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Education

University of Delaware 2007 – 2011
Doctor of Philosophy, Biomechanics & Movement Science
Dissertation: "Patellofemoral Pain Syndrome: Sex differences in gait, joint alignment, and cartilage contact area and an investigation of a neuromuscular treatment"
Advisor: Irene S. Davis, PhD, PT, FACSM, FAPTA

Ohio University June 1999
Master of Physical Therapy

Ohio University June 1997
Bachelor of Sport Science, Exercise Physiology

Physical Therapy Licensure

Montana #13112

University Employment

Associate Professor 2021-Present
Assistant Professor 2017-2021
University of Montana
School of Physical Therapy and Movement Sciences
Missoula, MT USA 59812

Assistant Professor 2013-2017
East Carolina University
Department of Physical Therapy
Greenville, NC USA 27834

Assistant Professor 2011-2013
Ohio University
Division of Physical Therapy
Athens, Ohio 45701

Scholarship

Peer reviewed publications

1. Anderson LM, Bonanno DR, Calnin BJ, Sritharan P, Willy RW, Erbas B, Batra M, Menz HB. Is the addition of running retraining to best standard care beneficial in runners with medial tibial stress syndrome? Protocol for a randomised controlled trial. *J Foot and Ankle Research*. (epub ahead of print; 14 June, 2024).
2. Besomi, M., Hunt, M.A., De Oliveira Silva, D., Passigli, S., Rathleff, M.S., van Middelkoop, M., Barton, C., Callaghan, M.J., Harkey, M.S., Hoens, A.M. and Krowchuk, N.M., Teoli A, Vicenzino B, Willy RW, Esculier JF. 2024. An online evidence-based education resource is useful and can change people's perceptions about running and knee health. *JOSPT Open*, 2(3), pp.1-35.
3. Center JA, Willy RW, Elias ARC, Mischke JJ. Validity of a commercially available load cell dynamometer in measuring isometric knee extension torque in patients with knee disorders. *Phys Ther Sport*. 2024 Apr 25:S1466-853X(24)00051-8. doi: 10.1016/j.pts.2024.04.008. Epub ahead of print. PMID: 38702203.
4. Vickery-Howe, D. M, Bonanno, D. R, , Dascombe, B. J, Drain, J. R, Clarke, A. C, Hoolihan, B, Willy, RW & Middleton, K. J. Physiological, perceptual, and biomechanical differences between treadmill and overground walking in healthy adults: A systematic review and meta-analysis. *J Sports Sci*. 2024 Feb 13:1-33. doi: 10.1080/02640414.2024.2312481. Epub ahead of print. PMID: 38350022
5. Merry K, MacPherson MM, Blazey P, Fearon A, Hunt M, Morrissey D, Napier C, Reid D, Whittaker JL, Willy RW, Scott A. Current practice, guideline adherence, and barriers to implementation for Achilles tendinopathy rehabilitation: a survey of physical therapists and people with Achilles tendinopathy. *BMJ Open Sport Exerc Med*. 2024 Feb 5;10(1):e001678. doi: 10.1136/bmjsem-2023-001678. PMID: 38347858
6. Van Waerbeke C, Willy RW, Jacques A, Berton E, Paquette MR, Rao G. Increasing load carriage and running speed differentially affect the magnitude, variability and coordination patterns of muscle forces. *J Biomech*. 2023 Oct;159:111794. doi: 10.1016/j.jbiomech.2023.111794. Epub 2023 Sep 9. PMID: 37690366.
7. Pairot de Fontenay B, Roy JS, Plemmons M, Willy R. Knee joint underloading does not evolve after a two-week reintroduction to running program after anterior cruciate ligament reconstruction. *Phys Ther Sport*. 2023 May;61:122-128. doi: 10.1016/j.pts.2023.03.003. Epub 2023 Mar 29. PMID: 37023590.
8. Sancho I, Willy RW, Morrissey D, Malliaras P, Lascurain-Aguirrebeña I. Achilles tendon forces and pain during common rehabilitation exercises in male runners with Achilles tendinopathy. A laboratory study. *Phys Ther Sport*. 2023 Mar;60:26-33. doi: 10.1016/j.pts.2023.01.002. Epub 2023 Jan 10. PMID: 36640640.
9. H Paul Dijkstra, Sean Mc Auliffe, Clare L Ardern, Joanne L Kemp, Andrea Mosler, Amy Price, Paul Blazey, Dawn P Richards, Abdulaziz Farooq, Andreas Serner, Eugene McNally, Vasco Mascarenhas, Richard W. Willy, Jason Oke, Karim M Khan, Sion Glyn-Jones, Mike Clarke, Trisha Greenhalgh. (2023). Oxford

consensus on primary cam morphology and femoroacetabular impingement syndrome: part 1—definitions, terminology, taxonomy and imaging outcomes. *British Journal of Sports Medicine*. PMID: 36588401 PMCID: DOI: 10.1136/bjsports-2022-106085

10. H Paul Dijkstra, Sean Mc Auliffe, Clare L Ardern, Joanne L Kemp, Andrea Mosler, Amy Price, Paul Blazey, Dawn P Richards, Abdulaziz Farooq, Andreas Serner, Eugene McNally, Vasco Mascarenhas, Richard W. Willy, Jason Oke, Karim M Khan, Sion Glyn-Jones, Mike Clarke, Trisha Greenhalgh. (2023). Oxford consensus on primary cam morphology and femoroacetabular impingement syndrome: part 2—research priorities on conditions affecting the young person's hip. *British Journal of Sports Medicine*. PMID: 36588402 DOI: 10.1136/bjsports-2022-106092
11. Dijkstra HP, Mc Auliffe S, Ardern CL, Kemp JL, Mosler AB, Price A, Blazey P, Richards D, Farooq A, Serner A, McNally E, Mascarenhas V, Willy RW, Stankovic I, Oke JL, Khan KM, Glyn-Jones S, Clarke M, Greenhalgh T; Young Athlete's Hip Research (YAHIR) Collaborative. Infographic. Oxford consensus on primary cam morphology and femoroacetabular impingement syndrome-natural history of primary cam morphology to inform clinical practice and research priorities on conditions affecting the young person's hip. *Br J Sports Med*. (2023) Mar;57(6):382-384. doi: 10.1136/bjsports-2022-106094. Epub 2023 Jan 17. PMID: 36650034; PMCID: PMC9985723.
12. Esculier JF, Besomi M, Silva DO, Passigli S, Rathleff MS, Van Middelkoop M, Barton C, Callaghan MJ, Harkey MS, Hoens AM, Krowchuk NM, Teoli A, Vicenzino B, Willy RW, Hunt MA. Do the General Public and Health Care Professionals Think That Running Is Bad for the Knees? A Cross-sectional International Multilanguage Online Survey. *Orthop J Sports Med*. 2022 Sep 30;10(9):23259671221124141. doi: 10.1177/23259671221124141. PMID: 36199830;
13. Pazzinatto MF, Barton CJ, Willy RW, Ferreira AS, Azevedo FM, de Oliveira Silva D. Are Physical Function and Fear of Movement Risk Factors for Patellofemoral Pain? A 2-Year Prospective Study. *J Sport Rehabil*. 2022 Jul 20:1-7. doi: 10.1123/jsr.2021-0392.
14. Sancho I, Morrissey D, Willy RW, Tayfur A, Lascurain-Aguirrebeña I, Barton C, Malliaras P. Recreational runners with Achilles tendinopathy have clinically detectable impairments: A case-control study. *Phys Ther Sport*. 2022 May;55:241-247. doi: 10.1016/j.ptsp.2022.05.002.
15. Corrigan P, Hornsby S, Pohlig RT, Willy RW, Cortes DH, Grävare Silbernagel K. Tendon loading in runners with Achilles tendinopathy: relations to pain, structure, and function during return-to-sport. *Scand J Med Sci Sports*. 2022 Apr 30. doi: 10.1111/sms.14178. Epub ahead of print. PMID: 35488734.
16. Willy RW, Høglund LT, Glaviano NR, Bolgla LA, Bazett-Jones DM. Survey of confidence and knowledge to manage patellofemoral pain in readers versus nonreaders of the physical therapy clinical practice guideline. *Phys Ther Sport*.

- 2022 May;55:218-228. doi: 10.1016/j.ptsp.2022.04.009. Epub 2022 May 2. PMID: 35550496.
17. Hutchinson LA, Lichtwark GA, Willy RW, Kelly LA. The Iliotibial Band: A Complex Structure with Versatile Functions. *Sports Med.* 2022 May;52(5):995-1008. doi: 10.1007/s40279-021-01634-3. Epub 2022 Jan 24. PMID: 35072941; PMCID: PMC9023415.
 18. Alexander JLN, Willy RW, Culvenor AG, Barton CJ. Running Myth: recreational running causes knee osteoarthritis. *Br J Sports Med.* 2022 Mar;56(6):357-358. doi: 10.1136/bjsports-2021-104342. Epub 2021 Nov 24. PMID: 34819274.
 19. Napier C, Willy RW. The Prevention and Treatment of Running Injuries: A State of the Art. *Int J Sports Phys Ther.* 2021 Aug 1;16(4):968-970. doi: 10.26603/001c.25754. PMID: 34386275; PMCID: PMC8329326.
 20. Meardon SA, Derrick TR, Willson JD, Baggaley M, Steinbaker CR, Marshall M, Willy RW. Peak and Per-Step Tibial Bone Stress During Walking and Running in Female and Male Recreational Runners. *Am J Sports Med.* 2021 Jul;49(8):2227-2237. doi: 10.1177/03635465211014854. Epub 2021 Jun 2. PMID: 34077287.
 21. Napier, C., Willy, R. W., Hannigan, B. C., McCann, R., & Menon, C. (2021). The effect of footwear, running speed, and location on the validity of two commercially available inertial measurement units during running. *Frontiers in Sports and Active Living*, 3, 102. PMID: 33981991 DOI: 10.3389/fspor.2021.643385
 22. Warden SJ, Edwards WB, Willy RW. Optimal Load for Managing Low-Risk Tibial and Metatarsal Bone Stress Injuries in Runners: The Science Behind the Clinical Reasoning. *J Orthop Sports Phys Ther.* 2021 Jul;51(7):322-330. doi: 10.2519/jospt.2021.9982. Epub 2021 May 7. PMID: 33962529.
 23. Warden SJ, Edwards WB, Willy RW. Preventing Bone Stress Injuries in Runners with Optimal Workload. *Curr Osteoporos Rep.* 2021 Jun;19(3):298-307. doi: 10.1007/s11914-021-00666-y. Epub 2021 Feb 26. PMID: 33635519; PMCID: PMC8316280.
 24. Gabbett T, Sancho I, Dingenen B, Willy RW. When progressing training loads, what are the considerations for healthy and injured athletes? *Br J Sports Med.* 2021 Sep;55(17):947-948. doi: 10.1136/bjsports-2020-103769. Epub 2021 Apr 9. PMID: 33837004.
 25. Pazzinatto MF, Silva DO, Willy RW, Azevedo FM, Barton CJ. Fear of movement and (re)injury is associated with condition specific outcomes and health-related quality of life in women with patellofemoral pain. *Physiother Theory Pract.* 2020 Oct 27:1-10. doi: 10.1080/09593985.2020.1830323. Epub ahead of print. PMID: 33106118.
 26. Paquette MR, Napier C, Willy RW, Stellingwerff T. Moving Beyond Weekly 'Mileage' – Optimizing Training Quantification in Running. (2020) *Journal of Orthopaedic & Sports Physical Therapy.* 50(10), 564-56 PMID: 32741325 DOI: 10.2519/jospt.2020.9533

