

## TEXAS STATE VITA

### I. Academic/Professional Background

A.      **Name:** Mark E. Lester, DPT, PhD, OCS                      **Title:** Professor

### B. Educational Background

<i>Degree</i>	<i>Year</i>	<i>University</i>	<i>Major</i>	<i>Thesis/Dissertation</i>
PhD	2014	University of Utah	Rehabilitation Science	
DPT	2007	Baylor University	Physical Therapy	
MS	2002	US Army/Baylor University	Physical Therapy	
BS	1997	University of Maryland (European Division)	Psychology	

### C. University Experience

<i>Position</i>	<i>University</i>	<i>Dates</i>
Professor	Texas State University Doctorate of Physical Therapy Program	July 2019-present
Associate Professor/ Director	Center for Rehabilitation Science Army-Baylor University Doctoral Program in Physical Therapy	2017-2019
Assistant Professor/ Director of Research/ Executive Officer	Army-Baylor University Doctoral Program in Physical Therapy	2014-2017

### D. Relevant Professional Experience

<i>Position</i>	<i>Entity</i>	<i>Dates</i>
Chief	Rehabilitation U.S. Army Burn Center U.S. Army Institute of Surgical Research	2008-2011
Research Physical Therapist	U.S. Army Research Institute of Environmental Medicine	2004-2008
Chief, Physical Therapy Department	28 <sup>th</sup> Combat Support Hospital Ibn Sina Hospital, Baghdad, Iraq	2007
Electrophysiologic Testing Consultant	Keller Army Community Hospital	2004-2008

Staff Physical Therapist Ireland Army Community Hospital 2002-2004  
And Coordinator of  
Clinical Research

### **E. Other Professional Credentials (licensure, certification, etc.)**

Physical Therapy Board of Utah License #8813654-2401 2013-present  
Physical Therapy Board of Indiana  
License #05007896A (Inactive) 2002-present

ABPTS Re-certified Orthopedic Specialist 2015-present  
ABPTS Orthopedic Certified Specialist 2004-2014

## **II. TEACHING**

### **A. Teaching Honors and Awards:**

Army Medical Specialist Corps 8Z Skill Identifier, 2018  
Army Medical Specialist Corps 9A Proficiency Designator, 2017  
COL David G. Greathouse Research Award, 2017  
Abstract Award, Mary Lipscomb Hamrick SP Corps  
Research Course, 2015  
Meritorious Service Medal, 2011  
Army Medical Specialist Corps Iron Major Award, 2010  
Army Medical Specialist Corps New Horizon Research Award, 2009  
Meritorious Service Medal, 2008  
Army Commendation Medal, 2007  
Army Commendation Medal, 2004  
Leadership Award, US Army-Baylor University, 2002  
Graduate Program in Physical Therapy Honor Graduate,  
US Army-Baylor University, 2002  
Graduate Program in Physical Therapy Meritorious Service Medal, 2000  
Army Commendation Medal, 1997

### **B. Courses Taught:**

#### DPT Program

Biomechanics (2015)  
Research Methods / Statistics I (2016-2018)  
Therapeutic Interventions (2016-2019)  
Neuromuscular Physiology (2018)  
Physical Therapy Fundamentals (2018-2019)  
Clinical Medicine I (Course Coordinator) (2018-2019)  
Research Methods/Statistics II (2016-2018)  
Musculoskeletal Physical Therapy Upper Member: Shoulder (2018-2019)  
Clinical Medicine III (2014-2017)  
Neuromuscular Physical Therapy (2014-2017)  
Neuroscience (2014-2019)

#### Orthopedic Manual physical Therapy Fellowship

Evidence Based Practice / Research Methods (2016-2019)  
Research Methods / Statistics (2016-2019)

### **C. Consultative/Advisory/Scientific Review Positions Held:**

#### Scientific Journal Manuscript Reviewer:

Nature Partner Journals - Microgravity	2018-Present
PLOS-1	2017-Present
Clinical Biomechanics	2017-Present
Journal of Neurologic Physical Therapy	2013-Present
Journal of Parkinson's Disease	2012-Present
Journal of Hand Therapy	2012-Present
Military Medicine	2008-Present
Medicine and Science in Sports and Exercise	2005-2011

#### National Committees:

National Institutes of Health National Institute of Neurological Disorders and Stroke Scientific Review Steering Committee Member	2018-Present
Major Extremity Trauma Research Consortium Data Standards Steering Committee Member	2017-Present
Clinical and Rehabilitative Medicine Research Program (CRM RP) JPC-8 Steering Committee Neuromusculoskeletal Injury Rehabilitation Portfolio Programmatic Steering Committee Chair / Capability Area Manager	2010 2016-Present
Bone Health and Military Medical Readiness (BHMMR) Programmatic Review Committee Member	2005-2008
Co-Chair, Bone Remodeling and Stress Fracture Working Group American Society of Bone and Mineral Research	2005

