

Andrew J. Kittelson, PT, PhD

CURRICULUM VITAE

University of Montana
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Education:

PhD in Rehabilitation Science, 2016
University of Colorado, Aurora, CO

DPT in Physical Therapy, 2010
Regis University, Denver, CO

BS in Biochemistry, 2002
Arizona State University, Tempe, AZ

Licensure Information:

Montana PTP-PT-LIC-21601

Fellowships, Residences, Certifications:

Postdoctoral Fellowship, University of Colorado Denver, Aurora, CO, 2016-2017

Employment and Positions Held:

Associate Professor, School of Physical Therapy and Rehabilitation Science, University of Montana, Missoula, MT, 2024–Present

Assistant Professor, School of Physical Therapy and Rehabilitation Science, University of Montana, Missoula, MT, 2020–2024

Assistant Professor, Physical Therapy Program, School of Medicine, University of Colorado Denver, Anschutz Medical Campus, Aurora, CO, 2017–2020

Research Assistant; Muscle Performance Laboratory; University of Colorado Denver; Aurora, CO, 2010-2011

Physical Therapist; ProCare Physical Therapy; Outpatient Orthopedic Physical Therapy Clinic; Parker, CO, 2010 – 2011

Physical Therapist; Therex Inc.; Saint Anthony's Central Hospital; Denver, CO, 2010-2011

Technologist, National Jewish Medical and Research Center; Mycobacteriology Laboratory; Denver, CO, 2004-2007

Scholarship:

Peer Reviewed Publications:

Marker RJ, **Kittelson AJ**, Scorsone JJ, Moran IA, Quindry JC, Leach HJ. Feasibility of a novel telehealth exercise program for rural survivors of cancer with cancer-related fatigue. Accepted for publication in Journal of Medical Internet Research Cancer. 2024

Graber J, Loyd BJ, Hoozeboom TJ, Miller CJ, **Kittelson AJ**. Optimizing the Accuracy and Precision of the Minimal Detectable Change Statistic: Secondary Analysis of Test-Retest Data from the NIH Toolbox Study. Phys Ther. 2024 Nov 22:pzae170. doi: 10.1093/ptj/pzae170. Epub ahead of print. PMID: 39574399.

Willems SJ, **Kittelson AJ**, Rooker S, Heymans MW, Hoozeboom TJ, Coppieters MW, Scholten-Peeters GGM. A "people-like-me" approach to predict individual recovery following lumbar microdiscectomy and physical therapy for lumbar radiculopathy. Spine J. 2024 Nov 8:S1529-9430(24)01094-5. doi: 10.1016/j.spinee.2024.10.003. Epub ahead of print. PMID: 39522772.

Anderson CB, Fatone S, Mañago MM, Swink LA, **Kittelson AJ**, Magnusson DM, Christiansen CL. Development and alpha testing of a patient shared decision aid for prosthesis design for new lower limb prosthesis users. Prosthet Orthot Int. 2024 Mar 19. doi: 10.1097/PXR.0000000000000314. Epub ahead of print. PMID: 38506643.

Weston AR, Lohse KR, **Kittelson A**, King LA, Carlson-Kuhta P, Dibble LE, Mancini M. Turning speed as a more responsive metric of age-related decline in mobility: A comparative study with gait speed. Clin Biomech (Bristol, Avon). 2024 Mar;113:106196. doi: 10.1016/j.clinbiomech.2024.106196. Epub 2024 Feb 5. PMID: 38354515; PMCID: PMC10955671.

Willems SJ, Coppieters MW, Rooker S, Orzali L, **Kittelson AJ**, Ostelo RW, Kempen DHR, Scholten-Peeters GGM. The impact of being overweight or obese on 12 month clinical recovery in patients following lumbar microdiscectomy for radiculopathy. Spine J. 2024 Apr;24(4):625-633. doi: 10.1016/j.spinee.2023.10.023. Epub 2023 Nov 6. PMID: 37935285.

Marcellis LHM, Sinnige A, Rutgers KM, **Kittelson A**, Spruijt S, Teijink JAW, van der Wees PJ, Hoozeboom TJ. Evaluating the implementation of personalised outcomes forecasts to optimise supervised exercise therapy in patients with intermittent claudication in the Netherlands: a multimethods study. BMJ Open Qual. 2024 Feb 20;13(1):e002594. doi: 10.1136/bmjopen-2023-002594. PMID: 38378615; PMCID: PMC10882410.

Sinnige A, **Kittelson A**, Rutgers KM, Marcellis LHM, van der Wees PJ, Teijink JAW, Hoozeboom TJ. Nationwide implementation of personalized outcomes forecasts to support physical therapists in treating patients with intermittent claudication: Protocol for an interrupted time series study. PLoS One. 2023 Jul 31;18(7):e0288511. doi: 10.1371/journal.pone.0288511. PMID: 37523366; PMCID: PMC10389723.

Kittelson AJ, Loyd BJ. Personalized Reference Values for the Two-Minute Walk Test: An Analysis of Cross-Sectional Data From the National Institutes of Health Toolbox Study. Arch Phys Med Rehabil. 2023 Sep;104(9):1418-1424.e1. doi: 10.1016/j.apmr.2023.03.021. Epub 2023 Apr 8. PMID: 37037295; PMCID: PMC10524757.