27. De Oliveria Silva, D, Willy RW, Barton CJ, Christensen K, Pazzinatto MF, Azevedo FM. (2020). Pain and disability in women with patellofemoral pain relates to kinesiophobia, but not to patellofemoral joint loading variables. *Scand. J. Med. Sci. Sp. Ex.* 30(11), 2215-2221. PMID: 33106118 DOI: 10.1080/09593985.2020.1830323
28. Whittier T, Willy RW, Heidner GS, Niland S, Melton C, Mizelle JC, Murray N. (2020). The Cognitive Demands of Gait Retraining in Runners: An EEG Study. *Journal of Motor Behavior*, 52(3), 360-371. DOI: 10.1080/00222895.2019.1635983
29. Van Hooren B, Fuller JT, Buckley JD, Miller JR, Sewell K, Rao G, Barton C, Bishop C, Willy RW. Is Motorized Treadmill Running Biomechanically Comparable to Overground Running? A Systematic Review and Meta-Analysis of Cross-Over Studies. *Sports Med.* 2020 Apr;50(4):785-813. doi: 10.1007/s40279-019-01237-z. PMID: 31802395; PMCID: PMC7069922.
30. Davis IS, Tenforde AS, Neal BS, Roper JL, Willy RW. Gait Retraining as an Intervention for Patellofemoral Pain. *Curr Rev Musculoskelet Med.* 2020 Feb;13(1):103-114. doi: 10.1007/s12178-020-09605-3. PMID: 32170556; PMCID: PMC7083994.
31. Alexander JLN, Willy RW, Napier C, Bonanno DR, Barton CJ. Running myth: switching to a non-rearfoot strike reduces injury risk and improves running economy. *Br J Sports Med.* 2021 Feb;55(3):175-176. doi: 10.1136/bjsports-2020-102262. Epub 2020 May 18. PMID: 32423913.
32. Wolthon A, Nielsen-Ostergaard R, Taylor-Haas J, Willy RW, Paquette M. (2020) Running shoes, pronation, and injuries: Do beliefs of injury risk factors among running shoe salespersons and physiotherapy students align with current etiology frameworks? *Footwear Science.* pp.1-11.
33. Alexander J, Willy RW, Barton CB. (2020) Running Myth: Strength training should be high repetition low load to improve endurance running performance. *British Journal of Sports Medicine.* 54(13), 813-814. DOI: 10.1136/bjsports-2019-101168.
34. Alexander JLN, Barton CJ, Willy RW. Running myth: static stretching reduces injury risk in runners. *Br J Sports Med.* 2020 Sep;54(17):1058-1059. doi: 10.1136/bjsports-2019-101169. Epub 2019 Nov 6. PMID: 31694812.
35. Moore IS, Willy RW. (2019). The Use of Wearables: Tracking and Retraining in Endurance Runners. *Current Sports Medicine Reports.* 18 (12), 437-444. PMID: 31834174 DOI: 10.1249/JSR.0000000000000667
36. Willy RW, Høglund LT, Barton CJ, Bolgla LA, Scalzitti D, Logerstedt DS, Lynch AD, Snyder-Mackler L, McDonough C. (2019) Patellofemoral pain: Clinical practice guidelines linked to the international classification of functioning, disability and health from the Academy of Orthopaedic Physical Therapy of the American Physical Therapy Association (CPG) *J. Orthop. Sp. Phys. Ther.* 49(9), CPG1-CPG95. PMID: 32291214 DOI: 10.1016/j.jphys.2020.02.008

37. Sancho I, Morrissey D, Willy RW, Barton C, Malliaras P. Education and exercise supplemented by a pain-guided hopping intervention for male recreational runners with midportion Achilles tendinopathy: A single cohort feasibility study. *Phys Ther Sport*. 2019 Nov;40:107-116. doi: 10.1016/j.ptsp.2019.08.007. Epub 2019 Aug 14. PMID: 31518777.
38. Sancho I, Malliaras P, Barton C, Willy RW, Morrissey D. Biomechanical alterations in individuals with Achilles tendinopathy during running and hopping: A systematic review with meta-analysis. *Gait Posture*. 2019 Sep;73:189-201. doi: 10.1016/j.gaitpost.2019.07.121. Epub 2019 Jul 12. PMID: 31351358.
39. Pairoot-de-Fontenay B, Willy RW, Elias ARC, Mizner RL, Dubé MO, Roy JS. Running Biomechanics in Individuals with Anterior Cruciate Ligament Reconstruction: A Systematic Review. *Sports Med*. 2019 Sep;49(9):1411-1424. doi: 10.1007/s40279-019-01120-x. PMID: 31102111.
40. Miller JR, Van Hooren B, Bishop C, Buckley JD, Willy RW, Fuller JT. A Systematic Review and Meta-Analysis of Crossover Studies Comparing Physiological, Perceptual and Performance Measures Between Treadmill and Overground Running. *Sports Med*. 2019 May;49(5):763-782. doi: 10.1007/s40279-019-01087-9. PMID: 30847825.
41. Willy RW, DeVita P, Meardon SA, Baggaley M, Womble CC, Willson JD. Effects of Load Carriage and Step Length Manipulation on Achilles Tendon and Knee Loads. *Mil Med*. 2019 Oct 1;184(9-10):e482-e489. doi: 10.1093/milmed/usz031. PMID: 30839070.
42. Willy RW, Paquette MR. The Physiology and Biomechanics of the Master Runner. *Sports Med Arthrosc Rev*. 2019 Mar;27(1):15-21. doi: 10.1097/JSA.0000000000000212. PMID: 30601395.
43. Napier C, Willy RW. Logical fallacies in the running shoe debate: let the evidence guide prescription. *Br J Sports Med*. 2018 Dec;52(24):1552-1553. doi: 10.1136/bjsports-2018-100117. Epub 2018 Oct 23. PMID: 30352861.
44. Mansfield CJ, Vanetten L, Willy R, di Stasi S, Magnussen R, Briggs M. The Effects of Needling Therapies on Muscle Force Production: A Systematic Review and Meta-analysis. *J Orthop Sports Phys Ther*. 2019 Mar;49(3):154-170. doi: 10.2519/jospt.2019.8270. Epub 2018 Nov 30. PMID: 30501386.
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46. Willy RW. (2018) Innovations and pitfalls in the use of wearable devices in the prevention and rehabilitation of running related injuries. *Phys. Ther. Sport*. 29:26-33. doi: 10.1016/j.ptsp.2017.10.003
47. Powell HC*, Silbernagel KG, Brorsson A,* Tranberg R, Willy RW. (2018) Individuals post-Achilles tendon rupture demonstrate increased knee kinetics with reduced ankle function during a single leg drop countermovement jump. *J. Orthop Sport Phys. Ther*. 48(1):34-43. doi: 10.2519/jospt.2018.7684

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49. Esculier JF*, Willy RW, Baggaley MW, Meardon SA, Willson JD. (2017) Kinetic and kinematic predictors of medial tibiofemoral force during walking and running. *Knee.* 24(6):1317-1325. doi: 10.1016/j.knee.2017.08.054
50. Willy RW, Brorsson A, Powell HC, Willson JD, Tranberg R, Silbernagel KG. (2017). Elevated Knee Joint Kinetics and Reduced Ankle Kinetics Are Present During Jogging and Hopping After Achilles Tendon Ruptures. *Am J Sports Med.* 45(5): 1124-1133. doi: 10.1177/0363546516685055.
51. Bowersock CD*, Willy RW, DeVita P, Willson JD. (2017) Reduced step length reduces knee joint contact forces during running following anterior cruciate ligament reconstruction but does not alter inter-limb asymmetry. *Clin. Biomech.* 43:79-85. doi: 10.1080/02640414.2017
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53. Werner D, Willy RW, Willson JD, Barrios JA. (2017) Validity, reliability and normative values for clinically-assessed frontal tibial orientation as a measure of varus-valgus knee alignment. *International Journal of Athletic Therapy and Training.* 22(2): 29-33. doi/10.1123/ijatt.2016-0047.
54. Willy RW, Bigelow MA, Kolesar A, Willson JD, Thomas JS. (2017). Lower extremity joint kinetics and tibiofemoral contact forces during running in young individuals with and without a history of partial meniscectomy. *Knee Surgery, Sports Traumatology, Arthroscopy.* 1:115-122. doi: 10.1007/s00167-016-4143-9
55. Baggaley M, Willy RW, Meardon SA. (2017) Primary and secondary effects of real-time feedback to reduce vertical loading rate during running. *Scand. J. Med & Sci Sp.* 5:501-507. doi: 10.1111/sms.12670.
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60. Blackmore T, Willy RW, Creaby MW. The high frequency component of the vertical ground reaction force is a valid surrogate measure of the impact peak. *J Biomech.* 2016 Feb 8;49(3):479-83. doi: 10.1016/j.jbiomech.2015.12.019. Epub 2016 Jan 6. PMID: 26783094.
61. Willy RW, Buchenic L, Rogacki K, Ackerman J, Schmidt A, Willson JD. In-field gait retraining and mobile monitoring to address running biomechanics associated with tibial stress fracture. *Scand J Med Sci Sports.* 2016 Feb;26(2):197-205. doi: 10.1111/sms.12413. Epub 2015 Feb 4. PMID: 25652871.
62. Willson JD, Loss JR, Willy RW, Meardon SA. Sex differences in running mechanics and patellofemoral joint kinetics following an exhaustive run. *J Biomech.* 2015 Nov 26;48(15):4155-4159. doi: 10.1016/j.jbiomech.2015.10.021. Epub 2015 Oct 25. PMID: 26525514.
63. Willson JD, Ratcliff OM, Meardon SA, Willy RW. Influence of step length and landing pattern on patellofemoral joint kinetics during running. *Scand J Med Sci Sports.* 2015 Dec;25(6):736-43. doi: 10.1111/sms.12383. Epub 2015 Jan 14. PMID: 25585589.
64. Willy RW, Davis IS. Kinematic and kinetic comparison of running in standard and minimalist shoes. *Med Sci Sports Exerc.* 2014 Feb;46(2):318-23. doi: 10.1249/MSS.0b013e3182a595d2. PMID: 23877378.
65. Willy RW, Davis IS. (2013). Varied response to mirror gait retraining of gluteus medius control, hip kinematics, pain, and function in 2 female runners with patellofemoral pain. *J. Ortho Sports PT.* 43(12):864-74. PMID: 24175611
66. Willy RW, Scholz J, Davis IS. (2012). Mirror gait retraining for the treatment of patellofemoral pain syndrome in female runners. *Clin. Biomech.* 27(10):1045-51. PMID: 22917625.
67. Willy RW, Manal K, Witvrouw E, Davis IS. (2012). Are mechanics different between male and female runners with patellofemoral pain? *Med. Science Sport and Ex.* 44(11):2165-71. PMID: 22843103.
68. Silbernagel KG, Willy R, Davis IS (2012). Pre- and post-injury running analysis along with measurements of strength, endurance, and tendon length in a patient with an Achilles tendon rupture. *J. Ortho Sports PT.* 42(6):521-9 PMID: 22282229.
69. Willy RW, Davis IS. (2011). The Effect of a Hip Strengthening Program on Hip Mechanics during Running and during a Single Leg Squat. *J. Ortho Sports PT,* 41(9):625-632. PMID: 21765220.
70. Willy RW, Kyle BA, Moore SA, Chleboun GS. (2001). The effect of cessation and resumption of a hamstring muscle stretching program on joint range of motion. *J. Ortho Sports PT,* 31(3):138-144. PMID: 11297019.

