

Curriculum Vita

Lindsey K. Lepley Ph.D., ATC

WORK ADDRESS

University of Connecticut
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EDUCATION AND TRAINING

- 2014-2015 University of Kentucky; Lexington, KY
Postdoctoral training in muscle mechanics and physiology
- 2010-2014 University of Michigan; Ann Arbor, MI
Ph.D. in Kinesiology
Dissertation; *Targeting Quadriceps Weakness Following Anterior Cruciate Ligament Reconstruction*
- 2008-2009 University of Virginia; Charlottesville, VA
M.Ed., in Kinesiology
Thesis; *Effect of Acute Lateral Ankle Sprain on Motor Neuron Pool Excitability of Lower Leg Muscles*
- 2004-2008 Grand Valley State University; Allendale, MI
B.S. in Athletic Training

PROFESSIONAL EXPERIENCES

- 2015-pres University of Connecticut; Storrs, CT
Assistant Professor in Kinesiology, Athletic Training
- 2014-2015 University of Kentucky; Lexington, KY
Postdoctoral research fellow
- 2010-2013 University of Michigan; Ann Arbor, MI
Graduate student instructor
- 2008-2010 Physical Therapy @ACAC, Charlottesville, VA
Certified athletic trainer- outpatient care to orthopedic patients

FELLOWSHIPS

- 2014-2015 Postdoctoral Fellowship
Department of Rehabilitation Sciences; University of Kentucky
Amount: salary + research support
- 2013-2014 Predoctoral Fellowship
Rackham Graduate School; University of Michigan
Amount: salary + tuition

HONORS AND AWARDS

- 2015 New England ACSM New Investigator Award
2015 NATAREF nominated for David H. Perrin Doctoral Dissertation Award
2014 Univ. of Kentucky Center for Muscle Biology Postdoctoral Fellow Award
2014 Univ. of Michigan Paul A. Hunsicker Memorial Award
2013 Univ. of Michigan Shapiro/Malik/Forrest Award
2013 ACSM Biomechanics Interest Group Student Travel Award
2013 Univ. of Michigan Lucille M. Swift Honor Award
2012 ACSM Biomechanics Interest Group Student Research Award
2011 NATAREF Linda Weber Daniel Scholarship
2009 Univ. of Virginia David H. Perrin Athletic Training & Sport Medicine Award
2009 Physical Therapy @ ACAC Stretching Above and Beyond Award

PEER REVIEWED PUBLICATIONS

1. **Lepley LK**, Wojtys EM, Palmieri-Smith RM. Combination of Eccentric Exercise and Neuromuscular Electrical Stimulation Post-ACL Reconstruction to Improve Biomechanical Limb Symmetry After Anterior Cruciate Ligament Reconstruction. *Clinical Biomechanics*. 2015;30(7):738-747.
2. **Lepley LK**, Wojtys EM, Palmieri-Smith RM. Does Concomitant Meniscectomy or Meniscal Repair Affect the Recovery of Quadriceps Function Post-ACL Reconstruction? *Knee Surgery, Sport Traumatology, Arthroscopy*. 2015;23(9):2756-2761.
3. Palmieri-Smith RM and **Lepley LK**. Quadriceps Strength Asymmetry Following ACL Reconstruction Alters Knee Joint Biomechanics and Functional Performance at Time of Return to Activity. *The American Journal of Sports Medicine*. 2015;43(7):1662-1669.
4. **Lepley LK**. Deficits in Quadriceps Strength and Patient Oriented Outcomes at Return-to-Activity Following ACL Reconstruction: A Review of the Current Literature. *Sports Health: A Multidisciplinary Approach*. 2015;7(3):231-238.
5. **Lepley LK**, Wojtys EM, Palmieri-Smith RM. Combination of Eccentric Exercise and Neuromuscular Electrical Stimulation Post-ACL Reconstruction to Improve Quadriceps Function. *The Knee*. 2015;22(3):270-277.
6. **Lepley LK** and Palmieri-Smith RM. Cross-Education Strength and Activation After Eccentric Exercise. *Journal of Athletic Training*. 2014;49(5):582-589.
7. **Lepley LK** and Palmieri-Smith RM. Effect of Eccentric Strengthening After Anterior Cruciate Ligament Reconstruction on Quadriceps Strength. *Journal of Sports Rehabilitation*. 2013;22(2):150-156.

