (2017) American Orthopedic Society for Sports Medicine Annual Meeting
- **Brian Noehren**, Paul Kline, Mary Lloyd Ireland, Darren Johnson, Early objective clinical testing predicts jump landing mechanics following an ACL reconstruction: Impact for the clinician and return to play testing (2017) American Orthopedic Society for Sports Medicine Annual Meeting
- Michael C. Yonz, Matthew H. Blake, Molly A. Lex, Cale A. Jacobs, Darren L. Johnson, Mary Lloyd Ireland, **Brian Noehren** Activities Associated With Increased Fear of Re-injury After ACL Reconstruction (2017) Orthopedic Research Society Annual Meeting
- **Brian Noehren**, Darren L. Johnson, Mary Lloyd Ireland, Christopher S. Fry: The relationship between early fibrogenic factors and quadriceps strength following an anterior cruciate ligament reconstruction; (2017) Orthopedic Research Society Annual Meeting
- MacDonald, Mia; Lucas, Kathryn; Marquez, Maddie; **Noehren Brian** ( 2017) Blood Flow Restriction Training Improves Functional Tests Associated with Return to Sport After Injury: American College of Sports Medicine Annual Meeting.
- Reed, Hayley; Hickey, Amanda; Roe, Chelsey, **Noehren, Brian** ( 2017) The Development of a Seated Clinical Trunk Test to Assess Lower Extremity Injury Risk: American College of Sports Medicine Annual Meeting.
- Marquez, Madison J.; Kline, Paul W.; Ireland, Mary Lloyd; Roe, Chelsey; Reed, Hayley; Hickey, Amanda, **Noehren, Brian**: ( 2017) Comparison Of Post-ACLR Kinematics Between Landings Of A Drop Vertical Jump: Implications For Re-injury Risk: American College of Sports Medicine Annual Meeting.
- Roe, Chelsey; Reed, Hayley; Hickey, Amanda, **Noehren, Brian** ( 2017) The Relationship Between A New Test Of Trunk Control To Cutting Mechanics: American College of Sports Medicine Annual Meeting.
- Kline, Paul W.; Marquez, Madison J.; Johnson, Darren; **Noehren, Brian** ( 2017) Hip-Dominant Landing Strategy During the Second Landing of a Drop Vertical Jump After ACL Reconstruction: American College of Sports Medicine Annual Meeting.
- Reenalda, Jasper; Maartens, Erik; Kline, Paul; **Noehren, Brian** ( 2017) 3D Hip And Knee Mechanics During Hop Tests After ACL Reconstruction Measured With Inertial Sensors: American College of Sports Medicine Annual Meeting.
- Lex, Molly Johnson, Darren; Ireland, Mary Lloyd **Noehren, Brian** (2017) The Long Term Effect Of Quadriceps Strength On Patient Reported Outcomes After An ACL Reconstruction: American College of Sports Medicine Annual Meeting.
- Robertson K, McKinley R, Kline P, **Noehren B**. Pain Processing Alterations in Females with Chronic Patellofemoral Pain. ( 2017) Combined Sections Meeting of the American Physical Therapy Association.#