Awarded and Current Funding

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Current: Sex-specific rucksack design to reduce knee and bone loads during load carriage maneuvers. CMI2/Army Research Laboratory-W911QX23C0011-05. Role PI: 53% FTE; Co-investigator: Andrew Reinert. Award period: April 1st, 2024-March 15th, 2025. \$206,505.

Current: Female-specific Physical Training to Optimize Operational Readiness (Air Force Research Labs/DoD: 22-02-MPAI-007). (Brent Ruby PI); Role: Co-I at 25% FTE. Award start and end date: 9/27/2022-9/30/2026. Funds: \$4,775,348.

Completed: Developing Tech-Informed Neuromuscular Training (TNT) for Knee Rehabilitation: Pilot Grant Award. Role: Coinvestigator (0.53 calendar months, 6% AY effort \$8154 salary and fringe); PI (Ryan Mizner); PD of the parent award (Francisco Sy) Project Number or Award Title: Single Investigator Pilot Projects Grants from MW CTR-IN Source of Support: subaward from Project #1U54GM104944 from NIGMS Award Start and End Date: 7/2022 - present. Funds: \$66,000

Completed: Clinical implications of knee load avoidant behavior during resistance exercise after ACL reconstruction. Role: Coinvestigator; PI (Ryan Mizner) Awarding Institution: Academy for Orthopaedic Physical Therapy of the APTA Award Dates: May 1, 2022 – April 30, 2024 Funds: \$40,000 direct funds

Completed: Advanced Warfighter Physiology: Application of biometrics and body worn sensors to reduce injury risk and optimize performance. Department of Defense, Air Force Research Laboratory. Role: Co-investigator (25% FTE per year, over two years). PI: Brent Ruby. US Air Force Research Labs Contract F A8650- I 9-C-6124 \$1,194,073.

Completed: "Assessing risk of knee injury associated with heavy load carriage in tactical athletes." University of Montana UGP Seed Grant. Role: PI Willy RW. 2019-2020. (\$14,170).

Completed: Scandinavian Center for Sports Research Traumatology /Rehabilitation/Orthopedics: Gait analysis of walking and running in patients with an Achilles tendon rupture (P2014-0112): \$30,000. Co-I. 2014-2015. PI: Karin Silbernagel.

Completed: In-field gait analysis and gait retraining to reduce risk factors associated with tibial stress fractures. Interdisciplinary Research Collaboration Award East Carolina University (2015-2016) PI. (\$15,909). CO-I's: Nicholas Murray, PhD, Stacey Meardon, PT, PhD, ATC, John Willson, PT, PhD.

Completed: Quadriceps strength training and knee joint motion training in knee osteoarthritis. Interdisciplinary Research Collaboration Award East Carolina University. \$19,013. PI: Paul DeVita. Role: Co-I. 2014-2015.

Completed: 2012 Ohio University Summer Research Award: "A novel mobile feedback system to reduce impact forces during running in college-based Army ROTC training corps." Role: PI. (\$9720).

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Completed: 2012 Ohio Musculoskeletal and Neurological Institute (OMNI): Instrumentation funding award (\$3600).

Completed: 2012 Ohio University Research Council Award: "The effect of realtime joint kinetic retraining in individuals at high risk for the development of knee osteoarthritis." Primary investigator. (\$7963)

2011 American College of Sports Medicine Biomechanics Travel Award (\$300)

2010 American College of Sports Medicine Biomechanics Research Award (\$500)

2010-2011 Foundation for Physical Therapy PODS II Scholarship recipient (\$15,000)

2009-2010 Foundation for Physical Therapy PODS I Scholarship recipient (\$7500)

2008-2009 Foundation for Physical Therapy PODS I Scholarship recipient (\$7500)

2008 University of Delaware Professional Development Award (\$500)

2009 University of Delaware Professional Development Award (\$500)

2007-2011 Drayer Physical Therapy Institute Doctoral Research Fellowship (\$21,000 annually).

Funding proposals under review

Submitted, invited for full proposal (to be submitted August 15th, 2024): (Role Co-PI): Utilizing Strategic Mechanical Loading Following Tibial Stress Fracture to Expedite Return to Activity and Improve Bone Strength: A Randomized Controlled Trial. Role: DoD Broad Agency Announcement. Co-PI with Dr. Kristin Popp. Total funds \$3,114,829. Submitted 4/30/2024. Notified of invitation for full proposal on May 17th, 2024.

Submitted "Biomechanical workload, total energy expenditure and markers of bone health in elite ultrarunners competing in the 2024 Western States Endurance Run." Western States Endurance Run Research Program. Role: PI; Co-investigators: Ruby, Popp, Slivka. Total funds: \$17,012. Submission date: 10/01/2023.

Funding proposals not awarded

Unfunded. Distinguishing the Contribution of Semicircular Canals and Otolithic Receptors to Head and Trunk Control and Coordination in People with Acquired Vestibulopathy. Funding source: American Otological Society Research Fund, PI: Loyd. Role Co-I (FTE 0.05). Submitted 2021.

Unfunded. "Development of pre-season assessments to minimize injury risk in wildland fire." Federal Emergency Management Agency (FEMA). PI: Ruby BC. Role: Co-I Willy RW (\$1.0 million). Submitted March 15th, 2018.

Updated June 2024

Unfunded, Invited for full proposal. "Predicting Warfighter knee loads after anterior cruciate ligament injury while under load and in the field." Department of Defense. PRORP: Award Mechanism: FY16 Peer Reviewed Orthopaedic Research Program - Clinical Translational Research Award. Log Number OR160089. Submitted, Sept. 7th, 2016. Role: PI. \$1.635 million. CO-I's: John Willson, John Ramsay (Army Research, Natick, MASS: NSRDEC).

Unfunded: "Testing Warfighter knee joint loading parameters as a measure of performance during in-the-field walking and running under load, fatigue and cognitive challenges." Solicitation Number W911QY-15-R-0016. U.S. Army Natick Soldier Systems Center Natick Soldier Research, Development and Engineering Center (NSRDEC): Biomechanics and Warrior Performance Divisions. Invited for full proposal. \$1,536,000.00. Role: Primary Investigator. CO-I's: Nicholas Murray, PhD, Stacey Meardon, PT, PhD, ATC, John Willson, PT, PhD, John Ramsay, PhD (NSRDEC).

Unfunded: NIH R15: 2014 . Step Training Efficacy for Patellofemoral Symptoms (STEPS). Role: Co-I. PI: John D. Willson. \$442,500.

Unfunded: NIH R15: 2013 . Step Training Efficacy for Patellofemoral Symptoms (STEPS). Role: Co-I. PI: John D. Willson. \$442,500.

Unfunded: In-field gait analysis and gait retraining to reduce risk factors associated with tibial stress fractures. Department of Defense: Broad Agency Announcement. \$200,000. Role: PI. 2014. Co-I's: Nicholas Murray, PhD, Stacey Meardon, PT, PhD, ATC, John Willson, PT, PhD

Peer-reviewed Abstracts Presented at International Conferences

Pazzinato, MF, Silva DO, Barton CB, Micolis F, Schenatto A, Willy RW. The association of fear of movement and physical function with the risk of developing patellofemoral pain: a 2-year prospective study. World Physiotherapy Congress 2021, April 10th, 2021.

Pairot-de-Fontenay B, Willy RW, Dubé MO, Roy JS. Knee joint contact forces are anterior cruciate ligament reconstruction: Implications for cartilage health. International Olympic Committee World Conference: Prevention of Injury & Illness in Sport. Monaco. March 12th, 2020.

Willy RW, Christensen K, Douthett A, Hanser B, Klawitter L, Ruby B. Prescribing load carriage based on quadriceps strength minimizes differences in patellofemoral joint loading between males and females. Presented at the International Patellofemoral Research Retreat. Milwaukee, WI Oct. 1st, 2019.

Pairot-de-Fontenay B, Willy RW, Elias ARC, Mizner RL, Dubé MO, Roy JS. Running kinetics after anterior cruciate ligament reconstruction: a systematic review. Presented at World Confederation for Physical Therapy. Geneva, Switzerland. May 11th, 2019.

Updated June 2024

Pairot-de-Fontenay B, Willy RW, Roy JS. Biomechanical parameters associated with pain at return to running after anterior cruciate reconstruction. Presented at World Confederation for Physical Therapy. Geneva, Switzerland. May 12th, 2019.

De Oliveira Silva D, Barton C, Willy RW, Christensen K, Ferreira A, Azevedo F. Pain and disability in women with patellofemoral pain relates to fear of movement, but no patellofemoral joint loading variables. Presented at the International Patellofemoral Research Retreat. Milwaukee, WI Oct. 2nd, 2019.

Meardon SA, Willson JD, Willy RW. Estimating Bone Stress at the Distal Tibia during Running Using External Transducers. Proceedings of the International Society of Biomechanics Meeting Aug 1-4th, 2019, Calgary, AB.

Willy RW, Christensen K, Doult A, Hanser B, Klawitter L, Ruby B. "Prescribing load carriage based on quadriceps strength minimizes differences in patellofemoral joint loading between males and females." Proceedings of the 6th International Patellofemoral Research Retreat, Oct. 1-4, 2019, Milwaukee, WI, USA.

Murray N, Willy RW. Changes in Cognitive Demand, Impact Forces and Knee Joint Loading to Reduce Risk Factors Associated with Tibial Stress Fractures in Response to In-field Gait Retraining. North American Society for the Psychology of Sport and Physical Activity (NASPSPA). Montreal, CAN. June 15-18, 2016.

Brorsson A*, Willy RW, Powell H, Tranberg R, Silbernagel KG. (2016). The ability to regain normal ankle biomechanics during jumping after an Achilles tendon rupture is related to single leg heel-rise height. European Society for Sports Traumatology, Knee Surgery and Arthroscopy. Barcelona, Spain.

