

CURRICULUM VITAE: Brian J. Loyd

Name: Brian James Loyd, PT, DPT, PhD

Address:

University of Montana
Physical Therapy and Rehabilitation Science
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Missoula, MT 59812

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Name of Institution:

University of Montana

Education:

2013-2017	University of Colorado Aurora, CO	PhD Rehabilitation Science
2010-2013	Texas Tech University Health Science Center Lubbock, TX	Doctor of Physical Therapy
2006-2010	Hastings College Hastings, NE	BA in Biopsychology

Licensure Information/Registration Number:

Colorado # PTL.0012268, Utah # 10508100-2401

Employment and Positions Held:

2020-present	Assistant Professor, University of Montana Department of Physical Therapy and Rehabilitation Science
2018-2020	Post-doctoral research fellow, University of Utah, Department of Physical Therapy/Athletic training
2012	Teaching Assistant, Gross Anatomy Lab, TTUHSC
2009-2010	Teaching Assistant, Physics Department, Hastings College

Peer Reviewed Publications:

Grove CR, Heiderscheit BC, Pyle GM, **Loyd BJ**, Whitney SL. The Gait Disorientation Test: A New Method for Screening Adults with Dizziness and Imbalance. Archives of Physical Medicine and Rehabilitation. 2020 Dec 15.

Loyd BJ, Saviers-Steiger J, Fangman A, Paul S, Fino P, Lester M, Dibble L. Control of linear head and trunk acceleration during gait following unilateral vestibular deficits. Archives of

PM&R, Accepted ahead of print. 2020

Loyd BJ., Saviers-Steiger J, Fangman A, Ballard P, Taylor C, Schubert M, Dibble LE. Turning Toward Monitoring of Gaze Stability Exercises: The Utility of Wearable Sensors. *Journal of Neurologic Physical Therapy*. 2020 44(4), 261-267

Christiansen J, Kittelson A, **Loyd BJ**, Stevens-Lapsley J. Reliability, responsiveness and validity of handheld dynamometry for assessing quadriceps strength in total knee arthroplasty. 2020. *Disability and Rehabilitation*, 1-8. <https://doi.org/10.1080/09638288.2020.1730454>

Christensen J, Kittelson A, **Loyd BJ**, Himawan M, Thigpen C, Stevens-Lapsley J. Characteristics of young and lower functioning patients following total knee arthroplasty: a retrospective study. 2019. *BMC musculoskeletal disorders*, 20(1), 483.

Loyd, BJ, Fangman A, Gappmaier E, Petterson D, Schubert M, Thackery A, Dibble L. Rehabilitation to Improve Gaze and Postural Stability in People with Multiple Sclerosis: Study Protocol for A Prospective Randomized Clinical Trial. *BMC- Neurology Study Protocols*. DOI: 10.1186/s12883-019-1353-z

Loyd BJ, Stackhouse S, Hogan C, Dayton M, Stevens-Lapsley J, Kittelson AJ. Peripheral nociceptor sensitization is associated with voluntary activation deficits and quadriceps weakness following total knee arthroplasty. *JBJS* 2019. DOI:10.2106/JBJS.18.01457

Loyd BJ, Stackhouse S, Forster J, Hogan C, Stevens-Lapsley J. Psychometric Properties of Single Frequency Bioelectrical Impedance Assessment of Lower Extremity Swelling Following Total Knee Arthroplasty. *Physical Therapy Theory and Practice*. <https://doi.org/10.1080/09593985.2019.1619886>

Jennings J, **Loyd BJ**, Dennis DA, Stevens-Lapsley J. The Use of Closed Suction Drain Does Not Influence Strength or Function in Primary TKA: A Prospective Randomized Trial. *BJJ*. <https://doi:10.1302/0301-620X.101B7.BJJ-2018-1420.R1>.