Graber J, **Kittelson AJ**, Juarez-Colunga E, Jin X, Bade M, Stevens-Lapsley J. Comparing "people-like-me" and linear mixed model predictions of functional recovery following knee arthroplasty. J Am Med Inform Assoc. 2022 Jul 28. PubMed PMID: 35903035.

Sinnige A, Teijink JAW, Spruijt S, **Kittelson AJ**, Oude Bos A, Van der Wees PJ, Hoogeboom TJ. Impact of Personalized Outcomes Forecasts on Clinical Reasoning of Physical Therapists in Intermittent Claudication: A Vignette Study. *Phys Ther*. 2022 Jul 4;102(7). PubMed PMID: 35778937.

Kittelson A, Carmichael J, Stevens-Lapsley J, Bade M. Psychometric properties of the 4-meter walk test after total knee arthroplasty. *Disabil Rehabil*. 2022 Jun;44(13):3204-3210. doi: 10.1080/09638288.2020.1852446. Epub 2020 Dec 5. PubMed PMID: 33280460; PubMed Central PMCID: PMC8178417.

Anderson CB, Fatone S, Mañago MM, Swink LA, Hager ER, **Kittelson AJ**, Christiansen CL, Magnusson DM. Improving shared decision-making for prosthetic care: a qualitative needs assessment of prosthetists and new lower-limb prosthesis users. *Prosthet Orthot Int*. 2022 May 25. PubMed PMID: 35622457.

Anderson CB, **Kittelson AJ**, Wurdeman SR, Miller MJ, Stoneback JW, Christiansen CL, Magnusson DM. Understanding decision-making in prosthetic rehabilitation by prosthetists and people with lower limb amputation: a qualitative study. *Disabil Rehabil*. 2022 Apr 7;:1-10. doi: 10.1080/09638288.2022.2037745. [Epub ahead of print] PubMed PMID: 35389313.

Sinnige A, **Kittelson AJ**, Van der Wees PJ, Teijink JAW, Hoogeboom TJ. Personalised Outcomes Forecasts of Supervised Exercise Therapy in Intermittent Claudication: An Application of Neighbours Based Prediction Methods with Routinely Collected Clinical Data. *Eur J Vasc Endovasc Surg*. 2022 Apr;63(4):594-601. PubMed PMID: 35210160.

Graber J, Juarez-Colunga E, Thigpen C, Waugh D, Bade M, Stevens-Lapsley J, **Kittelson AJ**. Development of reference charts for monitoring quadriceps strength with handheld dynamometry after total knee arthroplasty. *Disabil Rehabil*. 2021 Nov 9;:1-8. PubMed PMID: 34751608; PubMed Central PMCID: PMC9306324.

Marker RJ, **Kittelson AJ**, Jankowski CM, Scorsone JJ, Peters JC, Purcell WT. Development of a reference chart for monitoring cancer-related fatigue throughout a supervised exercise program. *Rehabil Oncol*. 2022 Apr;40(2):82-88. PubMed PMID: 35711819; PubMed Central PMCID: PMC9197055.

Kim C, Colborn KL, van Buuren S, Loar T, Stevens-Lapsley JE, **Kittelson AJ**. Neighbors-based prediction of physical function after total knee arthroplasty. *Sci Rep*. 2021;11(1):16719.

Graber J, Lockhart S, Matlock DD, Stevens-Lapsley J, **Kittelson AJ**. "This is not negotiable. You need to do this...": A directed content analysis of decision making in rehabilitation after knee arthroplasty. *J Eval Clin Pract*. 2021 Jun 14.

Anderson CB, Wurdeman SR, Miller MJ, Christiansen CL, **Kittelson AJ**. Development of a physical mobility prediction model to guide prosthetic rehabilitation. *Prosthet Orthot Int*. 2021 Jun 1;45(3):268-275.

Kittelson AJ, Loyd BJ, Graber J, et al. Examination of exclusion criteria in total knee arthroplasty rehabilitation trials: influence on the application of evidence in day-to-day practice. *J Eval Clin Pract*. 2021.

Kittelson AJ, Schmiede SJ, Maluf K, George SZ, Stevens-Lapsley JE. Determination of Pain Phenotypes in Knee Osteoarthritis Using Latent Profile Analysis. *Pain Med.* 2021 Mar 18;22(3):653-662. doi: 10.1093/pm/pnaa398. PubMed PMID: 33367906; PubMed Central PMCID: PMC7971470.

Miller MJ, Mealer ML, Cook PF, **Kittelson AJ**, Christiansen CL. Psychometric Assessment of the Connor-Davidson Resilience Scale for People with Lower-Limb Amputation. *Phys Ther.* 2021;101(4).

Kittelson AJ, Elings J, Colborn K, Hoozeboom TJ, Christensen JC, van Meeteren NLU, van Buuren S, Stevens-Lapsley JE. Reference chart for knee flexion following total knee arthroplasty: a novel tool for monitoring postoperative recovery. *BMC Musculoskelet Disord.* 2020 Jul 22;21(1):482.