### Military Committees:

AMEDD Advanced Medical Technology Initiative Program Review Committee Member	2009-2016
Project Officer – U.S. Army Medical Specialist Corps Management of Burns and Multiple Trauma Post-Graduate Professional Short Course	2008-2010
Project Officer – U.S. Army Medical Specialist Corps COL Mary Lipscomb Hamrick Research Post-Graduate Professional Short Course	2009-2011
U.S. Army Medical Specialist Corps Research Committee Member	2008-2011
Task Force 64 Physical Therapy Theater Consultant, Operation Enduring Freedom	2007
Project Officer - Operation Iraqi Freedom: Physical Therapy Operational Medicine in Theater Conference	2007

### III. SCHOLARLY/CREATIVE

#### A. Peer Reviewed Publications:

Paul SS, Dibble LE, Walther RG, Shelton C, Gurgel RK, **Lester ME**. Reduced Purposeful Head Movements During Community Ambulation Following Unilateral Vestibular Loss. *Neurorehabilitation and Neural Repair*. 2018;32(4-5):309-16

Paul SS, Walther RG, Beseris EA, Dibble LE, **Lester ME**. Feasibility and Validity of Discriminating Yaw Plane Head-on-Trunk Motion Using Inertial Wearable Sensors. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*. 2017;25(12):2347-54.

**Lester ME**, Cavanaugh JT, Foreman KB, Shaffer SW, Marcus R, Dibble LE. Adaptation of Postural Recovery Responses to a Vestibular Sensory Illusion in Individuals with Parkinson Disease and Healthy Controls. *Clin Biomechanics*. 2017;48:73–79.

Paul SS, Dibble LE, Walther RG, Shelton C, Gurgel RK, **Lester ME**. Characterization of Head- Trunk Coordination Deficits After Unilateral Vestibular Hypofunction using

Wearable Sensors. *JAMA Otolaryngology–Head & Neck Surgery*. 2017;143(10):1008-1014

Paul SS, **Lester ME**, Foreman KB, Dibble LE. Validity and Reliability of Two-Dimensional Motion Analysis for Quantifying Postural Deficits in Adults With and Without Neurological Impairment. *Anat Record*. 2016;299(9):1165-73.

**Lester ME**, Sharp MA, Werling WC, Walker LA, Cohen BS, Ruediger TM. Effect Of Specific Short-Term Physical Training On Fitness Measures In Conditioned Men. *J Strength Cond Res*. 2014;28(3): 679-88.

**Lester ME**, Hazelton J, Dewey WS, Casey JC, Richard RL. Influence of Upper Extremity Positioning on Pain, Paresthesia, and Tolerance: Advancing Current Practice. *J Burn Care Res*. 2013;34(6): e342-50.

Knapik JJ, Spiess A, Grier T, Sharp MA, **Lester ME**, Marin R, Jones BH. Injuries before and after deployments to Afghanistan and Iraq. *Public health*. 2012;126(6):498-506.

Galloway KM, **Lester ME**, Evans RK. Clinical Utility of Tibial Motor and Sensory Nerve Conduction Studies with Motor Recording from the Flexor Hallucis Brevis: A Methodological and Reliability Study: Utility of the Flexor Hallucis Brevis. *Foot and Ankle Int*. 2011 4(1):14

**Lester ME**, Knapik JJ, Catrambone D, Antczak A, Sharp MA, Burrell L, Darakjy S. Effect of a 13-Month Deployment to Iraq on Physical Fitness and Body Composition. *Mil Med*. 2010;175(6):417-23.

**Lester ME**, Urso ML, Evans RK, Pierce JR, Spiering BA, Maresh CM, Hatfield DL, Kraemer WJ, Nindl BC. Influence of Exercise Mode and Osteogenic Index on Bone Biomarker Responses during Short-Term Physical Training. *Bone*. 2009;45(4) 768-76.

Richard RL, Baryza MJ, Carr JA, Dewey WS, Dougherty ME, Forbes-Duchart L, Franzen BJ, Healey T, **Lester ME**, Li SKF, Moore M, Nakamura D, Nedelec B, Niszcak J, Parry IS, Quick CD, Serghiou M, Ward RS, Ware L, Young A. Burn Rehabilitation and Research: Proceedings of a Consensus Summit. *J Burn Care Res* 2009;30(4):543-573.

Richard RL, **Lester ME**, Miller SF, Bailey JK, Hedman TL, Dewey WS, Greer M, Renz EM, Wolf SE, Blackbourne LH. Identification of Cutaneous Functional Units (CFUs) Related to Burn Scar Contracture Development. *J Burn Care Res* 2009;30(4):625-631.

Knapik JJ, Swedler DI, Grier TL, Hauret KG, Bullock SH, Williams KW, Darakjy SS, **Lester ME**, Tobler SK, Jones BH. Injury Reduction Effectiveness of Selecting Running Shoes Based on Plantar Shape. *Journal of Strength and Conditioning Research*. 2009;23(3):685-97.