- McKinley R, Robertson K, Kline P, **Noehren B.** More Than Knee Pain: Females with Chronic Patellofemoral Pain Demonstrate Altered Psychosocial Responses. (2017) Combined Sections Meeting of the American Physical Therapy Association.#
- Kline P.W., Ireland M.L., Johnson D.L., **Noehren B.** (2016) Early Clinical Tests are Predictive of Knee Biomechanics at Return to Sport Following Anterior Cruciate Ligament Reconstruction. Combined Sections Meeting of the American Physical Therapy Association, Anaheim, CA.
- Kline P.W., Morgan K.D., Grim K., Ackerman K., **Noehren B.** (2016) The Effects of Trunk Fatigue on Proximal Joint Kinematics and Coupling During Running. American College of Sports Medicine Annual Meeting, Boston, MA.
- Hickey, A., Hardy, P., Andersen, A., Damon, B., Johnson, D., Ireland, ML., **Noehren, B.,** (2016) Alterations in Quadriceps Morphology Following an Anterior Cruciate Ligament Reconstruction: An MRI Based Assessment. American College of Sports Medicine Annual Meeting
- Marquez M.J., Kline P.W., Ireland M.L., Johnson D.L., **Noehren B.** (2016) Kinematic Asymmetries During the Second Landing of a Drop Vertical Jump After ACL Reconstruction. American College of Sports Medicine Annual Meeting.
- Wilson BR1, Beegan C, Bell J, Garcia C, Hayes C, Ireland ML, **Noehren B.** (2016) Side Bending Error Test Correlates with Frontal Plane Cutting Mechanics: Implications for ACL Injury Risk? American College of Sports Medicine Annual Meeting.
- Yonz MC1, Alcorn C, Burnham J, Johnson D, Ireland ML, **Noehren B.** (2016) Hip Strength Correlates to Improved Hop Test Performance After ACL Reconstruction. American College of Sports Medicine Annual Meeting.
- Burnham JM1, Yonz MC, Johnson DL, Ireland ML, **Noehren B.** (2016) Y-Balance Limb Asymmetry In ACL Reconstructed Patients Cleared For Return-to-Play. American College of Sports Medicine Annual Meeting.
- Beegan, C., Garcia, C., Hayes, C., Ireland, M.L., **Noehren, B.,** (2015) Does the trunk affect the knee abduction moment during a run to cut task? American College of Sports Medicine Annual Meeting#
- Butowicz, C., Noehren, B., Ebaugh, D., Silfes S., (2015) Relationships between clinical and biomechanical measures of core stability. Annual American Society of Biomechanics Meeting
- Grim K., Ackerman K., Schmitz, A., **Noehren B.,** (2015) The relationship between dynamic balance control and trunk fatigue. Combined Sections meeting of the American Physical Therapy Association#
- Ackerman K., Grim K., Schmitz, A., **Noehren B.,** (2015) The effect of core fatigue on lower extremity kinematics during running. Combined Sections meeting of the American Physical Therapy Association#
- **Noehren B.,** Shupling L., Jones A., (2015) Do differences in gait mechanics and hip strength extend to non-athletic females with patellofemoral pain?. Combined Sections meeting of the American Physical Therapy Association. \*
- Shupling L., Jones A., **Noehren B.,** (2015) Centralization of pain response in females with patellofemoral pain. Combined Sections meeting of the American Physical Therapy Association. #
- Omidy, F., Hardy, P., Andersen, A., Akers, D., Damon, B., **Noehren, B.,** (2015) In-Vivo Determination of Differences in Physiological Cross-Sectional Area Among the Vasti Muscles. American College of Sports Medicine Annual Meeting #