Willy RW, Willson JD, Buchenic L, Rogacki K, Ackerman J, Schmidt A. (2014) In-field gait retraining and mobile monitoring to reduce risk of tibial stress fracture and patellofemoral pain in high risk runners. 7th World Congress of Biomechanics, Boston, MA.

Willson JD, Willy RW, DeVita P. (2014) Changes in patellofemoral joint loads and loading rate during a prolonged run. 7th World Congress of Biomechanics, Boston, MA.

Willy RW, Buchenic, L. Rogacki K, Ackerman J, Schmidt A. (2013). The effects of a gait retraining program using mobile biofeedback in high risk runners. International Patellofemoral Pain Research Retreat. Vancouver, BC. Sept 18th-20th, 2013.

Silbernagel KG, Willy R, Davis IS (2012). Pre- and post-injury running analysis along with measurements of strength, endurance, and tendon length in a patient with an Achilles tendon rupture. 11th Scandinavian Congress in Medicine and Science in Sports and the Annual Swedish Meeting in Sports Medicine, 19-22 September 2012; Malmo, Sweden.

Updated June 2024

Willy RW, Davis IS. (2011) The effects of mirror gait retraining on running mechanics and pain in females with patellofemoral pain syndrome. International Patellofemoral Pain Retreat. Ghent, Belgium. September 1-3rd, 2011.

Willy RW, Davis IS. (2011) Sex differences in the mechanics of patellofemoral pain syndrome. International Patellofemoral Pain Retreat. Ghent, Belgium. September 1-3rd, 2011.

Peer-Reviewed Abstracts Presented at National Conferences

Accelerometer-equipped running watch provides a valid estimate of peak and cumulative weighted peak force. Leske J, Ruby B, Willy RW. Presented at the 2024 Annual Meeting of the American College of Sports Medicine, Boston, Mass. May 29th, 2024.

Pronounced and Persistent Underloading of knee contact forces during Exercise after ACL Reconstruction. Mizner RL, Willy RW. Presented at the 2024 Annual Meeting of the American College of Sports Medicine, Boston, Mass. May 29th, 2024.

Tibial Shock Is Not a Valid Assessment of Sex Differences in Tibial Loads during Running. Olson T, Pumphrey S, Montano S, Willy RW. Presented at the 2024 American Physical Therapy Association Combined Sections Meeting, Boston, Mass Feb. 16th, 2024.

Knee extensor underloading during squatting adds to clinical predictions of quadriceps strength after ACL Reconstruction. Mizner RL & Willy RW. Presented at the 2024 American Physical Therapy Association Combined Sections Meeting, Boston, Mass Feb. 16th, 2024.

Zoey Kearns, Samuel M Lyons, Megan R Ryan, Amanda Estep, Meredith Ray, Richard W Willy, Max R Paquette. Age And Experience On Running Coaches' Beliefs Of Injury Risk Factors And Risk Reduction Strategies. Presented at the 2023 Annual Meeting of the American College of Sports Medicine, Denver, CO May 28th, 2023.

Fouts H*, Mizner RL, Kranz AL*, Attwood E*, Willy RW. Asymmetrical Knee Loading Is Present with Load Carriage during a Stepdown Post-ACLR. 2023 APTA Combined Sections Meeting, San Diego, CA. Feb. 23-25, 2023.

Kranz AL*, Mizner RL, Fouts H*, Attwood E*, Willy RW. Knee Underloading Behaviors during Running Post-ACLR Are Not Accentuated with Added Load Carriage. 2023 APTA Combined Sections Meeting, San Diego, CA. Feb. 23-25, 2023.

Attwood E*, Mizner RL, Kranz AL*, Fouts H*, Willy RW. Inertial Measurement Units Overestimate Knee Loading Symmetry in Running and Walking Tasks Post-ACLR. 2023 APTA Combined Sections Meeting, San Diego, CA. Feb. 23-25, 2023.

Updated June 2024

Center J, Willy RW, Elias AC, Mischke JJ. Validity of a commercially available load cell dynamometer in measuring isometric knee extension torque. To be presented at the 2023 APTA Combined Sections Meeting, San Diego, CA. Feb. 23-25, 2023.

Sauro K*, Ruby B, Christensen K, Klawitter LJ, Hanser B, Willy RW. No Sex-Differences in Patellofemoral Joint Contact Force When Running with Load Carriage. To be presented at the 2022 APTA Combined Sections Meeting Feb 3rd, 2022.

Megan James*, Kelly J. Ashford, Richard W. Willy, Isabel S. Moore, Jack Hope & Filip Lisczyk. Increased stride frequency predicts increased pelvic acceleration during running. Presented at 2021 British Association of Sport and Exercise Medicine Annual Meeting, May 26th, 27th, 2021.

Jack Hope*, Kelly Ashford, Richard Willy, Megan James, Filip Lisczyk & Isabel S. Moore. Increasing step frequency: Good for tibia, but bad for the pelvis. Presented at 2021 British Association of Sport and Exercise Medicine Annual Meeting, May 26th, 27th, 2021.

Christopher Napier, Max R Paquette, Richard W Willy. Foot Pain in an elite runner. Presented at 2021 American College of Sports Medicine Annual Meeting, June 1st, 2021.

Shane P Murphy, Richard W Willy, Alejandro M Rosales*, Walter S Hailes, Patrick S Dodds, Brent C Ruby. Effects Of Exertion And Load On Postural Control Metrics Following Strenuous Load Carriage. Presented at 2021 American College of Sports Medicine Annual Meeting, June 1st, 2021.

Meardon SA, Marshall M*, Willson JD, Stubbs LA, Willy RW. Gait Modification Effects on Subject-Specific Tibia Stress during Running in Males and Females. Abstract presented at 2021 APTA Combined Sections Meeting.* Winner AASPT Best Research Abstract in Sports Physical Therapy.

Rauh M, Willy RW. Characteristics of Running Shoe Wear and Running-related injury in high school cross country runners. Abstract presented at 2021 APTA Combined Sections Meeting.

Perry, J*, Willy RW, Jochimsen K, Di Stasi S. Dynamic Joint Stiffness During Single Leg Drop in FAIS Participants. Abstract presentation at 2020 American Society of Biomechanics Annual Meeting.

Plemmons M*, Ruby B, Hanser B*, Christensen K*, Douthett A*, Willy RW. Sex-related Differences In Patellofemoral Joint Stress With Fighting And Approach Load Carriage. Proceedings of the 2020 American College of Sports Medicine Annual Meeting, San Francisco, CA. May 27th, 2020.

Updated June 2024

Hanser B*, Ruby B, Christensen K*, Douth A*, Hanser B*, Klawitter L*, Willy RW. Prescribing load carriage based on quadriceps strength minimizes differences in patellofemoral joint loading between males and females. 2020 APTA Combined Sections meeting

Christensen K*, De Oliveira Silva D, Barton C, Pazzinatto M*, Azevedo F, Willy RW. Increased pain is not related to reduced knee joint loading in women with patellofemoral pain. 2020 APTA Combined Sections meeting.

Meardon SA, Marshall M*, Baggaley M, Willson JD, Willy RW. Tibial stress during walking and running in female and male recreational runners. Submitted to 2020 APTA Combined Sections meeting.

Polson T*, Adams D, Malliaras P, Willy RW. A commercial running watch provides a valid measurement of leg stiffness during running. 2019 APTA Combined Sections Meeting.

Morrisette M*, Willy RW, Meardon SA. "Altered Coordination Strategies during Running Following Partial Meniscectomy." APTA CSM 2019.

Willy RW, DeVita P, Meardon SA, Willson JD. Effects of step length manipulation and load carriage on knee loads during walking. Annual Meeting of the American College of Sports Medicine. May 28th, 2018. Minneapolis, MN.

Campbell C*, Willy RW, Willson JD, Meardon SA. " Step width affects hip contact forces during running". Poster presentation in the Orthopaedic Section for the Combined Sections Meeting (CSM) of the American Physical Therapy Association in New Orleans, LA 2018.

Geddes A*, Willy RW, Willson JD. "Derivation of a clinical estimate of Achilles tendon load during running." Poster presentation in the Orthopaedic Section for the Combined Sections Meeting (CSM) of the American Physical Therapy Association in New Orleans, LA 2018.

Hollingsworth CN*, Dixon M, Willy RW, Willson JD. "Patellofemoral joint loads vary with running speed: Application to individuals after ACL reconstruction." Poster presentation in the Orthopaedic Section for the Combined Sections Meeting (CSM) of the American Physical Therapy Association in New Orleans, LA 2018. Finalist for Outstanding Poster Award, Orthopaedic Section.

Marshall M* & Willy RW. Field Measure to Estimate Vertical and Leg Stiffness". 2017 Proceedings of Biomedical Engineering Society Annual Meeting, Phoenix, AZ, USA. 12th October 2017.

Updated June 2024

Meardon SA, Blank Z, Derrick T, Baggaley M, Willson JD, Willy RW. Relationship between tibial stress and biomechanical factors associated with stress fracture. Proceedings of 2017 American Society of Biomechanics Annual Meeting. Boulder, CO.

Powell HP,* Silbernagel KG, Brorrson A*, Tranberg R, Willy RW. Individuals post-Achilles tendon rupture demonstrate increased knee kinetics with reduced ankle function during a single leg drop countermovement jump. 2017 Combined Sections Meeting (CSM) of the American Physical Therapy Association (APTA), San Antonio, TX. **Finalist for 2017 APTA Sports Section, Excellence in Research Award**

Brafford B*, Murray N, Willson JD, Meardon SA, Baggaley M, Willy RW. The Effects of an In-Field Gait Retraining Program on Dual Task Performance in Runners with a History of Tibial Stress Injury. 2017 Combined Sections Meeting (CSM) of the American Physical Therapy Association (APTA).

Johnson H, Willson JD, Willy RW. Tibiofemoral Contact Forces During Treadmill and Overground Running. 2017 Combined Sections Meeting (CSM) of the American Physical Therapy Association (APTA).

Morrisette M*, Willy RW, Blaylock N, Baggaley M, Meardon SA. Adaptability to Novel Running Conditions following Knee Meniscectomy. 2017 Combined Sections Meeting (CSM) of the American Physical Therapy Association (APTA).

Esculier JF*, Willy RW, Baggaley M, Meardon SA, Willson JD. Kinetic and kinematic predictors of medial tibiofemoral force during running. 2017 Combined Sections Meeting (CSM) of the American Physical Therapy Association (APTA).

Hollingsworth C*, Bowersock C*, Willy RW, Willson JD. Long term knee joint contact force asymmetry during running after ACL reconstruction. 2017 Combined Sections Meeting (CSM) of the American Physical Therapy Association (APTA), San Antonio, TX.

Suydam S, Evans M, Willy RW. Community-based running measures associated to pain. 2017 Combined Sections Meeting (CSM) of the American Physical Therapy Association (APTA), San Antonio, TX.