Knapik JJ, Spiess A, Grier T, **Lester M**, Sharp M, Tobler S, Swedler D, Jones BH. Injuries and Physical Fitness Before and After Deployments of the 10th Mountain Division to Afghanistan and the 1<sup>st</sup> Cavalry Division to Iraq *USACHPPM REPORT NO. 12-MA-05SR-08*.

Evans RK, Antczak AJ, **Lester M**, Yanovich R, Israeli E, Moran DS. Effects of a 4-month Recruit Training Program on Markers of Bone Metabolism. *Med Sci Sports Exerc* 2008;40(11 Suppl):S660-70.

**Lester ME**, Seay JF, Antczak AK, Evans RE, Zambraski EJ, Nindl BC. The Utility of the Isobalance Force Platform in the Assessment of Balance: Mechanical and Human Subjects Testing. 2008;*USARIEM Technical Report NO. T08-09*.

Sharp MA, Knapik JJ, Walker LA, Burrell L, Frykman PN, Darakjy SS, **Lester ME**, Marin RE. Physical Fitness and Body Composition after a 9-Month Deployment to Afghanistan. *Med Sci Sports Exerc.* 2008;40(9):1687-92

Joseph J Knapik, David Swedler, Tyson Grier, Keith G Hauret, Steven H Bullock, Kelly Williams, Salima Darakjy, **Mark Lester**, Steve Tobler, Nakia Clemmons, Bruce H Jones. Injury Reduction Effectiveness of Prescribing Running Shoes Based on Foot Shape in Basic Combat Training. *USACHPPM REPORT NO. 12-MA-05SB-08*.

## **B. Abstracts**

Brenner AK, Buscema CJ, **Lester ME**. The Immediate Effects of the Lumbosacral Region Manipulation on Hip Passive Range of Motion in Patients with Low Back Pain: A Case Series. Poster Presentation at the 2007 American Physical Therapy Association Combined Sections Meeting, Boston MA. Abstract published in *JOSPT* 37(1) Supplement: A38, January 2007.

## **C. Peer Reviewed Scientific and Professional Presentations:**

**Lester ME**, Frank AJ, Croy T, Diebal-Lee A, Licursi F, Paris T, Pritt A, Shaffer SW. Normative and Reliability References for Field Expedient Screening Items to Assess Physical Performance and Pain with Movement Among Soldiers in Advanced Individual Training. Poster Presentation at the 2018 Military Health System Research Symposium, Orlando, FL

**Lester ME**, Croy T, LaKowski M, Humphrey AJ, Licursi F, Shaffer SW. Self-reported Injury Prevalence and its Relationship to Pain with Movement and Physical Performance Screening Tests. Platform Presentation at the 2018 Military Health System Research Symposium, Orlando, FL

**Lester ME**, Paul SS, Shelton C, Gurgel RK, Dibble LE. Head Kinematics and Head-Trunk Coordination Associated with Clinical and Community-Based Gait Activities in People with and without Vestibular Hypofunction. Platform Presentation at the 2018 Military Health System Research Symposium, Orlando, FL

**Lester ME**, Croy T, Diebal-Lee A, Humphrey A, LaKowski M, Licursi F, Milke A, Shaffer SW. Use of Injury Surveillance and Physical Performance Testing to Identify Unreported High Risk Injuries in Soldiers During Advanced Individual Training. Poster Presentation at the 2017 AMEDD Center and School Graduate School Faculty Development and Research Symposium, San Antonio, TX

**Lester ME**, Croy T, Diebal-Lee A, Loehr L, Maxfield J, Pritt A, Paris-Ferrer T, Shaffer SW. Use of Injury Reporting and Performance Measures to Screen Soldiers During Advanced Individual Training. Poster Presentation at the 2017 AMEDD Center and School Graduate School Faculty Development and Research Symposium, San Antonio, TX

LaKowski M, Loehr L, Maxfield J, Milke A, Humphrey A, Diebal-Lee A, Croy T, Shaffer SW, **Lester ME**. Self-reported Injury Prevalence and its Relationship to Pain with Movement Screening Tests. Poster Presentation at the 2017 AMEDD Center and School Graduate School Faculty Development and Research Symposium, San Antonio, TX

Humphrey A, Licursi F, Paris-Ferrer T, Pritt A, Shaffer SW, Croy T, Diebal-Lee A, **Lester ME**. Interrater Reliability of Pain with Movement Screening Items in Advanced Individual Training Soldiers. Poster Presentation at the 2017 AMEDD Center and School Graduate School Faculty Development and Research Symposium, San Antonio, TX

**Lester ME**, Paul SS, Dibble LE. Utility of Portable Video Technologies to Discriminate Alterations in Postural Control. Poster Presentation at the 2017 TATRC Open House, Ft. Detrick, MD