8. **Lepley LK**, Thomas AC, McLean SG, Palmieri-Smith RM. Fatigue's Lack of Effect on Thigh-Muscle Activity in Anterior Cruciate Ligament-Reconstructed Patients During a Dynamic-Landing Task. *Journal of Sports Rehabilitation*. 2013;22(2):83-92.
9. **Klykken LW**, Pietrosimone BG, Kim KM, Ingersoll CD, Hertel J. Motor-Neuron Pool Excitability of the Lower Leg Muscles After Acute Lateral Ankle Sprain. *Journal of Athletic Training*. 2011;46(3):263-269.

Manuscripts in Press

1. **Lepley LK** and Palmieri-Smith RM. Pre-operative Quadriceps Activation is related to Post-operative Activation, Not Strength, In Patients Post-ACL Reconstruction. *Knee Surgery, Sports Traumatology, Arthroscopy*. In press.
2. **Lepley LK** and Palmieri-Smith RM. Quadriceps Strength, Muscle Activation Failure and Patient-Reported Function at the Time of Return-to-Activity in ACL Reconstructed Patients: A Cross-sectional Study. *Journal of Orthopedic & Sport Physical Therapy*. In press.
3. Thomas AC, **Lepley LK**, Wojtys EM, McLean SG, Palmieri-Smith RM. Effects of Neuromuscular Fatigue and Quadriceps Inhibition and Knee Biomechanics in Individuals post ACL Reconstruction and Healthy Adults. *Journal of Orthopedic & Sports Physical Therapy*. In press.

Manuscripts Submitted for Publication

1. Strickland MA, **Lepley LK**, Palmieri-Smith RM. Alterations in Hamstring Activity at Return-To-Play Post-ACLR: Protective Mechanism Among Patients That Do Not Reinjure? *Journal of Athletic Training*. In revision.
2. **Lepley LK**, McKeon PO, Fitzpatrick SG, Beckemyer CL, Uhl TL, Butterfield TA. Ankle Health Regulates Lower Extremity Muscle Behavior and Coordination in Freely Walking Rats. *Journal of Athletic Training*. In revision.
3. Curran M, **Lepley L**, Palmieri-Smith R. Prolonged Improvements in Quadriceps Strength and Knee Biomechanical Symmetry: Time to Reconsider the 6-Month Return-to-Activity Guidelines? *Journal of Athletic Training*. In review.

Manuscripts in Preparation

1. **Lepley LK** and Palmieri-Smith RM. How Does Knee Morphology Differ Between Those with Single and Double Ipsilateral ACL Injuries. *Journal of Sports Rehabilitation*. In preparation.
2. **Lepley LK** and Butterfield TA. Benefits of Early Eccentric Exercise Following Muscle Strain. *Journal of Sports Rehabilitation*. In preparation.
3. **Lepley LK** and Butterfield TA. Pennation Angle Influences Active Fiber Strain but Not Damage in Synergist Muscles During In-Vivo Eccentric Exercise. *Journal of Biomechanics*. In preparation.
4. **Lepley LK** and Butterfield TA. The Influence of Stretch Velocity on Fiber Dynamics and Muscle Damage During Eccentric Exercise. *Journal of Applied Physiology*. In preparation.