Brown E*, Willy RW, Willson JD, Baggaley M, Jenkins W, Bartol K, Meardon SA. Relationship of Running Related Tibial Stress to Foot Mobility and Frontal Plane Tibial Alignment. 2017 Combined Sections Meeting (CSM) of the American Physical Therapy Association (APTA), San Antonio, TX.

Domire Z, Willy RW. Examination of the mechanism for plantar flexor strength deficits after Achilles tendon rupture: A simulation study. Annual meeting of the American Society of Biomechanics, Raleigh, NC, 2016.

Updated June 2024

Meardon SA, Willson JD, Baggaley M, Willy RW. Sex differences in distal tibia bone stress during running. Annual meeting of the American Society of Biomechanics, Raleigh, NC, 2016.

Willy RW, Willson JD, Meardon SA, Baggaley M, Murray N. Effects of step length manipulation on knee loads while running with and without load carriage in ROTC cadets. Annual meeting of the American Society of Biomechanics, Raleigh, NC, 2016.

Blaylock NR*, Meardon SA, Willson JD, Willy RW. (2016) Gait modification to reduce tibiofemoral contact forces during running in individuals who are post-meniscectomy. American Physical Therapy Association Combined Sections Meeting, Anaheim, CA. **Finalist for the 2016 APTA Sports Section, Excellence in Research Award**

Powell H*, Silbernagel KG, Brorsson A*, Tranberg R, Willson JD, Willy RW. (2016) Patellofemoral and tibiofemoral joint loading asymmetries are present during running and hopping in individuals 5 years post-Achilles tendon rupture. American Physical Therapy Association Combined Sections Meeting, Anaheim, CA.

Brorsson A*, Willy RW, Powell H, Tranberg R, Silbernagel KG. (2016) The heel-rise height one year after an Achilles tendon rupture relates to ankle biomechanics during jumping 5 years later. American Physical Therapy Association Combined Sections Meeting, Anaheim, CA.

Brown EJ*, Willy RW, Baggaley M, Willson JD, Jenkins WL, Meardon SA. (2016) Relationship between Navicular Drop, Tibial Mechanical Axis and Tibial Stress Injury Related Running Mechanics. American Physical Therapy Association Combined Sections Meeting, Anaheim, CA.

Meardon SA*, Stubbs LA, Derrick TR, Willson JD, Baggaley M, Willy RW. (2016) Comparison of running gait modifications on tibial stress. American Physical Therapy Association Combined Sections Meeting, Anaheim, CA.

Sanii AR*, Warren JM, Johnson H, Willy RW, Willson JD. (2016) Predictors of Tibiofemoral Joint Contact Forces During Running. American Physical Therapy Association Combined Sections Meeting, Anaheim, CA.

Warren JM*, Sanii AR, Huf M, Willy RW, Willson JD. (2016) Clinical prediction of patellofemoral joint contact force during running. American Physical Therapy Association Combined Sections Meeting, Anaheim, CA.

Willson JD, Willy RW, Meardon SM, Barrios JA. (2015) Kinematic predictors of tibiofemoral and patellofemoral joint impulse during running. American Society of Biomechanics Annual Meeting. Columbus, OH.

Updated June 2024

Willson JD, Hayek M*, Edwards K*, Hollingsworth CN, Willy RW. (2015) Decreased patellofemoral joint loads following anterior cruciate ligament reconstruction. American Physical Therapy Association Combined Sections Meeting, Indianapolis, IN.

Bigelow M*, Kolesar A*, Thomas J, Willson JD, Willy RW. (2015) Quadriceps strength and knee joint loading during running in individuals who are post-partial meniscectomy. Combined Sections Meeting of the American Physical Therapy Association. Indianapolis, IN. Feb. 6th, 2015.

Willson JD, Hayek M*, Edwards K, Hollingsworth C, Willy RW. (2015) Decreased patellofemoral joint loads following anterior cruciate ligament reconstruction. Combined Sections Meeting of the American Physical Therapy Association. Indianapolis, IN. Feb. 4th, 2015.

Willy RW, Buchenic, L*. Rogacki K*, Ackerman J*, Schmidt A. (2014) The effects of a gait retraining program using mobile biofeedback in high risk runners. Combined Sections meeting of the American APTA Combined Sections Meeting. Las Vegas, NV; 2014.

Buchenic, L*. Rogacki K*, Ackerman J*, Schmidt A, Willy RW. (2014) Within Session effects of increased step rate in runners at high risk for tibial stress fractures. Combined Sections meeting of the American APTA Combined Sections Meeting. Las Vegas, NV; 2014.

Willy RW, Ossim M*, Clark BC, Thomas JS. (2014) Frontal plane walking mechanics in young individuals status post partial medial meniscectomy. 2013 Annual Meeting of the American College of Sports Medicine. Indianapolis, In.

Razzook, A, Gleason C, Willy R, Fellin R, Davis I, Stanhope S. (2012). Average ankle dynamic joint stiffness during heel strike running. 2012 Annual meeting of the American Society of Biomechanics. Gainesville, Fla; 2012.

Willy RW, Davis IS. Predictors of knee adduction and knee adduction moment in male runners with patellofemoral pain syndrome. (2012). APTA Combined Sections Meeting. Chicago, Ill; 2012.

Silbernagel KG, Willy R, Davis IS (2012). Pre- and post-injury running analysis along with measurements of strength, endurance, and tendon length in a patient with an Achilles tendon rupture. APTA Combined Sections Meeting. Chicago, Ill; 2012.

Willy RW, Davis IS. (2011). The effects of mirror gait retraining on running mechanics and pain in females with patellofemoral pain syndrome: A three-month follow-up. American College of Sports Medicine Annual Meeting. Denver, CO;2011.

Updated June 2024

Willy RW, Davis IS. (2011). The effects of mirror gait retraining on runners with patellofemoral pain syndrome: A one-month follow-up. APTA Combined Sections Meeting. New Orleans, LA; 2011.

Willy RW, Davis IS. (2010). The effects of a hip strengthening program on running and squatting kinematics in females at risk for patellofemoral pain syndrome. APTA Combined Sections Meeting. San Diego, CA; 2010.

Willy RW, Noehren B, Davis IS. (2010) Reducing abnormal alignment in female runners with PFPS through gait retraining using mirror feedback. American Society of Biomechanics Annual Conference. Providence, RI; 2010.

Willy RW, Davis IS. (2010). A comparison of hip mechanics in male and female runners with patellofemoral pain syndrome. American College of Sports Medicine Annual Meeting. Baltimore, MD; 2010.

Westcott M, Rhombach J, Willy RW, Davis IS. (2010). Hip strength and 3-D mechanics during running and squatting in asymptomatic female runners. American College of Sports Medicine Annual Meeting. Baltimore, MD; 2010.

Willy RW, Davis I. (2009). The effects of a hip strengthening program on running and squatting mechanics in female runners. American Society of Biomechanics. State College, PA; 2009.

Willy RW, Davis I. (2009). Kinematic and kinetic comparison of running in neutral cushioned shoe and a minimal shoe. American College of Sports Medicine Annual Meeting. Seattle, WA; 2009.

Willy RW, Davis IS. (2008) Instrumented comparison of overground and treadmill running in healthy individuals. American College of Sports Medicine Annual Meeting. Indianapolis, IN; 2008.

Willy RW, Pohl M, Davis I. (2008). Calculation of vertical load rates in the absence of vertical impact peaks. North American College of Biomechanics. Ann Arbor, MI; 2008.

Willy RW, Kyle B, Moore S, Chleboun GS. (1999). The effect of cessation and resumption of a muscle stretching program on joint range of motion. APTA Combined Sections Meeting. Seattle, WA; 1999.

Peer-Reviewed and Invited Symposia

“Resistance and Cross Training in Distance Runners: Is it Worth it?” Willy RW, Paquette MR, Christopher SM, Blagrove RC. Symposium presented at the 2024 Annual Meeting of the American College of Sports Medicine. May 30th, 2024.

Updated June 2024

“Controlling bone loads during return to run for the athlete with recovering from a bone stress injury” Willy RW. Symposium. 2024 Harvard Sports Medicine Meeting. Presented May 3rd, 2024.

“Stressing out over bone stress injuries: Breaking down bone loading, risk factors, diagnosis, and rehabilitation.” Willy RW, Moreno T, Joachim M, Tenforde A. Symposium presented at the 2024 American Physical Therapy Association Combined Sections Meeting, Boston, Mass Feb. 16th, 2024.

“A Causal framework for bone stress injuries in runners” Willy RW, Napier C, Kraus E, Fleshman L. Presented at the 2023 Annual Meeting of the American College of Sports Medicine, Denver, CO May 28th, 2023.

“Assessing and managing bone loading during running” Keynote address. 35th Annual University of Virginia Running Medicine Conference. Willy RW. March 10th, 2023.

“Promoting Bone Health in the Running Athlete”. Willy RW. Keynote at 34th Annual Medical College of Wisconsin Sports Medicine Symposium, Milwaukee, WI. March 16th-17th, 2023.

“Treatment of the athlete with patellofemoral pain” Willy RW. Presented at 34th Annual Medical College of Wisconsin Sports Medicine Symposium, Milwaukee, WI. March 16th-17th, 2023.

“Return to running for the athlete post-Anterior Cruciate Ligament Reconstruction.” Willy RW. Presented at 34th Annual Medical College of Wisconsin Sports Medicine Symposium, Milwaukee, WI. March 16th-17th, 2023.

“Structural Versus Wildland Firefighters: What Do I Need to Know When Treating These Tactical Athletes?” Cornell D, Willy RW, Stoneberger C, Dillavou R. 2023 APTA Combined Sections Meeting, San Diego, CA. Feb. 23-25, 2023.

“Translating Biomechanics to the Clinic: What Should Clinicians Make of All This Data?” Willy RW, Michener L, Di Stasi S. Sponsored by the APTA Section on Research Biomechanics Special Interest Group at the 2023 APTA Combined Sections Meeting, San Diego, CA. Feb. 23-25, 2023.

“Assessing and managing bone loading during running”: University of Virginia Running Medicine Meeting. April 15th, 2023.

“Masters Runners: Considerations for their musculoskeletal care and performance.” Willy RW. London Marathon Medical Meeting, London, Eng. Oct.3rd, 2022.

“Wearable devices for monitoring running biomechanics in the field: All that glitters is not gold.” Richard W. Willy, PT, PhD; Keynote, International Society of Electromyography and Kinesiology. June 24th, 2022, Quebec City, Quebec.

Updated June 2024

“Motor learning techniques to improve return to run post-ACLR.” Richard W. Willy, PT, PhD. Presented for the NBA Athletic Trainers Association Medical meeting. May 20th, 2022. Chicago, Ill.

Patellofemoral Pain – State of the Art in Rehab. Willy RW. 13th Biennial International Society of Arthroscopy, Knee Surgery, and Orthopaedic Sports Medicine (ISAKOS) Global Congress. Nov. 29, 2021

“Loading strategies to maximize bone health in the runner.” Richard W. Willy, PT, PhD; Symposia, 2021 International Annual Sports Medicine Conference – Injury and Performance in Elite Sport. Dublin, IRE. Nov. 7th, 2021.