Serene Paul SS, Dibble LE, Walther R, Shelton C, Gurgel R, **Lester ME**. Head Kinematics and Head-Trunk Coordination in People with and without Vestibular Hypofunction. Platform Presentation at the 2017 Gait and Movement Analysis Society Annual Meeting, Salt Lake City, UT

**Lester ME**, Croy T, Diebal-Lee A, Humphrey A, LaKowski M, Licursi F, Milke A, Shaffer SW. Use of Injury Surveillance and Physical Performance Testing to Identify Unreported High Risk Injuries in Soldiers During Advanced Individual Training. Poster Presentation at the 2017 American Physical Therapy Association Combined Sections Meeting, San Antonio, TX

**Lester ME**, Croy T, Diebal-Lee A, Loehr L, Maxfield J, Pritt A, Paris-Ferrer T, Shaffer SW. Use of Injury Reporting and Performance Measures to Screen Soldiers During Advanced Individual Training. Poster Presentation at the 2017 American Physical Therapy Association Combined Sections Meeting, San Antonio, TX

LaKonski M, Loehr L, Maxfield J, Milke A, Humphrey A, Diebal-Lee A, Croy T, Shaffer SW, **Lester ME**. Self-reported Injury Prevalence and its Relationship to Pain with Movement Screening Tests. Poster Presentation at the 2017 American Physical Therapy Association Combined Sections Meeting, San Antonio, TX

Humphrey A, Licursi F, Paris-Ferrer T, Pritt A, Shaffer SW, Croy T, Diebal-Lee A, **Lester ME**. Interrater Reliability of Pain with Movement Screening Items in Advanced Individual Training Soldiers. Poster Presentation at the 2017 American Physical Therapy Association Combined Sections Meeting, San Antonio, TX

Young B, Kasprisin C, Merriam M, McNeal R, Harms C, Painter E, **Lester M**, Koppenhaver S. Criterion Validity of Shear Wave Elastography Compared to Electromyography to Assess Lumbar Multifidus Activation. Poster Presentation at the 2017 American Physical Therapy Association Combined Sections Meeting, San Antonio, TX

**Lester ME**, Paul SS, Dibble LE. Utility of Portable Video Technologies to Discriminate Alterations in Postural Control. Poster Presentation at the 2016 TATRC General Officer Day, Ft. Detrick, MD

**Lester ME**, Cavanaugh J, Shaffer, S, Foreman K, Dibble LE. Adaptive Postural Responses to Vestibular Illusion in Individuals with Parkinson Disease and Healthy Controls. Poster presentation at the 2016 IV STEP Conference, Columbus, OH

Paul SS, **Lester ME**, Foreman K, Dibble LE. Validity of 2D motion capture for quantifying balance deficits. Poster Presentation at the 2016 American Physical Therapy Association Combined Sections Meeting, San Diego, CA

Paul SS, **Lester ME**, Salant N, Foreman K, Dibble LE. First trial response performance of an anticipatory postural task in people with Parkinson disease and healthy adults. Poster Presentation at the 2015 Movement Disorders Society Congress, San Diego, CA

**Lester ME**, Smith L, Papa E, Dobie G, Dibble LE, Foreman K. Utility of the Posterior Tether Release in Assessing Reactive Postural Stability. Poster Presentation at the 2014 American Physical Therapy Association Combined Sections Meeting, Las Vegas, NV

**Lester ME**, Dibble LE, Foreman K, Mrcus R, Cavanaugh J, Shaffer, S. Influence of Galvanic Vestibular Stimulation on Temporal Components of Postural Stability. Poster Presentation at the 2014 American Physical Therapy Association Combined Sections Meeting, Las Vegas, NV



Richard RL, **Lester M**, Dewey S, Narvaiz V, Jones J, Renz E. Natural Skin and Burn Scar Biomechanic Investigation. Platform Presentation at the 2012 American Burn Association Annual Meeting, Seattle, WA

**Lester ME**, Young AW, Williams J, Shields B, Malin E, Renz EM. Incidence of Heterotopic Ossification Among Military and Civilian Burn Casualties: A Preliminary Analysis. Platform Presentation at the 2011 American Burn Association Annual Meeting, Chicago, IL

Richard R, **Lester ME**, Oh J, Oswald D, King BT, Chung K, Renz EM, Blackbourne LH. Influence of Escharotomy and Fasciotomy on Joint Range of Motion. Poster Presentation at the 2011 American Burn Association Annual Meeting, Chicago, IL

Hazelton J, Richard R, Hedman T, **Lester ME**. Evaluation of Four Burn Axilla and Upper Extremity Positions. Poster Presentation at the 2011 American Burn Association Annual Meeting, Chicago, IL

**Lester M**, Richard R, Oh J, Oswald D, King BT, Renz EM, Blackbourne LH. Escharotomy and Fasciotomy Influence on Limb Function. Poster Presentation at the 2010 AMEDD Technology Advancements in Combat Casualty Care (ATACCC) Conference, St. Pete's Beach, FL