PUBLISHED CONFERENCES PROCEEDINGS AND ABSTRACTS

1. **Lepley LK**, Wojtys EM, Palmieri-Smith RM. Combination of Eccentric Exercise and Neuromuscular Electrical Stimulation to Improve Knee Mechanics Post-ACL Reconstruction. *National Athletic Trainers' Association Annual Meeting and Symposium*. St Louis, MO. June 25, 2015.
2. **Lepley LK**, Palmieri-Smith RM. Quadriceps Strength, Not Volitional Muscle Activation, is the Primary Contributor to Physical Function Post-ACL Reconstruction. *American College of Sport Medicine Annual Meeting*. San Diego, CA. May 27, 2015.
3. **Lepley LK**, Strickland MA, Palmieri-Smith RM. Alterations in Hamstring Activity at Return-to-Play Post-ACL: Protective Mechanism Among Patients that Do Not Reinjure? *ACL Research Retreat VII*. Greensboro, NC. March 21, 2015.
4. **Lepley LK**, Palmieri-Smith RM. Quadriceps Strength, Not Volitional Muscle Activation, is the Primary Contributor to Physical Function Post-ACL Reconstruction. *Center for Muscle Biology Research Day*. Lexington, KY. October 30, 2014. **1st Place Poster- Postdoctoral Fellow Award**
5. **Lepley LK**, Wojtys EM, Palmieri-Smith RM. Combination of Eccentric Exercise and Neuromuscular Electrical Stimulation to Improve Quadriceps Function Post-ACL Reconstruction. *National Athletic Trainers' Association Annual Meeting and Symposium*. Indianapolis, IN. June 26, 2014. **Doctoral Student Oral Award Finalist**
6. **Lepley LK** and Palmieri-Smith RM. Concomitant Meniscectomy or Meniscal Repair Does Not Affect the Recovery of Quadriceps Function Post-ACL Reconstruction. *American College of Sport Medicine Annual Meeting*. Orlando, FL. May 28, 2014.
7. **Lepley LK** and Palmieri-Smith RM. Preoperative Quadriceps Activation is Associated with Postoperative Activation, Not Strength, Following Anterior Cruciate Ligament Reconstruction. *National Athletic Trainers' Association Annual Meeting and Symposium*. Las Vegas, NV. June 26, 2013.
8. **Lepley LK** and Palmieri-Smith RM. Quadriceps Strength, Not Activation, Improves in the Unexercised Limb Following a Single-Legged Eccentric Exercise Program. *American College of Sport Medicine Annual Meeting*. Indianapolis, IN. May 30, 2013.
9. **Lepley LK** and Palmieri-Smith RM. Quadriceps Strength is Associated with Sagittal Plane Knee Angles and Moments During a Dynamic Landing Following Anterior Cruciate Ligament Reconstruction. *National Athletic Trainers' Association Annual Meeting and Symposium*. St. Louis, MO. June 28, 2012.
10. **Lepley LK** and Palmieri-Smith RM. Pre-operative Quadriceps Strength is Associated with Post-operative Quadriceps Strength Following Anterior Cruciate Ligament Reconstruction. *American College of Sport Medicine Annual Meeting*. San Francisco, CA. May 31, 2012.
11. **Klykken LW**, Thomas AC, McLean SG, Palmieri-Smith RM. Effects of Neuromuscular Fatigue on Knee Biomechanics and Muscle Activity in ACL Reconstructed Patients. *National Athletic Trainers' Association Annual Meeting and Symposium*. New Orleans, NO. June 22, 2011.
12. **Klykken LW**, Pietrosimone BG, Kim KM, Ingersoll CD, Hertel J. Effect of Acute Lateral Ankle Sprain on Motor Neuron Pool Excitability of the Soleus, Anterior Tibialis, Peroneus Longus. *National Athletic Trainers' Association Annual Meeting and Symposium*. Philadelphia, PA. June 23, 2010.

MAJOR INVITED PRESENTATIONS

1. Thigpen CT, **Lepley LK**, Padua DA, Goerger BM, Bell DR. Systematic Rehabilitation, Return to Participation and Maintenance Following Traumatic Knee Joint Injury. *National Athletic Trainers' Association Annual Meeting and Symposium*. Las Vegas, NV. June 25, 2013.

EXTRAMURAL GRANTS (ONGOING)

Title: Eccentric Cross-Exercise: A Novel Approach to Promote Recovery of Muscle Strength and Lower Extremity Function after ACL Reconstruction.

Role: **Lepley, LK** (PI)

Source: New England American College of Sports Medicine

Period: 10/15/2015- present

Description: To examine the effectiveness of an eccentric cross-exercise intervention to improve neural excitability, muscle strength and lower extremity function in ACL reconstructed patient early after surgery.

EXTRAMURAL GRANTS (COMPLETED)

Title: The Effectiveness of a Combined NMES and Eccentric Exercise Intervention to Improve Quadriceps Function and Restore Knee Mechanics Post-ACL Reconstruction

Role: **Lepley, LK** (PI)

Source: National Athletic Trainers' Association Research and Education Foundation

Period: 07/09/2013 – 05/02/2014

Amount: 2,500 (direct)

Description: To examine the effectiveness of a combined neuromuscular electrical stimulation and eccentric exercise intervention to improve quadriceps activation, strength and knee flexion angles and moments during a dynamic landing task post-ACL reconstruction.