“Practical strategies for treating the runner with iliotibial band pain.” Richard W. Willy, PT, PhD. Presented to the American Academy of Sports Physical Therapy, Sept. 22nd, 2021.

“Involving patients in developing patient-related outcome measures: How can we make research more inclusive?” Richard W. Willy, PT, PhD. The Oxford-Aspetar-La Trobe Young Athlete’s Hip Webinar Series. Wednesday, June 23rd, 2021.

“Treatment of patellofemoral pain in the elite athlete” Richard W. Willy, PT, PhD. Presented to the United States Olympic and Paralympic Center. May 6th, 2021.

“Endurance running injuries: International Olympic Committee (IOC) Sports Physiotherapy Lecture.” Willy RW (2021). Post-Graduate IOC Diploma in Sports Physiotherapies distance learning program.

“Seeking Injury Solutions for the Collegiate Athlete.” Richard W. Willy, PT, PhD, Celeste Dix, DPT, Nicole Surdyka, DPT, Chris Hopkins, PT, PhD. Symposium presented at the 2021 APTA Combined Sections Meeting.

Willy RW, Bogla L, Hogland, L, Logerstedt D, McDonough C. Physical Therapy Management of Individuals With Patellofemoral Pain. Symposium presented at the 2021 APTA Combined Sections Meeting.

Sigward S, Willy RW. The Value of Movement Assessment Technology in the Clinic and Real World: Application to Running Injuries and ACL Rehabilitation. Symposium to be presented at the 2021 American College of Sports Medicine Annual Meeting.

Willy RW. Management of the Injured Runner. May 23rd, 2019. Invited webinar to the English Institute of Sport: England Track and Field Sports Medicine team.

Chumanov E, Taylor-Haas J, Wille E, Willy RW. Specialized Running Populations: Tailoring Care to Maximize a Runner’s Health Across the Lifespan. Symposium presented at APTA Combined Sections Meeting, Feb 15th, 2020 Denver, CO.

Updated June 2024

Cheng Y, Chimenti, R, Cuddeford T, Willy RW. Rethinking the role of exercise for lower extremity tendinopathies. Symposium presented at APTA Combined Sections Meeting, Feb 14th, 2020 Denver, CO.

Willy RW. Effects of Load Carriage on patellofemoral joint loads in males and females: The role of quadriceps strength. Invited symposium, Queen Mary University, London, UK, March 23rd, 2019.

Bolgia L, Hoglund L, Powers C, Willy RW. The pesky patellofemoral joint: An ongoing enigma. Symposium presented at APTA Combined Sections Meeting. Jan 24th, 2019. Washington, D.C

Willy RW. Effects of Load Carriage on patellofemoral joint loads in males and females: The role of quadriceps strength. Invited symposium, Queen Mary University, London, UK, March 23rd, 2019

Willy RW. The use of gait retraining to enhance return to running outcomes in the runner with a stress fracture. Mountain Land Running Summit. Park City, Utah. Sept. 22nd, 2018.

Willy RW. Quantifying workload in runners at high-risk for the development of stress fractures. Mountain Land Running Summit. Park City, Utah. Sept. 23rd, 2018.

Willy RW. Running Science Symposium. La Trobe University, Melbourne, AUS. Management of the Injured Runner. July 6th, 2018.

Willy RW. Running Science Symposium. La Trobe University, Melbourne, AUS. The Durable Master Runner. July 6th, 2018.

Willy RW. Running Science Symposium. La Trobe University, Melbourne, AUS. The Science of Running Shoe Prescription. July 7th, 2018.

Willy RW. Running Science Symposium. La Trobe University, Melbourne, AUS. Return to running after Achilles tendon injury. July 7th, 2018.

Willy RW. Wearable Technology to quantify workload in the injured runner. La Trobe University. Melbourne, AUS. July 4th, 2018.

Willy RW. The use of technology in gait retraining of the injured runner. Invited lecture. University of Calgary, Department of Kinesiology. May 18th, 2018.

Willy RW, DuBois B, Taylor-Hass, J. Form before Footwear: Effectiveness vs. Efficacy in Running Injury Management. Symposium presented in the Sports Section for the Combined Sections Meeting (CSM) of the American Physical Therapy Association in New Orleans, LA 2018.

Updated June 2024

Heiderscheit B, Williams D, Willy RW. Technology and the Running Clinician. Symposium presented in the Sports Section for the Combined Sections Meeting (CSM) of the American Physical Therapy Association in New Orleans, LA 2018.

“Evidence for running shoe and orthoses prescription.” Willy RW. Orthopedic Summit Evolving Techniques. Las Vegas, NV. Dec. 8th, 2017.

“Patellofemoral and Achilles tendon loads during treadmill and overground running.” Willy RW. Orthopedic Summit Evolving Techniques. Las Vegas, NV. Dec. 8th, 2017.

“Evidence for running shoe and orthoses prescription.” Willy RW. Orthopedic Summit Evolving Techniques. Las Vegas, NV. Dec. 8th, 2017.

“Patellofemoral and Achilles tendon loads during treadmill and overground running.” Willy RW. Orthopedic Summit Evolving Techniques. Las Vegas, NV. Dec. 8th, 2017.

“Endurance running injuries: International Olympic Committee (IOC) Sports Physiotherapy Lecture.” Willy RW (2016). Post-Graduate IOC Diploma in Sports Physiotherapies distance learning program.

“2017 Master Clinician Series: Clinical Science on the Knee.” Willy RW. APTA Section on Research. Newark, DE: July 28-30, 2017.

“To post-doc or not? Advice for new PhD’s in the field of Physical Therapy.” Symposium: 2017 Combined Sections Meeting (CSM) of the American Physical Therapy Association (APTA), San Antonio, TX. Sponsored by the Research Section.

“Motor learning techniques for the treatment of sports and neurologically afflicted populations.” Symposium: 2017 Combined Sections Meeting (CSM) of the American Physical Therapy Association (APTA), San Antonio, TX. Sponsored by the Sports Section.

“Achilles Tendon Rupture: Is Full Recovery Possible Perspectives From an Orthopedic Surgeon, a Physical Therapist, and a Biomechanist.” Silbernagel KG, Nilsson-Helander K, Willy RW. (2016) American Physical Therapy Association Combined Sections Meeting, Anaheim, CA.

“Using Movement Assessment Technology in Clinical Practice.” Sigward S, Salsich G, Willy RW. (2016) American Physical Therapy Association Combined Sections Meeting, Anaheim, CA.

“Gait retraining: evidence into clinical practice.” Willy RW, Barton CB. (2016) Danish Sportsmedicine Kongress. Kolding, Denmark.

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“Workshop: Using technology to incorporate gait retraining into clinical practice.” Willy RW. (2016) Danish Sportsmedicine Congress. Kolding, Denmark.

“Overview of running shoe type and mechanics.” Willy RW. (2016) Danish Sportsmedicine Congress. Kolding, Denmark.

“Perspectives in running injuries.” Willy RW. (2015). Norwegian National Sportsmedicine Congress. Trondheim, Norway.

“Update on physical therapy for the treatment of patellofemoral pain.” Willy RW. (2015). Norwegian National Sportsmedicine Congress. Trondheim, Norway.

“Workshop: Incorporating Gait retraining in the treatment of the injured runner.” Willy RW. (2015). Norwegian National Sportsmedicine Congress. Trondheim, Norway.

“Update on the treatment of patellofemoral pain in the athlete.” Willy RW. Plenary speaker. Fysioterapeuterna: Swedish Physical Therapists in Sports Medicine Annual Meeting. Stockholm, Sweden, March 19-21, 2015.

“Perspectives in running injuries.” Willy RW. Symposium. Fysioterapeuterna: Swedish Physical Therapists in Sports Medicine Annual Meeting. Stockholm, Sweden, March 19-21, 2015.

“Motor learning techniques to treat the injured runner.” Willy RW. Swedish Physical Therapists in Sports Medicine Annual Meeting. Stockholm, Sweden, March 19-21, 2015.

“Motor learning techniques to treat the injured runner.” Reisman D, Willy RW. Symposium. Combined Sections Meeting of the American Physical Therapy Association. Indianapolis, IN. Feb. 5th, 2015.

“I’ve completed a running evaluation. What’s next?” Adams D, Greenberg S, Willy RW. Symposium. Combined Sections Meeting of the American Physical Therapy Association. Indianapolis, IN. Feb. 6th, 2015.

“Conducting a clinical gait analysis of the injured runner.” Willy RW. Functional Anatomy Course (Lead instructor: Joseph Zeni, PT, PhD). Dept of Physical Therapy, University of Delaware, Nov. 24th, 2014.

“Evaluating gait retraining programs for the use in orthopedic and sports populations.” Willy RW. Dept of Mechanical Engineering. NC State University. Nov. 5th, 2014.

“Pathomechanical paradigm for treatment of the injured runner.” Willy RW. Norwegian Institute of Sports Medicine (NIMI), Oslo Norway. Sept. 11th-12th, 2014.

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“The use of gait retraining to facilitate a safe and durable return to running.” Willy RW. As part of symposium on “Return to sports.” Other panel speakers: Thigpen C., Logerstedt D, Zeni J. Combined Sections meeting of the American Physical Therapy Association. Las Vegas, NV; 2014.

“Gait retraining for the treatment of the injured runner: translating evidence into the clinic.” Willy RW. 2013 Annual Meeting of the Ohio Physical Therapy Association, April 13th, 2013; Columbus, Ohio.

“Gait retraining for the treatment of common running overuse injuries.” Willy RW. 11th Scandinavian Congress in Medicine and Science in Sports and the Annual Swedish Meeting in Sports Medicine, 19-22 September 2012; Malmo, Sweden.

Non-Peer Reviewed Publications

Willy RW (2023). Latest guidance on return to run after ACL reconstruction. *Aspetar Sports Medicine Journal*. (4) 12, 346-351.

Willy RW. (2013). A pathomechanical paradigm for treating the injured runner. *Norwegian J. of Sports Med*. 28(3), 6-10.

Book Chapters

Arhos E & Willy RW. Introduction to Clinical Biomechanics (Book Chapter). In Brukner and Khan's *Sports Medicine* (2024).

Willy RW. Lateral knee injuries in the athlete. (Book Chapter). In Brukner and Khan's *Sports Medicine* (2024).

Mischke JJ, Willy RW, Purdam CM. Muscle & Tendon Injuries of the Hip and Knee: Quadriceps, Hamstrings, Adductors, Gluteal musculature. Book Chapter. (2022)

Willy RW. Biomechanics associated with bone stress injuries. (Chapter). Book title: Tenforde, A. S., & Fredericson, M. (Eds.). (2021). *Bone Stress Injuries: Diagnosis, Treatment, and Prevention*. Springer Publishing Company.

Willson JD, Willy RW. Current Concepts in the Rehabilitation of the Knee: Conservative management of patellofemoral pain. APTA Sports Section Independent Study Course, (2014).