Brenner A, Buscema C, **Lester M**. Immediate effects of the lumbosacral region manipulation on hip range of motion. A case series. Platform Presentation at the 2009 USPHS Scientific and Training Symposium, Atlanta, GA

Dewey WS, Richard RL, Casey JC, Hedman TL, Greer MA, **Lester ME**, Renz EM, Wolf SE, Blackbourne LH. Burn Rehabilitation Time Study. Poster Presentation at the 2009 American Burn Association Annual Meeting, San Antonio, TX

Knapik JJ, Sharp MA, **Lester ME**. Injuries and Physical Fitness before and After Deployment of the US Army to Afghanistan and Iraq. Platform Presentation at the 2008 Israeli Defense Forces Shoresh & Biomedical Meeting, Ft. Detrick, MD

Grier T, Knapik JJ, Swedler D, Hauret KG, Williams K, Bullock SH, Darakjy S, **Lester M**, Clemmons N, Brown J, Jones BH. Interactive effects of smoking prior to Basic Combat Training (BCT) and age on initial fitness levels on entry to BCT. Poster Presentation at the 2008 USACHPPM Force Health Protection Conference, Denver CO.

Swedler DI, Knapik JJ, Hauret KG, Bullock SH, Williams K, **Lester M**, Darakjy S, Grier T, Clemmons N, Brown J, Jones BH. Injury rates and risk factors associated with Separations for Convenience of the Government from US Army basic combat training. Poster Presentation at the 2008 USACHPPM Force Health Protection Conference, Denver CO.

**Lester ME**, Evans RK, Kraemer WJ, Staab JS, Pierce JR, Catrambone DE, Isome HM, Urso ML, Spiering BA, Hatfield DL, Maresh CM, Nindl BC. Bone Biomarker Responses to Short- Term Training: Influence of Exercise Mode vs. Osteogenic Index. Poster Presentation at the 2007 ASBMR Annual Meeting, Honolulu HI

Negus CH, Evans RK, Shen W, Isome HM, **Lester ME**, Catrambone DE, Spiering BA, Hatfield DL, Kraemer WJ, Nindl BC. Using pQCT to Assess Regional Bone Changes Resulting from Short-Term Exercise Interventions. Poster Presentation at the 2007 ASBMR Annual Meeting, Honolulu Hi.

Evans RK, Antczak AJ, **Lester ME**, Yanovich R, Israeli E, Moran DS. Bone Turnover Response of Men and Women to a Strenuous Gender-Integrated Training Regimen. Poster Presentation at the 2007 ASBMR Annual Meeting, Honolulu Hi.

**Lester ME**, Evans RK, Catrambone DE, Isome HM, Spiering BA, Hatfield DL, Kraemer WJ, Maresh C, Nindl BC. Effects of Periodized Exercise Programs on Parameters of Bone Strength. Poster Presentation at the 2007 ACSM Annual Meeting, New Orleans LA.

Mouneimneh LA, **Lester ME**, Sharp MA, Werling WC, Cohen BS, Abbass P, Dingman J, Sweeney BP, Harman E, Ruediger TM. Effects of Two Physical Training Programs on Military Tasks and Physical Fitness in Infantry Soldiers. Poster Presentation at the 2007 ACSM Annual Meeting, New Orleans, LA

Dobbins DM, **Lester ME**, Sharp MA, Mouneimneh LA, Werling WC, Abbass P, Dingman J, Cohen BS, Ruediger TM. Reliability of Selected Measures of Physical Fitness and Combat Relevant Tasks in Infantry Soldiers. Poster Presentation at the 2007 ACSM Annual Meeting, New Orleans LA.

Cohen BS, **Lester ME**, Sharp MA, Mouneimneh LA, Werling WC, Abbass P, Dingman J, Sweeney BP, Ruediger TM. Improvements in Soldier Group Norms Following Short-Term Physical Training. Poster Presentation at the 2007 ACSM Annual Meeting, New Orleans LA.

Antczak AJ, Evans RK, **Lester ME**, Yanovich R, Israeli E, Moran DS. Effects of a 16-Week Recruit Training Program on Bone Turnover Markers and Bone Mineral Density. Poster Presentation at the 2007 ACSM Annual Meeting, New Orleans LA.

Catrambone D, Evans RK, **Lester ME**, Isome HM, Yanovich R, Cohen-Sivan Y, Israeli E, Moran DS. Parameters of bone strength in new recruits: beyond bone density. Poster Presentation at the 2007 ACSM Annual Meeting, New Orleans LA.

Evans RK, Negus C, Shen W, Isome H, **Lester M**, Catrambone D, Spiering B, Hatfield D, Kraemer W, Nindl B. Regional changes in bone mineral density of the tibia following a 13-week aerobic training program. Poster Presentation at the 2007 ACSM Annual Meeting, New Orleans LA.