Loyd BJ, Stackhouse S, Hogan C, Dayton M, Bade M, Stevens-Lapsley J. The Relationship Between Swelling, Quadriceps Strength, and Functional Performance Following Total Knee Arthroplasty. *The Knee*. March 2019; (26)2: 382-391. <https://doi.org/10.1016/j.knee.2019.01.012>

Loyd BJ, Kittelson A, Forster J, Stackhouse S, Stevens-Lapsley J. Development of a reference chart to monitor postoperative swelling following total knee arthroplasty. *Disability and Rehabilitation*. 10.1080/09638288.2018.1534005

Chey V, Kittelson A, **Loyd BJ**, Hafner W, Stevens-Lapsley J. Influence of Diabetes on the Recovery Trajectories of physical Function Deficits After Total Knee Arthroplasty. *Arthritis Care & Research*. 2018 <https://doi.org/10.1002/acr.23741>

Loyd BJ, Jennings J, Falvey J, Kim R, Dennis D, Stevens-Lapsley J. Magnitude of deformity correction may influence recovery of quadriceps strength following total knee arthroplasty. *Journal of Arthr*. <http://dx.doi.org/10.1016/j.arth.2017.04.030> PMID: [28559195](https://pubmed.ncbi.nlm.nih.gov/28559195/)

Hayes B, Kittelson A, **Loyd BJ**, Wellsandt E, Flug J, Stevens-Lapsley J. Assessing radiographic knee osteoarthritis: an online training tutorial for the Kellgren-Lawrence grading scale.

MedEdPORTAL Publications. 2016;12:10503. https://doi.org/10.15766/mep_2374-8265.10503

Loyd BJ, Jennings J, Judd D, Kim R, Wolfe P, Dennis D, Stevens-Lapsley J. Influence of Hip Abductor Strength on Functional Outcomes before and after Total Knee Arthroplasty. *Phys. Ther.* August 9th, 2017. pzx066, <https://doi.org/10.1093/ptj/pzx066>.

Loyd BJ, Fields TT, Stephenson RO, Stevens-Lapsley J, Christiansen CL. Explaining 2-minute walk outcomes in Veterans with traumatic or non-traumatic lower limb amputation. *Journal of Rehabilitation Research and Development.* 2016 <http://dx.doi.org/10.1682/JRRD.2015.03.0038>

Stevens-Lapsley, JE, **Loyd, BJ**, Falvey, JR, Figiel, GJ, Kittelson, AJ, Cumbler, EU, & Mangione, KK. Progressive multi-component home-based physical therapy for deconditioned older adults following acute hospitalization: A pilot randomized controlled trial. *Clinical rehabilitation.* 2016. PMID: 0269215515603219.

Loyd BJ, Gilbert K, Sizer P, Atkins L, Sobczak S, Brismee JM, Pendergrass T. The relationship between various anatomical landmarks used for localizing the first rib during surface palpation. *Journal of Manual and Manipulative Therapy.* 2013. PMID: 25125934

Invited Presentations:

Optimizing Rehabilitation After Total Joint Replacement in a Changing Healthcare Landscape. Marquette Challenge. Aurora, CO; September 17, 2016. Speaker.

Peer Reviewed Scientific and Professional Presentations:

- 2020 Dibble LE., **Loyd BJ**, and Hebert J. "Gaze Stability and Postural Control Limitations in Multiple Sclerosis: Diagnosis, Treatment, and Future Directions." Educational Session. *2020 Combined Sections Meeting (CSM).* APTA, 2020.
- 2020 Koch N, **Loyd BJ**, Hunt G, Lester ME, Dibble LE. "Use of GPS Monitoring to Examine Community Participation in People with MS, a Case Series". Poster presentation. *2020 Combined Sections Meeting (CSM).* APTA. 2020.
- 2020 Fangman A, Saviers-Steiger J, Ballard P, Schubert MC, Dibble LE, **Loyd BJ**. "Quantifying Treatment Fidelity during Gaze Stabilization Training." Poster presentation. *2020 Combined Sections Meeting (CSM).* APTA, 2020.
- 2020 Lopez-Lennon C, **Loyd BJ**, Taylor C, Agnew L, Koch N, Lester M, Dibble LE. Head and Trunk instability and turning velocity during a fatiguing walk test in patients with Multiple Sclerosis. *International Symposium on Gait and Balance in Multiple Sclerosis.* Poster presentation. Virtual 2020.
- 2019 **Loyd BJ**, Saviers-Steiger J, Fino P, Paul S, Lester M, Dibble L. 3D head stability of people with vestibular dysfunction during gait in variable sensory conditions. ISPGR, Edinburgh, Scotland. June 2019. (platform presentation)
- 2019 **Loyd BJ**, Fangman A, Hunt G, Fino P, Dibble L. Turning velocity and coordination in multiple sclerosis. ISPGR, Edinburgh, Scotland. June 2019. (poster presentation)