- Kline, PW., Schmitz, A., Ireland, ML., **Noehren, B.**, (2015) Impaired quadriceps rate of torque development alters knee mechanics after anterior cruciate ligament reconstruction. Combined Sections Meeting of the American Physical Therapy Association #
- Garcia, C., Beegan, C., Hayes, C., Ireland, M.L., **Noehren, B.**, (2015) The relationship of plank performance to trunk, pelvis and knee mechanics during a cutting task. American College of Sports Medicine Annual Meeting #
- Alcorn, C., Hardy, P., Andersen, A., Akers, D., Damon, B., **Noehren, B.**, (2015) Physiological Cross-Sectional Area of The Hamstring Muscles: Implications For Injury Mechanics. American College of Sports Medicine Annual Meeting #
- Morgan, K., Ye, M., Yang, R., **Noehren, B.**, (2015) Between day reliability of markerless versus traditional marker based motion capture during a stepdown task. American Society of Biomechanics Annual meeting #
- Morgan, K., Zheng, Y., Bush, H., **Noehren, B.**, (2015) Utilizing an ARIMA Model to Assess Gait Stability and Spectral Behavior. American Statistical Association Annual Meeting #
- Burnham, J., Yonz, C., McKinley, R., Robertson, R., Ireland ML., **Noehren, B.**, (2014) What Does the Single Leg Step Down Test Measure? Contributions of Core and Hip Strength. American College of Sports Medicine Annual Meeting #
- Yonz, C., Burnham, J., McKinley, R., Robertson, R., Ireland ML., **Noehren, B.**, (2014) Are Core and Hip Strength Better Predictors of Hop Test Performance. American College of Sports Medicine Annual Meeting #
- McKinley, R., Burnham, J., Robertson, R., Ireland ML., **Noehren, B.**, (2014) Can core strength influence the knee valgus angle during a step down test? American College of Sports Medicine Annual Meeting #
- Robertson, R., Burnham, J., McKinley, R., Ireland ML., **Noehren, B.**, (2014) The Relationship between Hip Strength and the Y Balance Test, American College of Sports Medicine Annual Meeting #
- Ackerman K., Grimm K., **Noehren B.**, (2014) The Relationship Between Side Plank Time and Trunk Mechanics During Running Combined Sections meeting of the American Physical Therapy Association. #
- Shupling L., Jones A., **Noehren B.**, (2014) Between –Limb Comparison of Pressure to Pain Thresholds in Patients with Anterior Knee Pain Combined Sections meeting of the American Physical Therapy Association. #
- Ward K., **Noehren B.**, (2014) The Association Between a Simple 2-D Assessment of Rearfoot Eversion to 3-D Motion During Running Combined Sections meeting of the American Physical Therapy Association. #
- Fry, C.S., **Noehren, B.**, Mula, J., Ubele, M.F., Westgate, P.M., Kern, P.A., Peterson, C.A., (2014). Fiber type-specific satellite cell response to aerobic training in sedentary adults
- **Noehren, B.**, Andersen A., Hardy, P., Damon B., (2014) Adaptations in muscle fiber length, pennation angle, and curvature following an anterior cruciate ligament tear. Advances in skeletal muscle biology in health and disease \*

- Rodrigues, P., **Noehren, B.**, Hamill, J., (2013) Contribution of Thigh and Tibial Motion to Knee Transverse Plane Motion in Runners with Anterior Knee Pain. Annual Meeting of the American Society of Biomechanics
- Schmitz, A., Pohl, MP., **Noehren, B.** (2013) Biomechanical Variables during Swing Correlated with Impact Peak in Running. Annual Meeting of the American Society of Biomechanics #
- Schmitz, A. and **Noehren, B.** (2013) What Predicts the First Peak Knee Adduction Moment? Implications for the Treatment of Knee Osteoarthritis. Annual Meeting of the American Society of Biomechanics #
- Schmitz, A., Ye, M., Shapiro, R., Yang, R., **Noehren, B.** (2013) Feasibility of a Single Camera Markerless Motion Capture System to Accurately Measure Flexion-extension. 37<sup>th</sup> Annual Meeting of the American Society of Biomechanics #
- Curry, M., Abraham, A., Ireland, M.L., Lattermann, C., **Noehren, B.**, (2013) Hip Strength and Trunk Control in Females Scheduled to Undergo an Anterior Cruciate Ligament Reconstruction. American College of Sports Medicine Annual Meeting #
- Abraham, A., Woods, K.M., Eversole, K., **Noehren, B.**, (2013) The Association Between A Clinical Rating System Of Running Mechanics To Three Dimensional Hip And Foot Angles. American College of Sports Medicine Annual Meeting #
- Meister, K., Franzen, L., **Noehren B.**, (2013) Development of a clinical trunk control test. Combined Sections meeting of the American Physical Therapy Association. #
- Pence, K., Nicholson L., **Noehren B.**, (2013) A Comparison of Joint Kinetics and Kinematics Between Trained Runners and Untrained Runners. Combined Sections meeting of the American Physical Therapy Association. #
- Nicholson, L ., Pence, K., **Noehren, B.**, (2013) The Relationship Between Hip and Trunk Strength to Peak Hip Joint Angles During Running. Combined Sections meeting of the American Physical Therapy Association. #
- **Noehren, B.**, Franzen, L., Meister, K., Ackerman, K., Grim, K., (2013) The Relationship Between New Clinical Assessments of Frontal Plane Angles to 3D angles During a Single Leg Step Down. Combined Sections meeting of the American Physical Therapy Association. \*
- **Noehren, B.**, Pohl, M., (2012). Predictors of Initial Impact Load and Loading Rates in Runners. American Society of Biomechanics.\*
- Westlake, C., **Noehren B.**, (2012). Gender Comparison of Trunk and Pelvis Kinematics During Walking and Running. American Society of Biomechanics. #
- **Noehren, B.**, Westlake, C., Black, W., (2012). Do male runners with ITBS have tighter iliotibial bands and weaker hips? American College of Sports Medicine Annual Meeting \*
- Westlake, C., Black, W., **Noehren, B.**, (2012) Comparison of hip and knee mechanics between males with and without ITBS. American College of Sports Medicine Annual Meeting #
- **Noehren, B.**, Miller, C., Wilson, H., Lattermann C (2012) Axial loading rates during walking and running in females with a anterior cruciate ligament reconstruction and in healthy females. Combined Sections meeting of the American Physical Therapy Association. \*