Kittelson AJ, Hoozeboom TJ, Schenkman M, Stevens-Lapsley JE, van Meeteren NLU. Person-Centered Care and Physical Therapy: A "People-Like-Me" Approach. *Phys Ther.* 2020 Jan 23;100(1):99-106. doi: 10.1093/ptj/pzz139. PubMed PMID: 31608928.

Owens JG, Rauzi MR, **Kittelson AJ**, Graber J, Bade MJ, Johnson J, Nabhan D. How New Technology Is Improving Physical Therapy. *Curr Rev Musculoskelet Med.* 2020 Apr;13(2):200-211.

Kittelson AJ, Christensen JC, Loyd BJ, Burrows KL, Iannitto J, Stevens-Lapsley JE. Reliability, responsiveness, and validity of handheld dynamometry for assessing quadriceps strength in total knee arthroplasty. *Disabil Rehabil.* 2020:1-8.

Loyd BJ, **Kittelson AJ**, Forster J, Stackhouse S, Stevens-Lapsley J. Development of a reference chart to monitor postoperative swelling following total knee arthroplasty. *Disabil Rehabil.* 2020;42(12):1767-1774.

Christensen JC, **Kittelson AJ**, Loyd BJ, Himawan MA, Thigpen CA, Stevens-Lapsley JE. Characteristics of young and lower functioning patients following total knee arthroplasty: a retrospective study. *BMC Musculoskelet Disord.* 2019 Oct 27;20(1):483. doi: 10.1186/s12891-019-2817-4. PubMed PMID: 31656185; PubMed Central PMCID: PMC6815380.

Loyd BJ, Stackhouse S, Hogan C, Dayton MR, Stevens-Lapsley J, **Kittelson AJ**. Peripheral nociception is associated with voluntary activation deficits and quadriceps weakness following total knee arthroplasty, *Journal of Bone and Joint Surgery.* 2019; 101(17): 1539

Cheuy V, Loyd BL, Hafner W, **Kittelson AJ**, Waugh D, Stevens-Lapsley JE. The Influence of Diabetes on Recovery Trajectory of Physical Functioning following Total Knee Arthroplasty. *Arthritis Care Res.* 2018 Aug 29.

Hayes B, **Kittelson AJ**, Loyd BJ, Wellsandt E, Flug J, Stevens-Lapsley J. Assessing radiographic knee osteoarthritis: an online training tutorial for the Kellgren-Lawrence grading scale. *MedEdPORTAL.* 2016;12:10503.

Spector P, Laufer Y, Gabryson ME, **Kittelson AJ**, Stevens-Lapsley JE, Maffiuletti NA. Neuromuscular Electrical Stimulation Therapy to Restore Quadriceps Muscle Function in Orthopedic Surgery Patients: A Novel Structured Approach. *J Bone Joint Surg Am.* 2016

Kittelson AJ, Schmiede SE, Stevens-Lapsley JE. Determination of Pain Phenotypes in Older Adults with Knee Osteoarthritis using Latent Class Analysis: Data from the Osteoarthritis Initiative Study. *Arthritis Care Res.* 2016 May;68(5):612-20.

Dennis D, **Kittelson AJ**, Miner T, Yang C, Kim R, Stevens-Lapsley J. Effect of Tourniquet Use on Recovery of Lower Extremity Strength and Function in Knee Arthroplasty: A Randomized Controlled Trial. *Clin Orthop Rel Res.* 2016 Jan;474(1):69- 77.

Stevens-Lapsley JE, Loyd BJ, Falvey J, Figiel G, **Kittelson AJ**, Cumbler E, Mangione K. Progressive Multi-Component Home Based Physical Therapy Intervention Following Acute Hospitalization: A Small Randomized Controlled Trial. *Clin Rehabil.* 2016 Aug;30(8):776-85.
Kittelson AJ, Thomas A, Kluger B, Stevens-Lapsley, J. Corticospinal and Intracortical Excitability of the Quadriceps in Patients with Knee Osteoarthritis. *Exp Brain Res.* 2014 Dec;232(12):3991-9

Kittelson AJ, George SZ, Maluf KS, Stevens-Lapsley J. Future directions in painful knee osteoarthritis: harnessing complexity in a heterogeneous population. *Phys Ther.* Mar 2014;94(3):422-432.

Kittelson AJ, Stackhouse SK, Stevens-Lapsley JE. Neuromuscular electrical stimulation after total joint arthroplasty: a critical review of recent controlled studies. *Eur J Phys Rehabil Med.* Dec 2013;49(6):909-920.

Kittelson AJ, Stevens-Lapsley J, Walking speed in the Total Joint Arthroplasty Population. *Topics in Geriatric Rehabilitation.* Apr 2012; 28(2):104-109

Xiang X, **Kittelson AJ**, Olson J, Bieber A, Chandler D. Allurin, a 21 kD sperm chemoattractant, is rapidly released from the outermost jelly layer of the *Xenopus* egg by diffusion and medium convection. *Mol Reprod Dev.* Mar 2005;70(3):344-360

Olson JH, Xiang X, Ziegert T, **Kittelson AJ**, Rawls, A, Bieber A, Chandler D et al. Allurin, a 21-kDa sperm chemoattractant from *Xenopus* egg jelly, is related to mammalian sperm-binding proteins. *Proc Natl Acad Sci U S A.* Sep 25 2001;98(20):11205-11210.