Title: Effect of Acute Lateral Ankle Sprain on Motor Neuron Pool Excitability of the Lower Legs Muscles.

Role: **Klykken, LW** (PI)

Source: National Athletic Trainers' Association Research and Education Foundation

Period: 12/12/2008 – 06/01/2009

Amount: 1,000 (direct)

Description: To determine the effect of an acute lateral ankle sprain on the alpha motoneuron pool excitability of the soleus, peroneal longus, and anterior tibialis muscles.

INTRAMURAL GRANTS (ONGOING)

Title: Eccentric Exercise to Promote Muscle Function

Role: **Lepley, LK** and Butterfield, TA (Co-PIs)

Source: College of Health Sciences, University of Kentucky

Amount: 5,000 (direct)

Description: To determine the dose-response of eccentric exercise on regulating protein synthesis and limiting micro-damage.

INTRAMURAL GRANTS (COMPLETED)

Title: Effectiveness of an Eccentric Exercise Intervention to Improve Quadriceps Strength Post-ACL Reconstruction

Role: **Lepley, LK** (PI)

Source: Rackham Graduate School; University of Michigan

Period: 09/04/2013 – 05/02/2014

Amount: 3,000 (direct)

Description: To determine the effectiveness of an eccentric exercise intervention to improve quadriceps strength and knee mechanics in patients post-ACL reconstruction.

Title: Effect of NMES on Quadriceps Activation and Knee Joint Mechanics in Patients Post-Anterior Cruciate Ligament Reconstruction

Role: **Lepley, LK** (PI)

Source: Rackham Graduate School; University of Michigan

Period: 01/12/2011 – 05/02/2014

Amount: 1,500 (direct)

Description: To evaluate the effectiveness of neuromuscular electrical stimulation therapy to improve quadriceps activation and knee mechanics in patients post-ACL reconstruction.

TEACHING

University of Connecticut

2015 Health and Medicine (KINS3170)
2015 Physiological Systems in Human Performance (KINS4500)

University of Kentucky

2015 Muscle Mechanics (AT 700)

University of Michigan

2013 Human Musculoskeletal Anatomy Lab (MVS 231)
2012 Prevention and Care of Athletic Injuries (AT 115)
2011, 2013 Clinical Evaluation of Lower Extremity Athletic Injuries Lab (AT 217)
2011 Functional Human Anatomy Lab (ATPE 310)
2010-2012 Clinical Evaluation of Upper Extremity Athletic Injuries Lab (AT 212)
2010-2012 Rehabilitation of Athletic Injuries Lab (AT 362)

PROFESSIONAL AFFILIATIONS AND CERTIFICATIONS

2015-pres Connecticut Dept of Public Health, Licensed Athletic Trainer; 1081
2015-pres American Society of Biomechanics; 5023
2010-2014 Michigan Dept of Community Health, Licensed Athletic Trainer; 2601000081
2009-pres National Provider Identification Number; 1720229537
2008-2010 Virginia Board of Medicine, Licensed Athletic Trainer; 0126001277
2008-2010 Virginia High School League Certified Measurer; CM750
2008-pres Board Certified Athletic Trainer; 050802079
2007-pres National Athletic Trainer's Association; 1012916
2006-pres American Red Cross CPR/AED Professional Rescuer Certification
2005-pres American Red Cross First Aid Certified

PROFESSIONAL SERVICE ACTIVITIES

Manuscript Reviewer

2015-pres Journal of Science and Medicine in Sport
2015-pres Journal of Orthopedic Research
2015-pres American Journal of Sports Medicine
2015-pres Medicine & Science in Sports & Exercise
2015-pres BioMed Central Musculoskeletal Disorders
2014-pres BioMed Research International
2014-pres Clinical Biomechanics
2014-pres Physical Therapy in Sport
2014-pres Knee Surgery Sport Traumatology Arthroscopy
2013-pres Clinical Journal of Sport Medicine
2012-pres Journal of Sport Rehabilitation
2012-pres Athletic Training & Sports Health Care
2011-pres Sports Health: A Multidisciplinary Approach
2011-pres Journal of Athletic Training