- **Noehren, B.**, Miller, C., Wilson, H., Lattermann C (2012) Axial loading rates during walking and running in females with and without an anterior cruciate ligament reconstruction. Combined Sections meeting of the American Physical Therapy Association. \*
- Miller, M.M., Mullineaux, D.R., Shapiro, R., **Noehren, B.**, (2011) The development of a new method of measuring hip adduction proprioception in healthy individuals. National Athletic Trainers Association. #
- Pohl, P.B., Cunningham, T., Sanchez, Z., **Noehren, B.** (2011) The role of hip and trunk mechanics in female runners with PFPS. American College of Sports Medicine Annual Meeting #
- **Noehren, B.**, Pohl, M.B., Cunningham, T., Sanchez, Z., (2011) Are foot mechanics associated with patellofemoral pain syndrome in female runners? American College of Sports Medicine Annual Meeting\*
- **Noehren, B.**, Powers, C., Duncan, S., Lattermann, C., (2011) lateral Tilting of the patella: The influence of patella height and trochlear groove depth. Combined Sections meeting of the American Physical Therapy Association. \*
- Duncan, S., **Noehren, B.**, Lattermann, C., (2010). A Comparison of patellofemoral alignment between individuals with and without patellofemoral cartilage lesions. International Cartilage Research Society Annual Meeting. \*
- **Noehren, B.**, Davis, I (2010) Running Mechanics, Pain, and Function in runners with Patellofemoral Pain syndrome Following Gait Retraining and at a One Month Follow-up. Combined sections meeting of the American Physical Therapy Association. \*
- **Noehren, B.**, Davis, I (2010) Does Gait Retraining Hip Kinematics Alter Loading Rates in Runners With Patellofemoral Pain syndrome? American College of Sports Medicine annual Meeting\*
- **Noehren, B.**, Davis, I., (2009) Tibiofemoral and patellofemoral alignment during a single-leg squat: an MRI study. International Patellofemoral Pain Syndrome Retreat. \*
- **Noehren, B.**, Davis, I., (2009) Effect of gait retraining on hip mechanics, pain, and function in runners with patellofemoral pain syndrome. International Patellofemoral Pain Syndrome Retreat. \*
- **Noehren, B.**, Davis, I., (2009) Can Gait Retraining Change Hip Kinematics and Reduce Symptoms in Runners with Patellofemoral Pain Syndrome. American College of Sports Medicine annual meeting. \*
- **Noehren, B.**, Barrance, P., Davis, I., (2009) Tibiofemoral and Patellofemoral Alignment During a Single Leg squat: An MRI Study. Combined sections meeting of the American Physical Therapy Association. \*
- **Noehren, B.**, Davis, I (2008). Can Day to Day Kinematic Reliability be Improved? North American Conference on Biomechanics. \*
- **Noehren, B.**, Barrance, P., Pohl, M., Davis, I., (2008). Relationship Between Tibiofemoral and Patellofemoral Alignment During A Single Leg Squat: A Preliminary MRI Study. American College of Sports Medicine annual meeting. \*
- Barrance, P., Pohl, M., **Noehren, B.**, Barrios, J., Davis, I., (2007). Bone Surface Tracking for Standing Knee MRI: A Validation Study. American Society of Biomechanics annual meeting.