Peer Reviewed Scientific Presentations and Other Professional Presentations:

Cardinale T, Lytle J, Plows A, Kingsbury T, **Kittelson AJ**, Loyd B. Assessing dynamic visual acuity across career phases and military occupational specialties in naval aviation. Proceedings of the Military Health Systems Research Symposium, Kissimmee, Florida. August, 2024.

Kingsbury T, Cardinale T, Lytle J, Plows A, Desrosiers P, Medved V, Infante E, **Kittelson AJ**, Loyd B, Winters J. Restoration and maintenance of physical and neurosensory performance in naval aviation. Proceedings of the Military Health Systems Research Symposium, Kissimmee, Florida. August, 2024.

Filippini T, **Kittelson AJ**, Loyd B, Adam T, Moody V. The Vestibular System: Overview and Description of Emerging Assessment Techniques. Montana Athletic Trainers Association (MTATA) Annual Meeting. Butte, MT. June 7, 2024.

Marker, R.J., Scorsone, J.J., Moran, I.M., **Kittelson, A.J.** and Leach, H.J., 2024. Six-month Follow-up Of Fatigue Reduction In Rural Cancer Survivors Participating In A Telehealth Exercise Program: 2917. American College of Sports Medicine Annual Meeting, May, 2024.

Graber J, Juarez-Colunga J, Xin J, Churchill L, Matlock DD, **Kittelson AJ**, Thigpen CA, Lutz AD, Bade MM, Stevens-Lapsley JE, O'Malley SM. Effectiveness of Personalized Clinical Decision Support in Outpatient Rehabilitation after Total Knee Arthroplasty. American Physical Therapy Combined Sections Meeting (CSM), Boston, MA. February 2024.

Anderson CB, Fatone S, Manago MM, Swink L, **Kittelson A**, Magnusson M, Christiansen CL. Engaging Stakeholders in the Development of a Shared Decision-Making Resource for the First Prosthesis Design After Lower Limb Amputation. American Academy for Cerebral Palsy and Developmental Medicine Annual Meeting. June 2023.

J Graber, TJ Hoogeboom, BJ Loyd, **Kittelson AJ**. Monitoring Change for Individual Patients: Time to Move Beyond the MDC? American Physical Therapy Combined Sections Meeting (CSM), San Diego, CA. February 2023.

Kittelson AJ, BJ Loyd, J Caringi, ARC Elias, R Zins. Promoting Engagement with Physical Function Assessments for Older Adults at Community Health Events. American Physical Therapy Combined Sections Meeting (CSM), San Diego, CA. February 2023

Kittelson A, Loyd BL. Development of Person-Centered Reference Values for Computerized Dynamic Visual Acuity to Support Customized Treatment Decisions in Vestibular Rehabilitation. Academy of Neurologic Physical Therapy Annual Meeting, Minneapolis November 2022

Marker R, **Kittelson A**, Scorsone J, Moran I, Peters J, Leach H. Feasibility and Preliminary Effectiveness of an Exercise Program For Rural Survivors of Cancer With Fatigue. American Congress of Rehabilitation Medicine Annual Meeting, Chicago, November 2022.

Kittelson AJ, Loyd BL. Development of Person-Centered Reference Values for Computerized Dynamic Visual Acuity to Support Customized Treatment Decisions in Vestibular Rehabilitation. Academy of Neurologic Physical Therapy Annual Meeting, Minneapolis, MN. October 2022.

Anderson CB, Fatone S, Mañago MM, Swink LA, **Kittelson AJ**, Magnusson DM, Christiansen CL. Utilizing a Novel Patient Roadmap Model for Developing a Shared Decision Support Tool in the Process of Lower Limb Prosthesis Design. Society for Medical Decision Making, 44th Annual North American Meeting, Seattle, WA, October 2022.

Graber J, Xin J, Juarez-Colunga E, Kim C, Bade M, Stevens-Lapsley J, **Kittelson AJ**. Comparing methodologies for predicting functional recovery after total knee arthroplasty. [poster] Accepted for presentation at the American Physical Therapy Association Combined Sections Meeting, February 2022

Anderson CB, Fatone S, Manago MM, Swink LA, Hager ER, **Kittelson AJ**, Christiansen CL, Magnusson DM. *Exploring Decisional Needs of Prosthetists and Patients With Lower Limb Amputation for Prosthesis Design: A Qualitative Study to Inform Shared Decision-Making Resources*. [platform] Accepted for presentation at the International Society of Orthotists and Prosthetists, 18th World Congress. Virtual Event. November 2021.

Heidema C*, Quindry T, **Kittelson AJ**, Loyd BJ. Usability and Comprehensibility of a computerized Measure of Dynamic Visual Acuity for Assessing Vestibular Function. [poster] Academy of Neurologic Physical Therapy Annual Conference. September 2021 Co-Champion: *Best Poster in Vestibular Rehabilitation*

Anderson CB, Fatone S, Manago MM, Swink LA, Hager ER, **Kittelson AJ**, Christiansen CL, Magnusson DM. *Patient Needs for Shared Decisions in Lower-Limb Prosthesis Design*. [platform presentation] American Orthotic & Prosthetic Association National Assembly. September 2021

Anderson CB, **Kittelson AJ**, Wurdeman SR, Miller MJ, Christiansen CL, Magnusson D. *Exploring Decision-Making in Prosthetic Care*. [virtual poster presentation] American Academy of Orthotists and Prosthetists, Annual Meeting & Scientific Symposium. May 2021.