Evans R, Yanovich R, **Lester M**, Merkel D, Cohen-Sivan Y, Israeli E, Moran DS. Effects of a 16-week Recruit Training Program on Biomarkers of Bone Metabolism. Poster Presentation at the 2007 Israeli Defense Forces Shoresh & Biomedical Meeting, Herzliya Israel

Moran DS, Evans R, Yanovich R, Israeli E, Isome H, Cohen-Sivan Y, Khomanuk G, **Lester M**, Etzion Y, Sharvit N, Hadad E, Ron-Tal O, Berlin S, Heled Y, Shabshin N, Staab J, Merkel D, Luria O, Hadid A, Amram Katz S, Erlich T, Finestone A, Milgrom C, Constantini N, Zambraski

E. Medical Aspects for the Integration of Women into Combat Professions. Poster Presentation at the 2007 Israeli Defense Forces Shoresh & Biomedical Meeting, Herzliya Israel:

**Lester ME**, Evans RK, Catrambone DE, Isome HM, Spiering BA, Hatfield DL, Kraemer WJ, Maresh C, Nindl BC. Association between Dual X-ray Absorptiometry Derived Parameters and Bone Strength Measured by pQCT. Poster Presentation at the 2006 ACSM Annual Meeting, Denver CO. Abstract published in MSSE 38(5) Supplement: S530, May 2006.

Isome, Heath M; Blankenship, Kenneth; **Lester, Mark**; Harper, William; Ortega, Samson; Evans, Rachel; Zambraski, Edward. Use of Biomarkers to Quantify Musculoskeletal Injury Resulting from a High Recoil Shoulder-Fired Weapon. Poster Presentation at the 2006 ACSM Annual Meeting, Denver CO. Abstract published in MSSE 38(5) Supplement:S389, May 2006

Isome HE, Nindl BC, Evans R, **Lester M**, Catrambone D, Gotshalk L, Kraemer WJ. Improved Bone Strength in Women Following a 24-Week Total Body Periodized Resistance Training Program. Poster Presentation at the 2005 ASBMR Annual Meeting, Nashville TN.

**Lester ME**, Friedl KE, Isome HM, Catrambone DE, Evans RK. Changes in Parameters of Bone and Body Composition in Females during Army Basic Training. Poster Presentation at the 2005 ACSM Annual Meeting, Nashville TN. Abstract published in MSSE 37(5) Supplement: S90, May 2005.

**Lester ME**, Diebal A, Nolin T, Todd RH, Allison S, Christie D, Matekel R. Abdominal Muscle Activity on Stable and Unstable Surfaces in Subjects with Low Back Pain and Controls. Platform Presentation at the 2002 Baylor Scholars Day, Baylor University. Waco, TX

### C. Works Not in Print:

1. **Lester ME**, Cavanaugh JT, Foreman KB, Shaffer SW, Marcus R, Dibble LE. Postural Control Adaptation in Parkinson Disease: Effect of Repeated Vestibular Sensory Illusion on Performance During an Anticipatory Postural Task. *Hum Mov Sci*. In Review
2. **Lester ME**, Croy T, LaKonski M, Loehr L, Maxfield JH, Milke A, Shaffer SW. Self-reported Injury Prevalence and its Relationship to Pain with Movement and Physical Performance Screening Tests. (Manuscript Preparation – unfunded)

3. **Lester ME**, Frank AJ, Croy T, Diebal-Lee A, Licursi F, Paris T, Pritt A, Shaffer SW. Normative and Reliability References for Field Expedient Screening Items to Assess Physical Performance and Pain with Movement Among Soldiers in Advanced Individual Training. (Manuscript Preparation – unfunded)
4. Young B, Koppenhaver S, **Lester ME**, Painter E. Measurement of Lumbar Multifidus Activation Utilizing Electromyography and Shear Wave Elastography: A Criterion Validity Study. (Manuscript Preparation – unfunded)
5. **Lester ME**, Robbins D, Roberts H, Moon P, Wilson A, Duckworth L. Improvements in Spatial and Temporal Head Thrust Test Parameters Resulting from Practice Among Student Physical Therapists. (Manuscript Preparation – funded AAMTI)
6. Pickens B, Allen C, **Lester ME**, Allison S, Deyle G. The influence of knee mobilization on functional characteristics of the quadriceps in patients with knee osteoarthritis. (Manuscript Preparation – unfunded)
7. Perkins M, **Lester ME**, Young B, Allen C, Allison S, Deyle G. Influence of Cervical Mobilization on Functional Characteristics of Shoulder Musculature in Patients with Subacromial Impingement. (Manuscript Preparation – unfunded)
8. Umlauf J, Allen C, Deyle G, **Lester ME**, Robbins D. Effect of Physical Therapy on a High- Demand Task in Individuals with Knee Osteoarthritis: An Observational Cohort. (Manuscript Preparation – unfunded)
9. Parsons N, Allen C, Robbins D, Deyle G, **Lester ME**. The Use of Instrumented Outcome Measures to Assess Habitual Physical Activity and Sleep Quality in Patients with Osteoarthritis of the Knee. (Manuscript Preparation – funded AAMTI)
10. Anderson D, Allen C, Deyle G, **Lester ME**. The Use of Real-Time Feedback to Improve Learning of Joint Mobilization Techniques for Knee Osteoarthritis. (Manuscript Preparation – funded AAMTI)
11. Zimmerman J, Allen C, Deyle G, **Lester ME**. Femoral Neck Stress Fracture Imaging Guideline. (Manuscript Preparation – unfunded)
12. Diebal-Lee A, **Lester ME**, Boland, D, Graves M, Kicklighter J, Timmerman B, Campbell B. Feasibility of Wearable Devices to Measure and Monitor Changes in Gait Characteristics during Running. (Data Analysis – funded AAMTI)
13. Halfpap J, Rhon D, Allen C, Deyle G, **Lester ME**. Assessment of Home Exercise Retention and Adherence. (Data Collection – unfunded)
14. Fortenbury A, Rhon D, Allen C, Deyle G, **Lester ME**. Demographics of Patients Seeking Care for Shoulder Pain in the Military Healthcare System. (Data Collection – unfunded)

