

CURRICULUM VITAE
University of Pittsburgh
School of Health and Rehabilitation Sciences

BIOGRAPHICAL

Name:	Sara R. Piva	Business Address:	Department of Physical Therapy Bridgeside Point 1, Suite 210 100 Technology Drive Pittsburgh, PA 15219
Home Address:	603 Ravencrest Road Pittsburgh, PA 15215	Business Phone:	412-383-6712
Cell Phone:	412-860-7494		
Email:	spiva@pitt.edu		

EDUCATION and TRAINING

UNDERGRADUATE

Dates Attended	Name, Location and Institution	Degree Received, Year	Major Subject
1982 - 1984	Universidade de Passo Fundo, Passo Fundo, RS, Brazil	BS, 1984	Physical Education
1987 - 1991	Federação de Estabelecimentos de Ensino Superior em Novo Hamburgo Novo Hamburgo, RS, Brazil	BS, 1991	Physical Therapy

GRADUATE

1987 - 1988	Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, RS, Brazil	Specialist, 1988	Sports Medicine and Scholar Health
1998 - 1999	University of Pittsburgh Pittsburgh, Pennsylvania	MS, 1999	Musculoskeletal Physical Therapy
2000 - 2005	University of Pittsburgh Pittsburgh, Pennsylvania	PhD, 2005	Rehabilitation Science

FELLOWSHIP

1996	Centre Hospitalier Lyon Sud, Lyon, France; Knee Disorders, Henry Dejour, MD	Visiting Fellow (no degree)	Orthopedic Physical Therapy
2000 - 2004	Spine Specialty Center, UPMC, Pittsburgh, PA; Richard E. Erhard, DC, PT	Visiting Fellow (no degree)	Spinal Disorders and Manual Therapy

APPOINTMENTS and POSITIONS**ACADEMIC**

Years Inclusive	Name and Location of Institution or Organization	Rank/Title
1999 - 2003	Department of Physical Therapy University of Pittsburgh	Research Associate
2004 - 2006	Department of Physical Therapy University of Pittsburgh	Visiting Instructor
2006 - 2014	Department of Physical Therapy University of Pittsburgh	Assistant Professor
2008 - 2014	Clinical and Translational Science Institute University of Pittsburgh	Assistant Professor
2009 - 2020	Physical Therapy- Clinical and Translational Research Center; Clinical and Translational Science Institute, University of Pittsburgh, PA	Co-Director
2014 - 2020	Department of Physical Therapy University of Pittsburgh	Associate Professor
2014 - 2022	Clinical and Translational Science Institute University of Pittsburgh	Associate Professor
2019 – present	Department of Physical Therapy University of Pittsburgh	Vice-Chair for Research
2020 – present	Department of Physical Therapy University of Pittsburgh	Professor
2022 – present	Clinical and Translational Science Institute University of Pittsburgh	Professor
2020 - present	Physical Therapy- Clinical and Translational Research Center; Clinical and Translational Science Institute, University of Pittsburgh, PA	Director

NON-ACADEMIC

1989 - 1991	Cohab Feitoria, Middle and High School, State School System, São Leopoldo, RS, Brazil	Physical Education Teacher
1991 - 1992	Physical Therapy Clinic – MEDFIS Ltda Porto Alegre, RS, Brazil	Staff Physical Therapist
1992 - 1998	Outpatient Physical Therapy Clinic – Fisio & Forma Carzinho, RS, Brazil	Owner, Private Practice

1993 - 1998

Rio Branco High School, State School System
Carazinho, RS, Brazil

Staff Physical Therapist

CERTIFICATION and LICENSURE**SPECIALTY CERTIFICATION****Certifying Board**American Board of Physical Therapy Specialties
Board Certified Specialist in Orthopaedic Physical Therapy**Year**

2002 - 2021

Fellow of American Academy of Orthopaedic Manual Physical Therapy

2002 - 2021

PROFESSIONAL LICENSURE**Physical Therapy Licensure**

Regional Board of Physical and Occupational Therapy, Region 5 - Brazil

1991 - 1999

Pennsylvania State Board of Physical Therapy: PT012326L

1999 - present

MEMBERSHIPS in PROFESSIONAL and SCIENTIFIC SOCIETIES**Organization****Year**

American Physical Therapy Association - Orthopaedic and Research Sections

2000 - present

Pennsylvania Physical Therapy Association

2002 - present

American Academy of Orthopaedic Manual Physical Therapy

2002 - present

Association of Rheumatology Health Professionals of the American College of Rheumatology