Anderson CB, **Kittelson AJ**, Wurdeman SR, Miller MJ, Magnusson D, Christiansen CL. *Prosthetist experiences in prosthetic care planning for patients with lower limb amputation*. [platform presentation] American Academy of Orthotists and Prosthetists, Annual Meeting & Scientific Symposium. Chicago, IL. March 2020.

Graber J, Juarez-Colunga E, Thigpen C, Waugh D, Bade MJ, Stevens-Lapley JE, **Kittelson AJ**. Development of a reference chart for monitoring quadriceps strength with a handheld dynamometer following total knee arthroplasty. [poster] American Physical Therapy Combined Sections Meeting. February 2021.

Sinnige A, **Kittelson AJ**, Hoogeboom TJ, Teijink J. Neighbors-based clinical prediction model for walking distance in patients with Intermittent Claudication after Supervised Exercise Therapy. [poster] Society for Vascular Surgery 2020 Annual Meeting in Toronto, Canada. June 13, 2020.

Marker RJ, **Kittelson AJ**, Jankowski C, Peters JC, Purcell T. Development of a Reference Chart for Cancer-Related Fatigue in Patients Undertaking Supervised Exercise Therapy. [poster] American College of Sports Medicine 2020 Annual Meeting. May 26, 2020.

Bade MJ, Jennings J, **Kittelson AJ**, Stevens-Lapsley JE. Innovations in arthroplasty: state of the art in surgical and rehabilitation techniques. American Physical Therapy Association Combined Sections Meeting; Washington DC. Jan. 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

Magnusson D, **Kittelson AJ**. Using Electronic Health Record Data to Enhance Physical Therapist Practice. American Physical Therapy Association Colorado Chapter Fall Meeting. Vail ,CO. October 2018

Kittelson AJ *Clinical Informatics in Total Knee Replacement Rehabilitation: A New Model for Personalized Care*. IQ Healthcare, the Radboud University Medical Center, The Netherlands (August 2018)

Kittelson AJ. *Using Health Systems Data to Inform Clinical Monitoring: Case Example in Total Knee Replacement Rehabilitation.* D2V Seminar Series. University of Colorado Denver, April 2018

Kittelson AJ. *Using Health Systems Data to Monitor Total Knee Replacement Rehabilitation.* HPA The Catalyst. Health Policy and Administration Section, A Specialty Component of the American Physical Therapy Association. March 2018

Cheuy V, Loyd B, Halfner W, Iannitto J, **Kittelson AJ**, Waugh D, Stevens-Lapsley J. Influence of Diabetes on the Recovery of Physical Function after Total Knee Arthroplasty. American Physical Therapy Association Combined Sections Meeting, New Orleans, LA. February 2018

Christensen J, **Kittelson AJ**, Loys BJ, Forster J, Struessel T, Delgiorno J, Thigpen, C, Stevens-Lapsley JE. Characteristics of a Young, Low Functioning Phenotype in Total Knee Arthroplasty Rehabilitation. American Physical Therapy Association Combined Sections Meeting, New Orleans, LA. February 2018

Kittelson AJ. *Data, Monitoring, and Personalized Care in Rehabilitation.* 30th Annual Gersten Rehabilitation Science Research Symposium, University of Colorado Denver, June 2017

Kittelson AJ. *Personalized Reference Charts: A Tool for Precision Rehabilitation following Total Knee Replacement.* CRISP seminar series. University of Colorado Denver, March 2017

Loyd BJ, Hafner W, **Kittelson AJ**, Himawan M, Waugh D, Degiorno J, Stevens-Lapsley JE. Performance versus Self-Reported Outcomes after Total Knee Arthroplasty in a Large Prospective Cohort of Patients seen in Routine Clinical Practice. American Physical Therapy Association Combined Sections Meeting, San Antonio, TX. February 2017

McManus B, **Kittelson AJ**, Falvey J, Magnusson D. Using Data to Inform Health Policy and Reimbursement. American Physical Therapy Association Combined Sections Meeting, San Antonio, TX. February 2017

Stevens-Lapsley JE, **Kittelson AJ**, Laufer Y, Gabyzon M, Spector P, Maffiuletti NA. An Algorithm for NMES Therapy after Knee Surgery: A Novel Structured Approach. International Society of Electrophysiology and Kinesiology. Chicago, IL. July 2016

Hayes B, **Kittelson AJ**, Loyd BJ, Stevens-Lapsley JE. The Kellgren Lawrence Grading Scale: Development of an Online Training Tutorial. Experimental Biology Annual Meeting, San Diego, CA, April 2016

Hayes B, **Kittelson AJ**, Loyd B, Stevens-Lapsley JE. Assessing Radiographic Knee Osteoarthritis: An Online Training Tutorial for the Kellgren-Lawrence Grading Scale [poster presentation]. Experimental Biology. San Diego, CA. *Award recipient for best Capstone presentation for Modern Human Anatomy program.* April 2016

Hasson D, **Kittelson AJ**, Hogan C, Somoza F, Dayton M, Stevens-Lapsley JE. Inflammation and the Discrepancy between Radiography and Pain in Patients with Knee Osteoarthritis. American Academy of Orthopedic Surgeons Annual Meeting, Orlando, FL, March 2016.