Current Research Activity

Willy RW, Hailes W, Rosales A, Plemmons M, Brent RC. Lower fitness and a greater physiological strain index are associated with greater tibial shock during a prolonged load carriage trial in a heat environment. *Military Medicine* (in review)

Willy RW, Christensen K, Hanser B, Plemmons M, Ruby BC. Females exhibit greater peak and cumulative patellofemoral joint stress with moderate and heavy load carriage compared with males. *Journal of Biomechanics* (in review).

Updated June 2024

Willy RW, Christensen K, Hanser B, Plemmons M, Ruby BC. Tibial Shock Is Not a Valid Assessment of Sex Differences in Internal Tibial Loads With or Without Load Carriage. *Applied Ergonomics* (In review).

Tenforde AS, Kraus E, Kliethermes SA, Fontana MA, Barrack M, Dubon M, Heikura IA, Hollander K, Kroshus E, Joachim M, Dias Lopes A, Rauh M, Verhagen E, Warden SJ, Willy RW, Toresdahl B. Standardizing Health History and Surveillance of Race Participants in Endurance Events: A Modified Delphi Consensus Statement from the AMSSM Runner Health Consortium. *BJSM* (in review).

James ML, Stiles VH, von Lieres und Wilkau HC, Jones AL, Willy RW, Ashford KJ, Moore IS. Predictors of pelvic acceleration when manipulating stride frequency during treadmill running. *JSS* (In review)

Farrokhi S; Gorczynski S, Beisheim-Ryan E, Piva S, Rhon DI, Willy RW, Pontillo M American Physical Therapy Association Clinical Practice Guideline Implementation for Patellofemoral Pain: A Proof-of-Concept Pilot Study.

Esculier JF, Besomi M, Silva DO, Passigli S, Rathleff MS, Van Middelkoop M, Barton C, Callaghan MJ, Harkey MS, Hoens AM, Krowchuk NM, Teoli A, Vicenzino B, Willy RW, Hunt MA. An online evidence-based educational module about running and knee health is deemed useful and can effectively change perceptions. *OJSM* (In review)

Service

Professional Service:

International and Professional Service

International Olympic Committee (IOC) Diploma in Sports Physical Therapies, faculty member 2017-2021; 2021-2025.

American Academy of Sports Physical Therapy Scientific Priorities Committee 2019-present.

APTA American Academy of Sports Physical Therapy: Coordinates Science Meets Practice sessions at APTA Combined Sections Meeting, 2020-present.

Grant reviewer NATA Research & Education Foundation 2019

Natural Sciences and Engineering Research Council of Canada Discovery Grant Reviewer 2019

APTA American Academy of Sports Physical Therapy Scientific Review committee, 2015-present.

Named to American Society of Biomechanics scientific review committee, 2016-2019.

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Reviewer: 2019 International Patellofemoral Pain Retreat: 35 abstracts

American College of Sports Medicine, Biomechanics Interest Group, scientific review committee, 2018-present.

Secretary, Biomechanics Special Interest Group, American Physical Therapy Association: 2013-2018.

Reviewer: 2015-Present APTA Combined Sections Meeting, Sports Academy, ~20 abstracts reviewed annually.

Reviewer: 2017 International Patellofemoral Pain Retreat: 50 abstracts

Reviewer: APTA, 2016 Combined Sections Meeting, Sports Section, 20 abstracts reviewed, 2016

Reviewer: International Patellofemoral Research Retreat, 45 abstracts, 2015

Independent Monitoring Committee Member: Using an interactive game to reduce fear and increase spine motion in low back pain. NIH 1R21ar064430-01A1: The LEARNING Study. 2014-2016. PI: James Thomas, PT, PhD.

Session Moderator: 2019 APTA Combined Sections Meeting, Platform Presentations: Orthopedic Section, Foot and Ankle Special Interest Group

Session Moderator: Trends in lower extremity injury prevention. Combined Sections Meeting of the American Physical Therapy Association. San Antonio, TX. Feb. 2017.

Session Moderator: Emerging research in running injuries. Combined Sections Meeting of the American Physical Therapy Association. Indianapolis, IN. Feb. 5th, 2015.

Session Moderator: Strength training the endurance athlete. Danish Sports Medicine Congress. Kolding, DK. Feb 4th, 2016.

British Journal of Sports Medicine: Reviewer

American Journal of Sports Medicine: Reviewer

Military Medicine: Reviewer

Journal of Sports Sciences: Reviewer

PLOS ONE: reviewer.

Journal of Orthopedic Research: Reviewer

Medicine and Science in Sport and Exercise: Reviewer.

Scandinavian Journal of Medicine and Science in Sports: Reviewer.

Journal of Orthopedic and Sport Physical therapy: Reviewer

Journal of Applied Biomechanics: Reviewer

Journal of Biomechanics: Reviewer

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Community Service

International Planning Committee member: National Biomechanics Day, 2017-2019. National Biomechanics Day is an outreach program that targets high schoolers around the world in an effort to expose them to the science of biomechanics. National Biomechanics Day 2018-present hosted 22,000 high schoolers around the world. UM hosted 20-30 high schoolers in 2018 and 2019.

Perform running evaluations for the Missoula community as part of an outreach effort to build collaborations with area physical therapy clinics and clinicians.

Perform musculoskeletal evaluations for University of Montana Athletics, specifically cross country and track and field.

“Preliminary recommendations from the APTA Orthopedic Section Clinical Practice Guideline (CPG) for the treatment of patellofemoral pain”. Outreach talk at Peak Physical Therapy. Helena, MT. January 25th, 2018

Service

International and Professional Service

International Olympic Committee (IOC) Diploma in Sports Physical Therapies, faculty member 2017-2021; 2021-2025.

American Academy of Sports Physical Therapy Scientific Priorities Committee 2019-present.

APTA American Academy of Sports Physical Therapy: Coordinates Science Meets Practice sessions at APTA Combined Sections Meeting, 2020-present.

Grant reviewer NATA Research & Education Foundation 2019

Natural Sciences and Engineering Research Council of Canada Discovery Grant Reviewer 2019

APTA American Academy of Sports Physical Therapy Scientific Review committee, 2015-present.

Named to American Society of Biomechanics scientific review committee, 2016-2019.

Reviewer: 2019 International Patellofemoral Pain Retreat: 35 abstracts

American College of Sports Medicine, Biomechanics Interest Group, scientific reviewer, 2018-present.

Secretary, Biomechanics Special Interest Group, American Physical Therapy Association: 2013-2018.

Updated June 2024

Reviewer: 2015-Present APTA Combined Sections Meeting, Sports Academy, ~20 abstracts reviewed annually.

Reviewer: 2015, 2017, 2019 International Patellofemoral Pain Retreat: 50 abstracts

Independent Monitoring Committee Member: Using and interactive game to reduce fear and increase spine motion in low back pain. NIH 1R21ar064430-01A1: The LEARNING Study. 2014-2016. PI: James Thomas, PT, PhD.

Session Moderator: 2019 APTA Combined Sections Meeting, Platform Presentations: Orthopedic Section, Foot and Ankle Special Interest Group

Session Moderator: Trends in lower extremity injury prevention. Combined Sections Meeting of the American Physical Therapy Association. San Antonio, TX. Feb. 2017.

Session Moderator: Emerging research in running injuries. Combined Sections Meeting of the American Physical Therapy Association. Indianapolis, IN. Feb. 5th, 2015.

Session Moderator: Strength training the endurance athlete. Danish Sports Medicine Congress. Kolding, DK. Feb 4th, 2016.

British Journal of Sports Medicine: Reviewer

American Journal of Sports Medicine: Reviewer

Military Medicine: Reviewer

Journal of Sports Sciences: Reviewer

PLOS ONE: reviewer.

Journal of Orthopedic Research: Reviewer

Medicine and Science in Sport and Exercise: Reviewer.

Scandinavian Journal of Medicine and Science in Sports: Reviewer.

Journal of Orthopedic and Sport Physical therapy: Reviewer

Journal of Applied Biomechanics: Reviewer

Journal of Biomechanics: Reviewer

Graduate student committee work

In progress: PhD Dissertation Co-Primary Advisor (other co-primary advisor: Isabel Moore, PhD): Hazel Tucker. Cardiff University (United Kingdom).

In progress: PhD Dissertation Committee Member (primary advisor: Dustin Slivka, PhD): Alejandro Rosales. University of Montana.

In progress: PhD Dissertation Examiner Naomi E. Frankston (Advisor: Hannah Rice, PhD). Norwegian School of Sport Sciences (Oslo).

Completed in May 2022: Master Thesis Committee Member: Patrick Dodds, University of Montana, IPAT (proposed June 2021). "24-Hour Total Energy Expenditure During

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Ultra-Endurance Cross-Country Cycling.” Committee: Brent Ruby (Chair). Richard Willy and John Quindry committee members.

Completed in May 2022: PhD Examiner: Madeline Hannington. La Trobe University (Melbourne Australia). “Prevalence, clinical descriptors, and morbidity of anterior knee pain in elite basketball players.”

Completed April 2022: PhD Examiner: Mark Scholes, La Trobe University (Melbourne Australia). “The Burden of Hip and Groin Pain in Football Players: Relationships with Hip Joint Structure and Running Biomechanics

Completed May 2021: Masters committee member: Alejandro Rosales. University of Montana, IPAT (proposed August 2020). “Effects of fluid volume, frequency, and composition on fluid retention and loss during extended exercise in the heat.” Committee: Brent Ruby (Chair) Rich Willy and John Quindry committee members.

Completed: PhD Dissertation Examiner: Manuela Besomi (defended April 2021). “Towards the investigation of the tensor fascia latae muscle and iliotibial band function in runners: The relevance of the why and the how.” University of Queensland. Supervisors: Paul Hodges, Bill Vicenzino. Co-examiner: Lee Herrington.

Completed: PhD Dissertation committee member: Chris Alfiero (Spring 2020). “Establishing a metric of job specific fitness for wildland firefighters using heart rate response during the arduous work capacity test.” Human Performance. University of Montana. Missoula, MT. Committee: Brent Ruby (Chair), Charles Dumke, Brent Ruby, Richard Willy.

Completed: PhD Dissertation committee: Patrick Corrigan (Proposed June 2018). “Achilles tendinopathy: the role of tendon structure in symptom and functional recovery.” BIOMS Program. University of Delaware. Newark, DE. Committee Karin Silbernagel (Chair). Richard Willy, Charles Swanik, PhD, Jill Higginson, PhD.

Completed: Thesis Committee member: Maryn Lowry (Proposed Oct. 2018). “Role of bone health in stress fractures in the collegiate runner”. Human Performance. University of Montana. Missoula, MT. Committee: Charles Dumke (Chair). Richard Willy and John Quindry.

Completed: Thesis Committee member: Shannon Flynn (Proposed Sept. 2018). “Effect of potato based and prepackaged sports supplement products on muscle glycogen recovery and exercise performance in trained males and females. Human Performance. University of Montana. Missoula, MT. Committee: Brent Ruby (Chair). Richard Willy and John Quindry.