- 2019 **Loyd BJ**, Savier-Steiger J, Paul S, Lester M, Fino P, Dibble L. Removing vision reduces head stabilization during dynamic tasks in individuals with unilateral vestibular hypofunction. Vestibular Oriented Research Meeting. Dayton, OH. May 2019. (platform presentation)
- 2019 Cheuy VA, **Loyd BJ**, Thigpen C, Waugh D, Kittelson AJ, Stevens-Lapsley JE. Comparison of Performance Based Versus Self-Reported Functional Measures Early After Total Knee Arthroplasty. Combined Sections Meeting, Washington, D.C., January 2019. (poster presentation)
- 2019 Dibble L, Lester M, **Loyd BJ**, Hunt G, Shelton C, Gurgel R, Paul S. Recovery of head trunk degrees of freedom following unilateral vestibular loss. APTA Combined Sections Meeting, Washington D.C., January 2019. (poster presentation)
- 2019 Wile D, **Loyd BJ**, Hunt G, Lester M, Dibble L. Characterization of transverse plane head motion and dual task cost during single and dual task timed up and go test in balance impaired and healthy young individuals using wearable sensors. APTA Combined Sections Meeting, Washington D.C., January 2019. (poster presentation)
- 2019 Jennings J, **Loyd BJ**, Miner T, Yang C, Stevens-Lapsley J, Dennis D. The use of closed suction drain does not influence strength or function in primary TKA a prospective randomized trial. AAOS. (poster presentation)
- 2018 Cheuy V, **Loyd BJ**, Hafner W, Iannitto J, Kittelson A, Waugh D, Stevens-Lapsley J. Influence of Diabetes on the Recovery Trajectories of Patients' Physical Function after Total Knee Arthroplasty. APTA Combined Sections Meeting, New Orleans, LA. February 2018. (poster presentation)
- 2018 **Loyd BJ**, Burrows K, Ruse R, Iannitto J, Pineda M, Hogan C, Dayton M, Stevens-Lapsley J. An Innovative Approach to Measuring the Trajectory of Lower Extremity Swelling Following Total Knee Arthroplasty. APTA Combined Sections Meeting, New Orleans, LA. February 2018. (poster presentation)
- 2017 Cheuy VA, **Loyd BJ**, Bade MJ Christiansen CL, Stevens-Lapsley JE. Effects of Movement Pattern Biofeedback Training After Total Knee Arthroplasty. American Society of Biomechanics Annual Meeting, Boulder, CO, August 2017 (poster presentation).
- 2017 Cheuy VA, **Loyd BJ**, Bade MJ Christiansen CL, Stevens-Lapsley JE. Movement Asymmetry During Stepping is Related to Quadriceps Strength Asymmetry and Functional Impairment. Rocky Mountain American Society of Biomechanics Annual Regional Meeting, Estes Park, CO, April 2017 (poster presentation).
- 2017 Iannitto JL, **Loyd BJ**, Johnson R, Eschen C, Levy D, Jennings J, Stevens-Lapsley JE. Assessment of commonly used measures of lower extremity swelling following total knee arthroplasty [abstract]. In: Annual Meeting at Experimental Biology; 2017 Apr 22-25; Chicago, IL. Bethesda (MD): AAA; 2017. Abstract nr 4489.
- 2017 **Loyd BJ**, Hafner W, Himiwan Kittelson AJ, Waugh D, DelGiorno J, Burnikel B, Stevens-Lapsley J. Performance verses self-reported outcomes after total knee arthroplasty in a large prospective cohort of patients seen as part of routine clinical practice. APTA

Combined Sections Meeting. San Antonio, TX.