- **Noehren, B.,** Davis, I., (2007). Prospective Study of the Biomechanical Factors Associated with Patellofemoral Pain Syndrome. American Society of Biomechanics annual meeting. \*
- **Noehren, B.,** Davis, I., (2007). Frontal and Transverse Plane Rearfoot, Hip and Knee Patterns in Female Runners with a History of Patellofemoral Pain. American College of Sports Medicine annual meeting. \*
- **Noehren, B.,** Willson, J., Davis, I., (2007). Real Time Feedback to Improve Gait Kinematics in Runners with Patellofemoral Pain. Combined sections meeting of the American Physical Therapy Association. \*
- **Noehren, B.,** Davis, I., Hamill J., (2006). Prospective Study of the Biomechanical Factors Associated with Iliotibial Band Syndrome. Clinical biomechanics award winner, American Society of Biomechanics annual meeting. \*
- **Noehren, B.,** Davis, I., B., Hamill, J., Ferber, R., (2006). Secondary Plane Biomechanics of Iliotibial Band Syndrome in Competitive Female Runners. American College of Sports Medicine Annual Meeting. \*

## **SYMPOSIUM SESSIONS AT NATIONAL CONFERENCES**

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- Pain Science and Psychosocial Factors to the Forefront of Rehabilitation NEXT Meeting, APTA 2019
- Grant Writing Tips for Young Investigators Applying for ACSM Foundation Grants, American College of Sports Medicine 2019
- ACL injury: The underlying function of the quadriceps muscle matters! A tale “from the clinic to the bench and back” Combined Sections Meeting, APTA 2018
- Bringing Pain Science and Psychosocial Factors to the Forefront of Sports Rehabilitation Combined Sections Meeting, APTA 2017
- Non operative Rehabilitation Based Meniscal Tear Treatment Options. American College of Sports Medicine (2017)
- Return to play after anterior cruciate ligament reconstruction: When and What Tests to Do...Safe or Sorry? Speaker American Association of Orthopedic Surgeons (2017)
- Return to play after anterior cruciate ligament reconstruction: When and What Tests to Do...Safe or Sorry? Speaker American Association of Orthopedic Surgeons (2016)
- Bringing Pain Science and Psychosocial Factors to the Forefront of Sports Rehabilitation. Combined Sections Meeting of the American Physical Therapy Association (2017)
- Return to play after anterior cruciate ligament reconstruction: When and What Tests to Do...Safe or Sorry? Speaker American Association of Orthopedic Surgeons (2015)
- Patellofemoral Mechanics and Pain: World Congress of Biomechanics. Speaker, presented review of the findings from the international patellofemoral pain retreat (2014)
- Identifying Individual Differences in Running Mechanics to Aid Injury Prevention: Symposium, American College of Sports Medicine Annual Meeting. Speaker, organized, and helped plan session proposal (2014)
- Assessment of Core Stability in the Laboratory in the Clinic and on the Field: Symposium, American College of Sports Medicine Annual Meeting. Speaker organized, and helped plan session proposal (2014)
- Factors Contributing to Patellofemoral Pain: An Overview of the Consensus Statements Developed at the 3<sup>rd</sup> International Patellofemoral Research Retreat: Combined Sections Meeting of the American Physical Therapy Association : Speaker, organized, and helped plan session proposal (2014)
- Tutorial Lecture for American College of Sports Medicine Annual Meeting : Iliotibial band syndrome: An update of the biomechanics, diagnosis, and treatment of common and vexing problem in runners: Speaker organized, planned and submitted the session proposal (2013)
- Gait retraining: Taking the next step across populations from osteoarthritis, neurological impairments to running related injuries Combined Sections Meeting of the American Physical Therapy Association : Speaker, organized, planned and submitted the session proposal (2013)

## **INVITED PRESENTATIONS**

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Invited Speaker at the Indiana Center for Musculoskeletal Health at IUPUI (2019)

Invited Speaker at the College of Life Sciences Brigham Young University (2019)

Invited Key note speaker at the MARC Clinical Biomechanics in sports medicine and Rehabilitation Symposium at Samuel Merritt University (2018)

Invited Speaker and Moderator of the 4th Annual Vail Scientific Summit, hosted by Steadman Philippon Research Institute (2018)

Invited speaker at the University of Connecticut Biomedical Engineering research meeting (2017)