Completed: Thesis committee member: Jeffrey Strang (Spring 2018). “Metabolic Energy Requirements during Load Carriage: Implications for the Wildland Firefighter Arduous

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Pack Test.” Human Performance. University of Montana. Missoula, MT. Committee: Mathew Bundle (Chair), Charles Dumke, Brent Ruby, Richard Willy.

Completed: Thesis committee member: Chris Alfiero (Spring 2018). “Establishing a metric of job specific fitness for wildland firefighters using heart rate response during the arduous work capacity test.” Human Performance. University of Montana. Missoula, MT. Committee: Brent Ruby (Chair), Charles Dumke, Brent Ruby, Richard Willy.

Completed: Thesis committee member: Tyler Whittier. “Neural Pathways of the Brain Involving Motor Learning and Control Measured by Electroencephalography (EEG)” East Carolina University. Greenville, NC. Committee: Nicholas Murray, Christopher Mizelle, Richard Willy.

Completed: Dissertation committee member: Jean-Francois Esculier. Laval University, Quebec City, CAN.

Completed: Dissertation examiner: Lachlan Giles, University of La Trobe, Melbourne, AUS. “The assessment and rehabilitation of quadriceps atrophy in patellofemoral pain.” Committee: Jodie McClelland, Jill Cook, Kate Webster.

Completed: Alex Geronimo, East Carolina University, Department of Kinesiology. MS thesis. “Effect of Previous Hamstring Strain on Anterior Cruciate Ligament (ACL) Loading.” Adviser: Anthony Kulas, PhD, ATC. Role: thesis committee member.

Completed: Paula Clare Charlton, Melbourne School of Health Sciences, Doctor of Clinical Physiotherapy Program thesis. “Movement assessment of individuals post-hip arthroscopy.” Adviser: Kay Crossley, PhD, PT. Role: thesis committee member.

Service to University/School/Department

Admissions committee Chair: University of Montana School of Physical Therapy and Rehabilitation Science: 2017-present.

Unit Standards: University of Montana School of Physical Therapy and Rehabilitation Science 2022-23.

Unit Chair, University of Montana School of Physical Therapy: May 2020-May 2022

Acting Unit Chair, University of Montana School of Physical Therapy: March 2020-May 2020

Awards committee chair: University of Montana School of Physical Therapy and Rehabilitation Science: 2017-2019.

Chair: Search committee for orthopedic tenure track faculty position (successful). University of Montana School of Physical Therapy and Rehabilitation Science: 2019.

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Chair: Research Advisory Committee, College of Health Sciences, East Carolina University: 2014-2017.

Member: Search committee for neuroscience tenure faculty position (successful). Department of Physical Therapy, East Carolina University 2016.

Member: Committee to develop effective DPT interview strategies for admissions, Department of Physical Therapy, East Carolina University: 2015

Honors and Awards

2022: Nominated for Outstanding Instructor, University of Montana

2021: Winner of AASPT Best Research Abstract in Sports Physical Therapy

2020: Distinguished Service Award to the American Academy of Orthopedic Physical Therapy.

2017: University Scholar, East Carolina University: Award for high research productivity

2007-2017: Board Certified Specialist in Orthopedic Physical Therapy (OCS)

2016: Finalist for Excellence in Research: Sports Section, American Physical Therapy Association (APTA), Combined Sections Meeting, Anaheim, CA.

2017: Finalist for Excellence in Research: Sports Section, American Physical Therapy Association (APTA), Combined Sections Meeting, San Antonio, TX.

2012: Award for best platform presentation by young investigator (co-author), The Scandinavian Congress of Medicine and Science in Sports

Membership in Scientific/Professional Organizations

American Physical Therapy Association: 1997-present. Membership: 229444.

Orthopedics Section Member

Sport Section Member

Research Section Member

Biomechanics Special Interest Group Member

Knee Special Interest Group Member

Sports Performance Special Interest Group Member

Running Special Interest Group Member

American College of Sports Medicine, 2007-present

Current Teaching Duties

PT 516 Movement System Exam and Evaluation: 105 Contact hours (5cr). Primary instructor. (2017-2019; 2022-present)

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PT 569 Musculoskeletal Management II: Foot and Ankle (2017-present). 30 contact hours (2cr). Primary instructor. Previously instructed the knee and hip portions of this course (2020-2022)

PT 679 Elective: Treatment of the Injured Runner 15 contact hours (1cr). Primary instructor: (2018-present)

PT 519 Musculoskeletal Management I: Tissue mechanics. 15 contact hours (1cr). Instructor. (2022-present).

PT 520: PT Across the Lifespan. Guest lecturer, 3 contact hours. Bone health and osteoporosis. 2021-present.

Fulltime Clinical Employment

Vienna Physical Therapy (Vienna, WVa)

Clinician

1999-2001

First Settlement Physical Therapy (Marietta, OH)

Clinician

2001-2003

Director of Clinical Services

2005-2007

The Point Sports Med/ErgoMed (Greeley, CO)

Director of Clinical Services

2003-2005

Knowledge translation and mass media (began tracking in 2017):

1. [It May Not Be Running That Caused Your Latest Injury](#). With Cindy Kuzma. Runners World. March, 2023
2. [Study: Exercise Therapy Important to Treating Patellofemoral Pain: A new systematic review and meta-analysis reinforces the importance of movement in treating knee pain](#). American Physical Therapy Association. September 20th, 2022.
3. [Running Myths with Rich Willy, PT, PhD](#) Active Mom Podcast; September 16th, 2022. With Carrie Pagliano, PT, DPT.
4. [Readers vs Non-readers of the Patellofemoral Pain Clinical Practice Guideline](#). PT Inquest Podcast, August 30th, 2022.
5. [These 13 Running Myths Are Dated, Dangerous, and Slowing You Down](#). With A.C. Shilton. Runner's World. May 23rd, 2022
6. [Episode 60: Return to running mini-masterclass, with Dr. Rich Willy](#). With Clare Ardern, PT, PhD, JOSPT Insights. Nov. 21st, 2021.
7. [Seeking a Grand Theory of Injury Prevention](#). With Alex Hutchinson. Outside Magazine. August 13th 2021.
8. [Beyond Miles Per Week: A New and Improved Way To Monitor Your Training](#). With Amby Burfoot. Podium Runner. October 2nd, 2020.
9. [Calf Injuries and Masters Runners](#). With Ian McMahan. Outside Magazine. September 18th, 2020.
10. [Stop Counting Your Running Mileage](#). With Alex Hutchinson. Outside Magazine. August 28th, 2020.
11. [Why you should end your obsession with weekly mileage](#). With Madeleine Kelly. *Canadian Running*. August 10th, 2020.

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12. [JOSPT-Asks: Patellofemoral pain](#). Facebook Live hosted by Clare Ardern, PT, PhD, Editor in Chief of JOSPT. May 28th, 2020: ~4300 listens.
13. [Manipulating biomechanics in runners](#). May 14th, 2020. Missing Variable Podcast.
14. [When Working From Home Causes You \(Actual\) Pain](#). June 11th, 2020. *AARP Magazine*. With Stacey Colino
15. [Does running actually build muscle?](#) *Runners World* with Ashley Mateo. April 14th, 2020
16. [Stretching will NOT prevent running injuries - but a warm-up walk or jog may cut risks for shin splints and tendonitis, scientists say](#). *The Daily Mail*. November 11, 2019.
17. [“When to Log Miles on the Treadmill and When to Go Outside, According to Research”](#) *Runner’s World*. With Jordan Smith. January 6th, 2020.
18. [“Episode 51: Patellofemoral Pain: Clinical Practice Guidelines with Dr. Rich Willy.”](#) ClinicalAthlete Podcast. Nov. 9th, 2019.
19. [“Heavy-resistance training can help running performance.”](#) *Reuters*. With Carolyn Crist. October 17th, 2019.
20. [“Heavy-resistance training can help running performance.”](#) *Yahoo News*. With Carolyn Crist. October 17th, 2019.
21. [“Mythbusting iliotibial band \(ITB\) pain with Dr Rich Willy \(PT, PhD\) – it’s not friction! Podcast #393”](#). British Journal of Sports Medicine Podcast. +28,900 listens. Accessed 8/16/2021.
22. [“6 Ways to save your knees”](#). *AARP Magazine* with Stacey Colino. September 2019.
23. [“University of Montana Professor of Physical Therapy is “beneficial resource” for running community.”](#) ABC FOX Montana. Interview with Jordan Blaine.
24. [“Tweaking Your Running Form? Your Brain Will Catch on Fast.”](#) *Runners World* with Scott Douglas. August 2019.
25. [“The Mental Cost of Changing Your Stride.”](#) Podium Runner with Laura Peill. Sept 2019.
26. [“UM physical therapy prof authors new guidelines on treating runner’s knee.”](#) Missoula Current. Sept 3rd, 2019.
27. [PT Pintcast Podcast: Rich Willy and the Clinical Practice Guideline for the treatment of Patellofemoral Pain.](#)
28. [“Do Mega-Cushioned Shoes Increase or Reduce Injuries? It’s Complicated.”](#) *Runners World* with Hailey Middlebrook. April 2019.
29. [“The myth of the running shoe”](#) Featured interview in *The Globe & Mail* with Alex Hutchinson, December 10, 2018.
30. [“Does shoe type really matter? Probably not, says study”](#) Featured interview in *Triathlete Magazine* with Susan Lacke, December 14th, 2018.
31. [“Can the design of a running shoe help prevent injury? A B.C. researcher says he has the answer”](#) Featured interview on *CBC* with Kelly Crowe, December 15th, 2018.
32. [“Running biomechanics and Training Loads in Runners.”](#) Podcast interview on *Podchat Live* with Dr. Ian Griffiths and Dr. Craig Payne, Sept. 2018.

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33. [“Red shoe, blue shoe, which running shoe is right for you?”](#) Featured interview in the *Montreal Gazette* with Jill Barker, April 14th, 2019.
34. [“How Treadmill Running Differs from Running Outside”](#) *Outside Magazine*. Alex Hutchinson. March 28th, 2019.
35. [“Is Running on a Treadmill Harder or Easier Than Running Outside?”](#) *Runners World*. March 22nd, 2019.
36. [“Rich Willy’s common sense approach to healthy running.”](#) A New Angle Podcast with Justin Angle. Feb. 19th, 2019.
37. [“Dr. Rich Willy: Are You Lying to Yourself and Others About Your Running?”](#) In: Muir T, ed. *Running for Real*, August 30th, 2018. Podcast.
38. [Use Your Wearable to Lower Your Injury Risk.](#) *Runner's World*. Scott Douglas. August, 2018.
39. [The Physical Performance Show: Rich Willy – Running Researcher & Physical Therapist at University of Montana \(Assoc Prof.\) \(Expert Edition\) Part 2.](#) October 9th, 2018 with Brad Beer. Pogo Physical Performance Show Podcast.
40. [Workout Wednesday: Understand your cadence.](#) *Canadian Running*. Marylene Vertegom. Nov. 2017.