Kittelson AJ. *Big Data in Health Outcomes Research: Clinical Data Collection in Total Knee Replacement Rehabilitation.* Adult and Child Consortium for Outcomes Research and Delivery Science (ACCORDS) Big Data Workshop. University of Colorado Denver, March 2016

Loyd BJ, **Kittelson AJ**, Dawn Waugh, DelGiorno J, Burnikel B, Hoogeboom TJ, Stevens-Lapsley JE. Examination of Selection Bias in Arthroplasty Research using Clinically Collected Data. American Physical Therapy Association Combined Sections Meeting, Anaheim, CA, February 2016.

Kittelson AJ, Loyd BJ, DelGiorno J, Waugh DA, Forster JE, van Buuren S, van Meeteren NLU, Stevens-Lapsley, JE. Development of Reference Charts for Functional Recovery Following Total Knee Arthroplasty: a Strategy for Improved Monitoring of Postoperative Rehabilitation. American Physical Therapy Association Combined Sections Meeting, Anaheim, CA, February 2016.

Foran J, **Kittelson AJ**, Dayton MR, Hogan CA, Schmiede S; Stevens-Lapsley JE. Identification of pain phenotypes in knee OA: Data from the osteoarthritis initiative. Presented at the International Society for Technology in Arthroplasty Annual Congress, Vienna, Austria. September 2015

Kittelson AJ, Loyd B, Dennis DA, Kim R, Miner TM, Stevens-Lapsley J. Intraoperative tourniquet use negatively impacts quadriceps strength following TKA: A randomized controlled trial. American Physical Therapy Association Combined Sections Meeting, Indianapolis, IN, February 2015

Loyd BJ, Nolte M, **Kittelson AJ**, Figiel G, Falvey J, Cumbler E, Mangione K, Stevens-Lapsley J. Multi-Component Home Based Physical Therapy Intervention Following Acute Hospitalization: A Small Randomized Control Trial. American Physical Therapy Association Combined Sections Meeting, Indianapolis, IN, February 2015

Kittelson AJ, Schmiede SS, Stevens-Lapsley J. Identification of Pain Phenotypes in Knee Osteoarthritis using Latent Class Analysis: Data from the Osteoarthritis Initiative Study. American Physical Therapy Association Combined Sections Meeting, Indianapolis, IN, February 2015

Kittelson AJ, Huang C, Stevens-Lapsley J. Systemic Measures of Pain Modulation Are Related to Body Perception, in People with Knee Osteoarthritis. American College of Rheumatology Annual Meeting, Boston, MA, November 2014

Kittelson AJ, Huang C, Loyd B, Stevens-Lapsley J. Relationship between chemical inflammatory mediators and experimental measures of pain processing in patients with knee osteoarthritis. American Pain Society Annual Meeting, Tampa, FL, May 2, 2014.

Kittelson AJ, Rainville K, Winters J, Stevens-Lapsley J. Examination of body schema and somatosensory perception in patients with knee osteoarthritis and pain-free older adults. Accepted for presentation at the American Physical Therapy Association Combined Sections Meeting, February 4, 2014

Kittelson AJ, Struessel T, Stevens-Lapsley J. Validity of Hand-Held Dynamometry for Measuring Lower Extremity Muscle Strength in People Undergoing Total Knee Arthroplasty. American College of Sports Medicine, Annual Meeting, May 28 - June 1, 2013

Thomas A, **Kittelson A**, Kluger B, Stevens-Lapsley J. Corticospinal and Intracortical Excitability Do Not Differ Between Patients with Knee Osteoarthritis and Healthy Adults. American College of Sports Medicine, Annual Meeting, May 28 - June 1, 2013

Bade M, **Kittelson AJ**, Kohrt WM, Kittelson J, Stevens-Lapsley JE; Relationship between preoperative, acute and long-term outcomes after total knee arthroplasty. American Physical Therapy Association Combined Sections Meeting, 01/23/2013.

Kittelson AJ, Stevens-Lapsley J. Examination of changes in walking speed after total knee arthroplasty. American Physical Therapy Association Combined Sections Meeting, 2/10/2012

Crenshaw B, Ostrand E, **Kittelson AJ**, J. Chi, P. Killoren, T. Young, A. Woods, M. Keirns. Evaluation of surgically repaired rotator cuff rehabilitation protocols. American Physical Therapy Association Combined Sections Meeting, 2/12/2010

Kittelson AJ, Rawls A, Chandler DE, Bieber A. Allurin, a *Xenopus* sperm chemoattractant: sequence confirmation and immunovisualization. Society for Developmental Biology 61st Annual Meeting, 7/22/2002

Olson JH, Xiang X, Ziegert T, **Kittelson AJ**, Stone K, Simh D, Chandler DE, Bieber AL. Isolation of allurin, a 21-kDa sperm chemoattractant protein from *Xenopus laevis* egg jelly: Purification and characterization. Society for Developmental Biology 60th Annual Meeting, 7/19/2001