Invited Speaker at the Orthopedic Resident Graduation day for the University of Kentucky (June 2013)

Invited speaker at the 15<sup>th</sup> annual University of Kentucky sports medicine symposium (May 2013)

Invited speaker at the 12<sup>th</sup> annual University of Kentucky sports medicine symposium (May 2010)

Invited speaker at the 12<sup>th</sup> international PFOLA conference (October 2009)

## **JOURNAL REVIEWER**

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Journal of Musculoskeletal and Neuronal Interaction

Clinical Biomechanics

Journal of Biomechanics

Medicine and Science in Sport and Exercise

Physiotherapy Theory and Practice

Journal of Sport Rehabilitation

The Knee

Journal of Athletic Training

Gait and Posture

Physical Medicine and Rehabilitation

Journal of Orthopedic and Sports Physical Therapy

British Journal of Sports Medicine

American Journal of Sports Medicine

## **PROFESSIONAL COMMITTEES**

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(2019-current) American College of Sports Medicine: Interest Group Forums Committee

(2019-current) United States Bone and Joint Initiative Faculty YII

(2017-current) METRC protocol development committee

(2018-current) METRC young investigator research committee

(2017-current) American College of Sports Medicine: Grant review Committee

(2014 – 2018) - American Physical Therapy Association: Section on Research- Finance Committee

(2010 – 2014) - American Physical Therapy Association: Section on Research- Membership Committee

(2011 – 2014) - American Physical Therapy Association: Section on Research-Biomechanics Special Interest Group Secretary

(2013-2017) - American College of Sports Medicine-Biomechanics Interest Group Co-Chair

## **COLLEGE OF HEALTH SCIENCE COMMITTEES AND UNIVERSITY OF KENTUCKY COMMITTEES**

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Search Committee Physical Therapy Division Position (2019)

Appointments, Promotion, and Tenure Committee- alternate (2018- 2019)

Rehabilitation Sciences Doctoral Program Curriculum Review Committee (2018-2019)

Research Advisory Committee (2013-current)

Clinical Services Core Review Committee within the CCTS (CSCRC) (2015-2018)

Search committee for Kinesiology Faculty Search Committee (2017-2018)

Search committee for Physical Therapy Division Position (2016-2017)

College Hearing Committee (2015-2016)

Appointments, Promotion, and Tenure Committee- alternate (2015- 2016)

Search committee for physical therapy division position (2013-2014)

Search committee for new information technology director (2013)

Student affairs committee (2010-2013)

Search committee for communication science and disorders position (2010)

## **GRANT REVIEW COMMITTEES**

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- NIH NIAMS AMS study section ad hoc reviewer (2019)
- NIH MRS study section ad hoc reviewer (2018)
- METRC New Investigator Award reviewer (2018- current)
- DOD orthopedic awards reviewer (2017-2018)
- American College of Sports Medicine Research Committee Reviewer ( 2017-Current)
- NIH MRS study section ad hoc reviewer (2017)
- NIH Special emphasis panel reviewer (2016)
- NIH MRS study section ad hoc reviewer (2016)
- UK CCTS Pilot research grant reviewer (2014)
- UK CCTS T32 research grant reviewer (2013-2015)

## **PROFESSIONAL SOCIETIES**

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American Physical Therapy Association (APTA)  
American College of Sports Medicine (ACSM)

## **COMMUNITY OUTREACH ACTIVITIES**

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- 2016 - Current: Organized a PT day of Service
  - 2016 Cleaned overgrown historic African Cemetery
  - 2017 Organized and led projects to improve gardens and provided food and programs for the residents at Greenhouse-17, a domestic violence shelter
  - 2018 Organized and led projects to improve grounds at Greenhouse-17
  - 2019 Organized and led project to clean the historic Cove Haven Cemetery

Provided since 2013 multiple in-service's to YMCA, John's Run Walk Shop, Lexmark, local Chapter of the Arthritis Foundation and Swim, Bike, Run

## **SERVICE**

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Director of Human Performance Lab/BioMotion Lab, University of Kentucky.

Started UK Runners Clinic in the College of Health Sciences in 2014: Currently hold two clinic's per month I have also Performed running gait evaluation's for the public on running form since 2012