- 2016 **Loyd BJ**, Hafner W, Kittelson AJ, Waugh D, DelGiorno J, Stevens-Lapsley J. Using a large prospective cohort of patients to examine differences in performance and self-reported outcomes following Total Knee Replacement. American College of Rheumatology Annual Meeting. Washington D.C.
- 2016 Hayes B, Kittelson A, **Loyd BJ**, Stevens-Lapsley JE. Assessing Radiographic Knee Osteoarthritis: An Online Training Tutorial for the Kellgren-Lawrence Grading Scale [poster presentation]. Experimental Biology. San Diego, CA.
- 2016 **Loyd BJ**, Jennings J, Baym CL, Dennis D, Struessel T, Judd DL, Wolfe P, Stevens-Lapsley J. The relation of hip abductor strength to functional performance before and after TKA. APTA CSM. Anaheim CA. Platform Presentation.
- 2016 **Loyd BJ**, Kittelson AJ, Waugh D, DelGiorno J, Burnikel B, Hoogeboom T, Stevens-Lapsley J. Examination of Selection Bias in Arthroplasty Research using Clinically Collected Data. APTA CSM. Anaheim CA. Marilyn Gossman Graduate Student Research Platform Presentation.
- 2016 **Loyd BJ**, Bade MJ, Paxton RJ, Stackhouse S, Dayton MR, Eckhoff D, Stevens-Lapsley J. Poor quadriceps activation 72 hours after total knee replacement is related to poor functional performance at 1 month. APTA CSM. Anaheim CA. Poster.
- 2015 Kosir A, Falvey J, **Loyd BJ**, Bilyeu C, Cumbler EU, Mangione KK, Stevens-Lapsley JE. Multi-Component Home Based Physical Therapy Intervention Following Acute Hospitalization: A Small Randomized Control Trial. High-Intensity Physical Therapy Improves Functional Outcomes in Older Adults Following Acute Hospitalization. International Conference on Frailty and Sarcopenia Research, Boston, MA.
- 2015 Stephenson RO, **Loyd BJ**, Fields TT, Stevens-Lapsley J, Christiansen CL. Explaining 2-minute walk outcomes in Veterans with traumatic or non-traumatic lower limb amputation. Physical Medicine and Rehabilitation Annual Conference.
- 2015 Kittelson AJ, **Loyd BJ**, Dennis DA, Kim R, Miner TM, Stevens-Lapsley J. Intraoperative tourniquet use negatively impacts quadriceps strength following TKA: A randomized controlled trial. APTA CSM, Platform Presentation.
- 2015 **Loyd BJ**, Nolte M, Kittelson AJ, Figiel G, Falvey J, Cumbler E, Mangione K, Stevens-Lapsley J. Progressive Multi-Component Home Based Physical Therapy Intervention Following Acute Hospitalization: A Small Randomized Control Trial. APTA CSM, Poster Presentation.
- 2014 Kittelson AJ, Huang C, **Loyd BJ**, Stevens-Lapsley J. Relationship between chemical inflammatory mediators and experimental measures of pain processing in patients with knee osteoarthritis. Accepted for presentation at the American Pain Society Annual Meeting, Tampa, FL.

2012 **Loyd BJ**, Atkins L, Sizer P, Gilbert K. The relationship of anatomical landmarks used during first rib palpation and localization. TTUHSC student research week, Poster Presentation.