2007 - present

HONORS**Title of Award****Year**

Health Professional of the Year, Jornal Diário da Manhã, Carazinho, RS,

1997

Best Published Article, Journal of Orthopaedic and Sports Physical Therapy, George J. Davies - James A.
Gould Excellence in Clinical Inquiry Award

2004

Outstanding Faculty Member, School of Health and Rehabilitation Sciences, University of Pittsburgh

2006

Inductee, Academy of Advanced Item Writers, Federation of State Boards of Physical Therapy

2006

New Investigator Award, American College of Rheumatology Research Education Foundation	2007
Wall of Fame Item Writer for Highly Productive Item Writer, Federation of State Boards of Physical Therapy	2013
Rose Excellence in Research Award, Orthopaedic Section, American Physical Therapy Association	2015
Catherine Worthingham Fellow of American Physical Therapy Association	2020

PUBLICATIONS

Peer Reviewed Articles

1. **Piva SR**, Diacoles D, Poletto JM. Effects of ultrasound on rat muscles after metallic implantation. *Annais Scientificos da Pontificia Universidade Católica do Rio Grande do Sul*. 1989;02:54–63. PMID not applicable.
2. **Piva SR**, Erhard RE, Al-Hugail M. Cervical radiculopathy: A case problem using a decision-making algorithm. *J Orthop Sports Phys Ther*. 2000;30(12):745-754. PMID not applicable.
3. Bizzini M, Childs JD, **Piva SR**, Delitto A. Systematic review of the quality of randomized controlled trials for patellofemoral pain syndrome. *J Orthop Sports Phys Ther*. 2003;33(1):4-20. PMID not applicable.
4. Childs JD, Fritz JM, **Piva SR**, Erhard RE. Clinical decision-making in the identification of patients likely to benefit from spinal manipulation: A traditional versus an evidence-based approach. *J Orthop Sports Phys Ther*. 2003;33(5):259-272. PMID not applicable.
5. Childs JD, **Piva SR**, Erhard RE, Hicks GE. Side-to-side weight-bearing asymmetry in patients with low back pain. *Man Ther*. 2003;8(3):166-169. PMID not applicable.
6. **Piva SR**, Erhard RE, Childs JD, Hicks G. Reliability of measuring iliac crest height in the standing and sitting position using a new measurement device. *J Manipulative Physiol Ther*. 2003;26(7):437-441. PMID not applicable.
7. Fritz JM, **Piva SR**. The physical impairment Index: reliability, validity, and responsiveness in patients with acute low back pain. *Spine*. 2003;28(11):1189-94. PMID not applicable.
8. Fitzgerald GK, **Piva SR**, Irrgang JJ. A modified neuromuscular electrical stimulation protocol for quadriceps strength training following anterior cruciate ligament reconstruction. *J Orthop Sports Phys Ther*. 2003;33(9):492-501. PMID not applicable.
9. Fitzgerald GK, **Piva SR**, Irrgang JJ, Bouzabar F, Starz TW. Quadriceps activation failure as a moderator of the relationship between quadriceps strength and physical function in individuals with knee osteoarthritis. *Arthritis Rheum*. 2004;51(1):40-8. PMID not applicable.
10. **Piva SR**, Fitzgerald GK, Irrgang JJ, Bouzabar F, Starz TW. The get up and go test in patients with knee osteoarthritis. *Arch Phys Med Rehabil*. 2004;85(2): 284-289. PMID not applicable.
11. Childs JD, **Piva SR**, Erhard RE. Immediate improvements in side-to-side weight-bearing and iliac crest symmetry after manipulation in patients with low back pain. *J Manipulative Physiol Ther*. 2004;27(5):306-13. PMID not applicable.
12. Childs MJ, Fritz JM, **Piva SR**, Whitman JM. Proposal of a classification system for patients with neck pain. *J Orthop Sports Phys Ther*. 2004;34(11):686-96. PMID not applicable.
13. Fitzgerald GK, **Piva SR**, Irrgang JJ. Reports of joint instability in knee osteoarthritis: its prevalence and relationship to physical function. *Arthritis Rheum*. 2004;15;51(6):941-6. PMID not applicable.