Naqvi S, **Kittelson AJ**, and D.E. Chandler. *Xenopus* sperm display three swimming patterns: Ideal corkscrew, uncoupled corkscrew, and idle. Society for Developmental Biology 60th Annual Meeting, 7/19/2001

Grants/Contracts Awarded

1. Office Of Naval Research (BAA N0001424SB001) 10/1/24-9/30/27
Advancing Remote Vestibular Technology to Improve the Health of Service Members
This proposal was developed to enhance the Navy's vestibular training capabilities, by 1) advancing technology for precise field-based assessments of vestibular exposures as well as warfighter/aviator vestibular performance, 2) better understanding vestibular exposures incurred during routine or simulated training environments and the impact on performance, and 3) developing vestibular training programs aimed at mitigating motion sickness, with an eye towards future training programs to optimize performance of elite Naval aviators.
Role: Project Co-PI (Co-PI: Brian Loyd)
Total award amount: \$4,826,750
2. NIH R01 CA292482 9/1/24-8/31/29
Effects of a telehealth exercise program for rural cancer survivors with cancer-related fatigue including integrated longitudinal assessments of objective physical function and fatty acid

oxidation

This project focuses on establishing the efficacy of an accessible telehealth exercise intervention specifically for rural cancer survivors experiencing cancer-related fatigue. Novel methods of remotely assessing objective physical function and performing metabolomic analyses are utilized to investigate exercise-associated mechanisms of cancer-related fatigue.

Role: Project Co-I (PI: Ryan Marker, U. Colorado)

Total award amount: \$2,909,553 (UM Subaward: \$656,831)

3. Center for Population Health Research Pilot Award Noonan (PI) 3/1/23-2/28/25
(Parent Award: NIH P20 GM130418)
Cafe Move: A Novel Program for Prevention of Age-Related Physical Frailty
This project investigates preliminary efficacy, feasibility, and acceptability of a novel health promotions program to prevent age-related physical frailty.
Role: Project PI
Total award amount: \$300,000
4. NIH R21 DC020251 Loyd (PI) 4/1/22-3/31/25
Making Informed Decisions in Gaze and Postural Stability (MINDGAPS): a Novel System for Improving Personalized Care and Patient Adherence in Vestibular Rehabilitation
Examine the preliminary efficacy of the use of the MINDGAPS system in management of older adults with vestibular hypofunction and refine the tool for a future large-scale clinical trial.
Role: Co-investigator (PI: Brian Loyd)
Total award amount: \$537,430
5. W81XWH-22-2-0061 Loyd (PI) 9/1/22-8/30/26
Improving Psychological and Vestibular Health Using a Novel Intervention: The Making Informed Decisions in Gaze and Postural Stability (MINDGAPS) System
Examine the ability of directed vestibular rehabilitation using a novel system for assessing and monitoring vestibular care to improve vestibular and psychological outcomes in active duty and veteran SM with mTBI.
Role: Co-investigator (PI: Brian Loyd)
Total award amount: \$1,461,570
6. Center for Population Health Research Pilot Award Noonan (PI) 6/01/21-2/28/23
(Parent Award: NIH P20 GM130418)
Pilot study of a novel data science application for balance testing in rural populations
The purpose of this proposed investigation is twofold: first, to develop a data management infrastructure for balance-related outcomes following health screening events in rural Montana, and second, to field-test a novel balance assessment tool that provides personalized reports to event attendees. The overall goal of this line of research is to improve balance and community participation of older adults in rural communities
Role: Project Co-PI (Co-PI: Brian Loyd))
Total award amount: \$54,977
7. Center for Population Health Research Pilot Award Noonan (PI) 9/15/20-2/15/21
(Parent Award: NIH P20 GM130418)
Investigating the use of remote monitoring technology for the management of people with vestibular dysfunction
This project investigates the use of a remote monitoring system that utilizes wearable sensors to assess treatment fidelity and dosing, along with objective measures of gaze and postural stability for patients with dizziness or balance disorders