15. Robbins D, **Lester ME**, Overton M, Holcomb W, Warnke A, Hathcock J. Feasibility of Using a Wearable Accelerometer to Detect Patterns of Gait. (Data Collection – unfunded)
16. **Lester ME**, Robbins D, Boland D, Morris J, Heiner M, Hallak S, Paul S, Beggs M. Development of a Modular Assessment Suite to Quantify Running-Related Biomechanical Markers Associated with Lower Extremity Injury Risk in Clinical Settings. (Data Collection – funded AAMTI)
17. **Lester ME**, Shaffer S, Painter E, Kocher E, Wolfe T, Hierholzer L, Wise L, Clifton A, Fagan E, Tan J, Batzer S. Influence of Multisensory Impairment on Postural Stability and Fall Risk. (Data Collection – unfunded)
18. **Lester ME**, Gill N, Croy T, Walls R, Zaage K, Henderson K, Prinster E, Harding J, Cross G. Feasibility of a Clinically Oriented, 360 Degree Camera Array Produced Virtual Environment. (Data Collection – funded AAMTI)
19. **Lester ME**, Shaffer S, Dibble LE, Arends B, Pappenfuss J, Grosso H. Community Based Measurement of Instability and Exposure in Persons with Postural Instability (Multisite). (Data Collection – funded AAMTI)
20. Hoppes CW, Gill S, **Lester ME**, Wise J, Santoy L, Jensen R, Smith R. Feasibility of Near- Infrared Spectroscopy to Measure Cortical Pain Pathway (Brain) Activation During Dry Needling. (Pilot Testing – funded AAMTI)
21. Thelen M, **Lester ME**, Hughes J, Manzo M, Miller P, Werner A. Use and Effectiveness of Trigger Point Dry Needling for Treating Musculoskeletal Conditions in Military Populations: A Scoping Review. (Data Collection – unfunded)

### **C. Scholarly / Creative Grants and Contracts:**

**2019 Army Advanced Medical Technology Initiative (AAMTI) Extended Innovation Grant.** Feasibility of Inertial Measurement Units to Discriminate Alterations in Postural Control Following Vestibular Insult. \$242,905 Principal Investigator (In Review)

**2018 Complex TBI Clinical and Rehabilitative Medicine Research Program (CRM RP) Grant.** Head-Trunk Coupling during Turning Under Single and Dual Task Conditions. \$1,900,000 Co-Investigator

**2018 Army Advanced Medical Technology Initiative (AAMTI) Rapid Innovation Grant.** Quantifying Biomechanical Markers Between Overground and Treadmill Running: Validation of a Clinically Relevant Modular Assessment Suite. \$154,550 Principal Investigator

**2018 Army Advanced Medical Technology Initiative (AAMTI) Rapid Innovation Grant.** Development of a Custom 3D Printed Functional Near-Infrared Spectroscopy Optode Montage. \$37,000 Co-Investigator

**2018 Army Advanced Medical Technology Initiative (AAMTI) Rapid Innovation Grant.** Documenting alterations in head trunk coordination following vestibulopathy or brain injury: Development and Testing of New Algorithms. \$42,000 Principal Investigator

**2018 Army Advanced Medical Technology Initiative (AAMTI) Grant.** In-field Gait Retraining to Reduce Reoccurrence of Lower Extremity Injuries: A Randomized Controlled Trial. \$170,000 Co-Principal Investigator

**2017 Army Advanced Medical Technology Initiative (AAMTI) Grant.** Development of a Modular Assessment Suite to Quantify Running-Related Biomechanical Markers Associated with Lower Extremity Injury Risk in Clinical Settings. \$222,000 Principal Investigator