14. Browder DA, Erhard RE, **Piva SR**, Intermittent cervical traction and manipulation for management of mild cervical compressive myelopathy attributed to cervical herniated disc. *J Orthop Sports Phys Ther.* 2004;34(11):701-12. PMID not applicable.
15. Childs JD, Flynn TW, Fritz JM, **Piva SR**, Whitman JM, Wainner RS, Greenman PE. Screening for vertebrobasilar insufficiency in patients with neck pain: manual therapy decision-making in the presence of uncertainty. *J Orthop Sports Phys Ther.* 2005;35(5):300-6. PMID not applicable.
16. Fritz JM, **Piva SR**, Childs JD. Accuracy of the clinical examination to predict radiographic instability of the lumbar spine. *Eur Spine J.* 2005;14(8):743-50. PMID: PMC3489248
17. Childs JD, **Piva SR**. Psychometric properties of the functional rating index in patients with low back pain. *Eur Spine J.* 2005;14(10):1008-12. PMID not applicable.
18. Childs JD, **Piva SR**, Fritz JM. Responsiveness of the numeric pain rating scale in patients with low back pain. *Spine.* 2005;30(11):1331-4. PMID not applicable.
19. Mamula CJ*, Erhard RE, **Piva SR**. Cervical radiculopathy or parsonage-turner syndrome: inclusion of Parsonage-Turner syndrome in the differential diagnosis of a patient with neck and upper extremity symptoms. *J Orthop Sports Phys Ther.* 2005;(35)10:659-664. PMID not applicable.
20. **Piva SR**, Goodnite EA, Childs JD. Strength around the hip and flexibility of soft tissues in individuals with and without patellofemoral pain syndrome. *J Orthop Sports Phys Ther.* 2005;35(12):793-801. PMID not applicable.
21. **Piva SR**, Childs JD, Erhard RE, Browder DA. Inter-tester reliability of passive intervertebral and active movements of the cervical spine. *Man Ther.* 2006;11(4): 321-30. PMID not applicable.
22. **Piva SR**, Fitzgerald K, Irrgang JJ, Jones S, Hando BR, Browder DA, Childs JD. Reliability of measures of impairments associated with patellofemoral pain syndrome. *BMC Musculoskeletal Disorders.* 2006;Mar 31;7(1):33. PMID: PMC1557500.
23. **Piva SR**, Goodnite A, Azuma K, Woolard JD, Goodpaster BH, Wasko MC, Fitzgerald GK. Neuromuscular electrical stimulation and volitional exercise for individuals with rheumatoid arthritis – multiple-patient case report. *Phys Ther.* 2007;87(8):1064-77. PMID not applicable.
24. **Piva SR**, Gil AB, Moore CG, Fitzgerald GK. Responsiveness of the activities of daily living scale of the knee outcome survey and numeric pain rating scale in patients with patellofemoral pain. *J Rehabil Med.* 2009;41(3):129-135. PMID: PMC4887857.
25. **Piva SR**, Fitzgerald GK, Irrgang JJ, Fritz JM, Wisniewski S, McGinty GT, Childs JD, Domenech MA, Jones S, Delitto A. Associates of physical function and pain in patients with patellofemoral pain syndrome. *Arch Phys Med Rehabil.* 2009;90:285-295. PMID: PMC4876957.
26. **Piva SR**, Childs JD, Klucinec BM, Irrgang JJ, Almeida GJM, Fitzgerald GK. Patella Fracture during rehabilitation after bone-patellar-tendon-bone anterior cruciate ligament reconstruction: 2 case reports. *J Orthop Sports Phys Ther.* 2009;39(4):278-286. PMID not applicable.
27. **Piva SR**, Fitzgerald GK, Wisniewski S, Delitto A. Predictors of pain and function outcome after rehabilitation in patients with patellofemoral pain syndrome. *J Rehabil Med.* 2009;41(8):604-12. PMID not applicable.
28. Scopaz K*, **Piva SR**, Gil AB, Woollard JD, Oddis CV, Fitzgerald GK. Effect of baseline quadriceps activation on changes in quadriceps strength after exercise therapy in subjects with knee osteoarthritis. *Arthritis Rheum.* 2009;61(7):951-7. PMID: PMC2732991.
29. Scopaz K*, **Piva SR**, Wisniewski, Fitzgerald GK. Relationships of fear, anxiety, and depression with physical function in patients with knee osteoarthritis. *Archives Phys Medi Rehabil.* 2009;90(11):1866-73. PMID: PMC4878692.