Funded Grant Activity:

2020	CPHR Pilot grant award program Role: PI Amount: \$25,000 Major Goal:
2019	Foundation for Physical Therapy- New Investigator Fellowship Training Initiative (NIFTI) Role: PI Amount: \$100,000 Major Goal: To examine differences in laboratory, clinical, and community-based outcomes in people following unilateral vestibular loss at baseline and over the period of recovery.
2018	National Institutes of Health- Loan Repayment Program Role: PI Major Goal: Develop longitudinal estimates of the recovery of physical activity levels and head and trunk control in people following vestibular insult
2015-2016	National Institute of Health Competitive T32 Integrative Physiology of Aging Grant Role: Trainee Amount: 2 years of research/tuition support Major Goal: To support pre-doctoral training in aging studies.
1/1/2015-1/1/2016	Rheumatology Research Foundation, Health Professional Research Preceptorship Role: Trainee Amount: \$5,500 Major goal: The goal of this preceptorship is to use clinically collected data to develop individualized estimates of recovery following TKA.
5/1/2012-8/31/2012	Texas Tech SOAHS Competitive Research Funding Role: PI Amount: \$4,000 Major goal: 1) To investigate the relationship between anatomical landmarks used for accurate palpation of the first rib.

Membership in Scientific/Professional Organizations:

2010-present	American Physical Therapy Association <ul style="list-style-type: none">○ Academy of Geriatric Physical Therapy○ Utah Chapter○ Section on Research Member
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- Academy of Neurologic PT Section Member

2017-present **American Society of Biomechanics**

2018-present **International Society for Posture and Gait Research**

Service:

2015-2017 **Physical Therapy Preceptor**
DAWN Interdisciplinary Student-Run Free Clinic
Aurora, CO

2018 **Admissions Committee**
University of Utah Physical Therapy Department
Salt Lake City, UT

Scientific Peer-Review:

Physiotherapy Theory and Practice, Journal of Arthroplasty, Clinical Neurology and Neurosurgery, Archives of Physical Medicine and Rehabilitation, Journal of Vestibular Research

Honors and Awards:

2017 Academy of Geriatric Physical Therapy Fellowship in Geriatric Research award.

2016 Academy of Geriatric Physical Therapy Adopt-A-Doc research award

2016, 2017 Hirs Merit Award, University of Colorado

2016 APTA CSM Marilyn Gossman Graduate Student Research Award

2013 Foundation for Physical Therapy Florence P. Kendall Award

Current Teaching Responsibilities in the Entry-level Physical Therapy (and other) Programs:

University of Utah:

2018-2020 Teaching Assistant
PHTH 7050 Neuroanatomy

2018-2020 Lecturer
PHTH 6060 Pathophysiology

2018-2020 Co-director
PHTH 7920 Doctoral Seminar- Vestibular Conditions

2019 Lecturer
NUIP 6383 Muscle Physiology

University of Montana:

2020-present Director
PT 536- Neuroscience

Previous Leadership:

2010-2013 TTUHSC DPT Class of 2013 President
2012 TTUHSC Student Physical Therapy Association President
2011-2012 Student Orthopedic Manual Physical Therapy Association: Secretary

Continuing Education:

2018 University of Utah Undergraduate Research Opportunities Program- Research Mentor Training Program (Salt Lake City, UT)
2017 Learning How to Teach: A six part workshop on course development and teaching methodology. Presented by UCD Graduate School Office. (Aurora, CO)
2014 Therapeutic Neuroscience Education: Teaching People about Pain. Marquette Challenge Lecture Series. Presented by Dr. Adriaan Louw PT, PhD, CSMT (Aurora, CO)
2014 Current Concepts in Orthopedic and Sports Related Shoulder Injuries: Impingement Syndromes and Rotator Cuff Rehabilitation Condition. Marquette Challenge Lecture Series. Presented by Dr. Robert Manske PT, DPT, MEd, SCS, ATC, CSCS (Aurora, CO)
2013 Whiplash: More than a “crash for cash” Condition. Marquette Challenge Lecture Series. Presented by Dr. James Elliott PT, DPT (Aurora, CO)
2012 Shoulder Injuries and Rehabilitation Strategies in the Overhead Throwing Athlete. Presented by Dr. Stump PT, COMT, ScD (Lubbock, Texas)
2011 Treating Spinal Disorders in Conjunction with Interventional Pain Management Physicians. Presented by Esteban Azevedo PT, COMT and Amy Hay, PT, COMT (Lubbock Texas)