**2016 Army Advanced Medical Technology Initiative (AAMTI) Grant.** Feasibility of a Clinically Oriented, 360 Degree Camera Array Produced Virtual Environment. \$244,960 Principal Investigator

**2016 Army Advanced Medical Technology Initiative (AAMTI) Grant.** Feasibility of a Force-Sensing Insole to Measure and Monitor Foot-Strike Patterns in Running Gait to Mitigate Injury. \$170,000 Co-Principal Investigator

**2016 Army Advanced Medical Technology Initiative (AAMTI) Grant.** Community based measurement of instability and exposure in persons with postural instability. \$248,700 Co-Principal Investigator

**2015 Army Advanced Medical Technology Initiative (AAMTI) Grant.** Feasibility of Accelerometry to Discriminate Alterations in Postural Control Following Vestibular Insult. \$212,500 Principal Investigator

**2014 Army Advanced Medical Technology Initiative (AAMTI) Grant.** Utility of Portable Video Technologies to Discriminate Alterations in Postural Control. \$129,510 Principal Investigator

**2010 Army Advanced Medical Technology Initiative (AAMTI) Grant.** Assessment of Joint Range of Motion and Cutaneous Functional Unit Recruitment: Association with Burn Scar Characteristics. \$108,000 Principal Investigator

**2009 Army Advanced Medical Technology Initiative (AAMTI) Grant.** Establishing the Relationship between Scar Characteristics, Soft Tissue Mobility and Joint Range of Motion in the Assessment and Treatment of Hypertrophic Burn Scar using Diagnostic Ultrasound, Laser Doppler Imaging, and Digital Videography. \$110,000 Principal Investigator

#### **IV. SERVICE**

##### **A. Institutional**

###### 1. School:

US Army Surgeon General's System for Health Council Lead  
Army Medical Department Center & School

2015-2017

US Army Surgeon General's Research to Practice Working Group  
Committee Member 2016-Present

Faculty Research Education and Development Council,  
Army Medical Department Center & School (member) 2016-2017

Adjunct faculty / Dissertation Committee member 2015-present  
U.S. Army-Baylor University Orthopedic Manual Physical  
Therapy Fellowship

2. Other:

Guest Lecturer, US Military - Baylor University 2006-2008  
Post-professional Sports Medicine - Physical  
Therapy Doctoral Program

**B. Community:**

Scout Master / Varsity Crew Leader, Boy Scouts of America 2011-2016

**D. Organization Memberships:**

American Physical Therapy Association (APTA): 2000-present  
Texas Chapter, APTA 2000-2002  
2008-2011  
2014-present  
Kentucky Chapter, APTA 2002-2004  
Massachusetts Chapter, APTA 2004-2008  
Utah Chapter, APTA 2011-present  
American College of Sports Medicine (ACSM) 2005-2011

**E. Service Honors and Awards:**

Army Medical Specialist Corps 8Z Skill Identifier 2018  
Army Medical Specialist Corps 9A Proficiency Designator 2017  
COL David G. Greathouse Research Award 2017  
Abstract Award, Mary Lipscomb Hamrick SP Corps Research Course 2015  
Meritorious Service Medal 2011  
Army Medical Specialist Corps Iron Major Award 2010  
Army Medical Specialist Corps New Horizon Research Award 2009  
Meritorious Service Medal 2008  
Army Commendation Medal 2007  
Army Commendation Medal 2004  
Leadership Award, US Army-Baylor University 2002  
Graduate Program in Physical Therapy  
Honor Graduate, US Army-Baylor University 2002

Graduate Program in Physical Therapy	
Meritorious Service Medal	2000
Army Commendation Medal	1997

**F. Service Professional Development Activities Attended:**

Gait and Posture Impairments in Movement Disorders Sydney, Australia	2013
Movement Disorders Society Annual Meeting Sydney, Australia	2013
Vestibular Rehabilitation: Advanced Topics in Differential Diagnosis and Treatment of Vestibular Disorders, University of Utah	2014
APTA Combined Sections Meeting (3 days – 1.0 CEU) Las Vegas, NV	2014
Instructor Training Course (10 days) Fort Sam Houston, TX	2014
Kersey Advanced Clinical Practice Course (0.8 CEU)	2015
APTA IV STEP Conference (5 days – 1.2 CEUs) Columbus OH	2016
APTA CAPTE Self Study Workshop (2 days – 1.3 CEUs) Phoenix, AZ	2016
APTA Combined Sections Meeting (3 days – 1.9 CEU) San Antonio, TX	2017
Mountain Land Running Summit (2 days – 12 CEU) Park City, UT	2017
APTA Combined Sections Meeting (3 days – 1.9 CEU) New Orleans, LA	2018
Vestibular Rehabilitation: A Competency-Based Course (6 days – 4.1 CEU) Salt Lake City, UT	2018