Role: Project Co-PI (Co-PI: Brian Loyd)
Total award amount: \$25,000

8. NIH K12 HD055931 Mueller (PI) 9/1/18-8/31/20
Design and Implementation of Personalized Reference Charts for Total Knee Arthroplasty Rehabilitation.
This career development award supported my training in health informatics, clinical decision support, and shared decision making, and supports a pilot research project to develop and implement clinical informatics in a case series. This grant transferred to UM from my previous institution.
Role: Project PI
Total award amount: \$228,911 (\$79,300 transferred to UM)
9. Cancer League of Colorado Marker (PI) 7/1/2020-6/20/2021
Feasibility and Effectiveness of an Innovative Exercise Program to Reduce Fatigue in Rural Cancer Survivors
The objective of this investigation is to establish the feasibility and initial effectiveness of a novel exercise program for rural cancer survivors in Colorado suffering from cancer related fatigue.
Role: Co-Investigator (PI: Ryan Marker, U. Colorado)
Total award amount: \$30,000 (no UM subaward)
10. AHRQ R01 HS025692 Stevens-Lapsley (PI) 9/01/18-8/31/23
Novel Strategies for Personalized Clinical Decisions in Knee Arthroplasty
To develop procedures for rapid optimization and validation of prediction algorithms for knee function, physical function, and patient-reported function and develop and implement a web- application for patients with knee arthroplasty.
Amount: \$1,993,095
Role: Co-investigator
11. Zorg Institute (Netherlands). van der Wees (PI) 10/1/18-9/30/20
Individual prognostic profiles for joint decision making for patients with peripheral arterial disease.
This project aims to improve shared decision making for patients with peripheral vascular disease engaged in a supervised walking program.
Amount: €533,944 Role: Co-investigator
12. Hanger Inc. Christiansen (PI) 6/01/18-5/31/20
Personalized Reference Charts for Prosthetic Rehabilitation
The goal of this project is to develop personalized reference chart use to guide prognosis and care planning for patients following lower limb amputation. This mixed-methods design study will be used to design the reference chart, implement chart use as a pilot project, and determine chart use clinical feasibility.
Amount: \$30,000
Role: Co-investigator
13. D2V Pilot Grant (University of Colorado) Kittelson (PI) 1/1/18-12/31/19
Decision-Making in Total Knee Arthroplasty: Design of A Novel, Structured Approach
The goal of this project is to qualitatively explore decision-making throughout the episode of care for total knee arthroplasty, including the decision to have surgery as well as decisions made throughout post-acute care and rehabilitation.

Amount: \$230,000
Role: Principal Investigator

14. AHRQ R03 HS024316 Stevens-Lapsley (PI) 4/1/16-3/31/18
Developing Individualized Estimates of Patient Prognosis Following Knee Replacement This project aims to create individualized postoperative prognostic estimates via a novel adaptation of multiple imputation.
Amount: \$100,000 Role: Co-investigator
15. NIH R21 AG044710 Stevens-Lapsley (PI) 8/1/13-10/31/16
Determination of Pain Phenotypes in Older Adults with Knee Osteoarthritis
The goal of this project was to develop diagnostic categories, or “phenotypes” of knee OA that are more specific to the experience of pain. Under the guidance of my mentorship team, I designed this study and wrote the research plan for the proposal.
Amount: \$425,740
Role: Study Coordinator
16. NIH T32 AG000279 Schwarz (PI) 5/01/12-4/30/14
University of Colorado, Center on Aging Training Grant
An institutional training grant to fund pre- and post-doctoral trainees at two University of Colorado campuses. Grant is awarded based on a competitive application process.
Amount: \$45,000 Role: Fellow/Trainee

Service:

Professional Service:

Human Anatomy and Physiology Society; Anatomical Donor Stewardship Committee
Manuscript Peer Review, BMC Musculoskeletal Disorders
Manuscript Peer Review, Arthritis Care and Research
Manuscript Peer Review, Disability and Rehabilitation
Grant Review, Reumafonds (Dutch Arthritis Foundation), 2015
Mountain West Clinical Translational Research Infrastructure Network Grant Review, 2020

Service to the University/School/Department:

2024-Present: UMPT Curriculum Committee Chair
2020-2024: Physical Therapy Students Association (PTSA) Faculty Advisor
2020-Present: UMPT Student Advisor
2022-Present: Neural Injury Center; Scientific Advisory Board
2022-Present: BIOTECH; Board Member
2022: Faculty Search Committee Chair
2021: 2xFaculty Search Committee Member
2020: COVID Instruction Task Force Member

Honors and Awards:

2014-2020: NIH Clinical Loan Repayment Program

2015: Promotion of Doctoral Studies II (PODS II) Award, Foundation for Physical Therapy

2015: Adopt-A-Doc Award, Academy of Geriatric Physical Therapy, American Physical Therapy Association

2014: NIH Clinical Loan Repayment Program

2014: Promotion of Doctoral Studies II (PODS II) Award, Foundation for Physical Therapy

2014: Adopt-A-Doc Award, Geriatrics Section, American Physical Therapy Association

2013: Promotion of Doctoral Studies I (PODS I) Award, Foundation for Physical Therapy

2012: Promotion of Doctoral Studies I (PODS I) Award, Foundation for Physical Therapy

2012: American College of Rheumatology, Rheumatology Research Foundation Preceptorship Award.

2007 to 2010; Regis University Physical Therapy Scholarship 2002; Arnold and Mabel Beckman Foundation Scholarship 1998-2002; Sun Devil Scholarship; Arizona State University

Membership in Scientific/Professional Organizations:

Human Anatomy and Physiology Society

American Association for Anatomy

American Physical Therapy Association

Montana Chapter of the American Physical Therapy Association

Research Section of American Physical Therapy Association

Academy of Geriatric Physical Therapy

Teaching:

Teaching Responsibilities in the DPT Program:

2020-Present: PT 510 Applied Clinical Anatomy; University of Montana (Course Coordinator and Primary Instructor)

2020-Present: PT 536 Neuroscience; University of Montana (Guest Lecturer)

2021-2023: PT 676 Clinical Reasoning 3; University of Montana (Primary Instructor)

2018-2019: DPTR 6632 Clinical Reasoning 2; University of Colorado Anschutz Medical Campus (Co-Course Coordinator and Instructor)