30. Hess R*, Brach J, **Piva SR**, VanSwearingen J. Walking skill can be assessed in older adults: validity of the figure-of-8 walk test. *Phys Ther.* 2010;90(1):89-99. PMID: PMC2802825.
31. **Piva SR**, Almeida GJM, Gil AB, Fitzgerald GK. A balance exercise program appears to improve function for patients with total knee arthroplasty: a randomized clinical trial. *Phys Ther.* 2010;90(6):880-94. PMID: PMC2879033.
32. Almeida GJM*, Schroeder CA, Gil AB, **Piva SR**. Interrater reliability and validity of the stair ascend/descend test in subjects with total knee arthroplasty. *Arch Phys Med and Rehabil.* 2010;91(6):932-8. PMID: PMC2892160.
33. **Piva SR**, Almeida GJM, Wasko MC. Association of physical function and physical activity in women with rheumatoid arthritis. *Arthritis Rheum.* 2010;62(8):1144-51. PMID: PMC2921032.
34. **Piva SR**, Teixeira PEP, Gil AB, Almeida GJM, DiGioia AM, Levison JT, Fitzgerald GK. Contribution of hip abductor strength to physical function in patients with total knee arthroplasty. *Phys Ther.* 2011;91(2):225-233. PMID: PMC3037768.
35. Fitzgerald GK, **Piva SR**, Gil A, Wisniewski SR, Oddis C, Irrgang JJ. Agility and perturbation training techniques in exercise therapy for improving pain and function in subjects with knee osteoarthritis: a randomized clinical trial. *Phys Ther.* 2011;91(4): 452-469. PMID: PMC3070919.
36. Almeida GJM*, Wasko MC, Kilby LL, Smith JL, Jakicic JM, **Piva SR**. Physical activity measured by SenseWear armband in women with rheumatoid arthritis: A feasibility study. *Phys Ther.* 2011;91(9):1367-76. PMID: PMC3169787.
37. Woolard JD*, Gil AB, Sparto P, Kwok CK, **Piva SR**, Farrokhi S, Powers CM, Fitzgerald GK. Change in knee cartilage volume in individuals completing a therapeutic exercise program for knee osteoarthritis: a case series. *J Orthop Sports Phys Ther.* 2011;41(10):708-22. PMID: PMC3383656.
38. Teixeira PEP*, **Piva SR**, Fitzgerald GK. Effects of Exercise on Specific Self-Reported Functional Task Performance in Individuals with Knee Osteoarthritis. *Phys Ther.* 2011;91(12):1752-65. PMID: PMC3229042.
39. Williams VJ*, **Piva SR**, Irrgang JJ, Crossley C, Fitzgerald GK. Comparison of reliability and responsiveness of three patient-reported clinical outcome measures in knee osteoarthritis rehabilitation. *J Orthop Sports Phys Ther.* 2012; 42(8):716-23. PMID: PMC3435439.
40. Fitzgerald GK, White DK, **Piva SR**. Associations for change in physical and psychological factors and treatment response following exercise in knee osteoarthritis: an exploratory study. *Arthritis Care Res (Hoboken).* 2012; 64(11):1673-80. PMID: PMC3448876.
41. Farrokhi S, **Piva SR**, Gil AB, Oddis CV, Brooks MM, Fitzgerald GK. Severity of coexisting patellofemoral disease is associated with increased impairments and functional limitations in patients with knee osteoarthritis. *Arthritis Care Res (Hoboken).* 2013; 65(4):544-51. PMID: PMC3562754.
42. **Piva SR**, Lasinski S, Almeida GJM, Fitzgerald GK, Delitto, A. Associations between Disability and Psychological Factors and Dose of Neuromuscular Electrical Stimulation in Subjects with Rheumatoid Arthritis. *Physiother Prac. Res.* 2013;34(2):57-66. PMID: PMC4067049.
43. Roy TC*, Lopez HP, **Piva SR**. Loads worn by soldiers predict episodes of low back pain during deployment to Afghanistan. *Spine.* 2013;38(15):1310-7. PMID not applicable.
44. Roy TC*, Fish KL, Lopez HP, **Piva SR**. Preliminary validation of the military low back pain questionnaire. *Mil Med.* 2014;179(2):121-5. PMID not applicable.
45. Baldon R de M*, Serrão FV, Scattone Silva R, **Piva SR**. Effects of functional stabilization training on pain, function, and lower extremity biomechanics in women with patellofemoral pain: a randomized clinical trial. *J Orthop Sports Phys Ther.* 2014;44(4):240-A8. PMID not applicable.

46. Suzuki S*, Irrgang JJ, Ellenbecker TS, **Piva SR**. Characteristics of clinicians working in professional tennis setting: a survey study. *J Med Sci Tennis*. 2014;19(1):25-34. PMID not applicable.
47. Schneider MJ, Ammendolia C, Murphy D, Glick R, **Piva S**, Hile E, Tudorascu D, Morton SC. Comparison of non-surgical treatment methods for patients with lumbar spinal stenosis: protocol for a randomized controlled trial. *Chiropr Manual Ther*. 2014;22:19. PMID: PMC4036105.
48. Khoja SS*, Susko AM, Josbeno DA, **Piva SR**, Fitzgerald GK. Comparing physical activity programs for managing osteoarthritis in overweight or obese patients. *J Comp Eff Res*. 2014;3(3):283-299. PMID not applicable.
49. **Piva SR**, Susko AM, Khoja SS, Josbeno DA, Fitzgerald GK, Toledo FGS. Links between osteoarthritis and diabetes and implications for management from a physical activity perspective. *Clin Geriatr Med*. 2015;31(1):67-87, viii. PMID: PMC4254543.
50. Almeida GJ*, Wert DM, Brower KS, **Piva SR**. Validity of physical activity measures in individuals after total knee arthroplasty. *Arch Phys Med Rehabil*. 2015;96(3):524-31.. PMID: PMC4339513.
51. Roy TC*, **Piva SR**, Christiansen BC, Leshner JD, Doyle PM, Waring RM, Irrgang JJ, Moore CG, Brininger TL, Sharp MA. Description of musculoskeletal injuries occurring in female soldiers deployed to Afghanistan. *Mil Med*. 2015;180(3):269-75. PMID not applicable.
52. Delitto A, **Piva SR**, Moore CG, Fritz JM, Wisniewski SR, Josbeno DA, Fye M, Welch WC. Surgery versus nonsurgical treatment of lumbar spinal stenosis: a randomized trial. *Ann Intern Med*. 2015;162(7):465-73. PMID: PMC6252248.
53. Baldon RM*, **Piva SR**, Scattone Silva R, Serrão FV. Evaluating eccentric hip torque and trunk endurance as mediators of changes in lower limb and trunk kinematics in response to functional stabilization training in women with patellofemoral pain. *Am J Sports Med*. 2015;43(6):1485-1493. PMID not applicable.
54. Delitto A, **Piva SR**, Moore CG, Welch WC. Surgery versus nonsurgical treatment of lumbar spinal stenosis. *Ann Intern Med*. 2015;163(5):397-8. PMID: PMC6300996.
55. Khoja SS*, Browder D, Daliman D, **Piva SR**. Benefits of thoracic thrust manipulation when applied with a multi-modal treatment approach in individuals with mechanical neck pain: a pilot randomized trial. *Int J Phys Med Rehabil* 2015; 3(5):306. PMID not applicable.
56. **Piva SR**, Moore CG, Schneider M, Gil AB, Almeida GJ, Irrgang JJ. A randomized trial to compare exercise treatment methods for patients after total knee replacement: protocol paper. *BMC Musculoskelet Disord*. 2015;16:16:303. PMID: PMC4609104.
57. **Piva SR**, Almeida GJ, Gil AB, Levison T, DiGioia A. Dose-associated changes in gait parameters in response to exercise programs after total knee arthroplasty: secondary analysis of two randomized studies. *Int J Phys Med Rehabil*. 2015;3(6):3-7. PMID: PMC4807621.
58. McGrory B, Weber K, Lynott J, Richmond J, Davis C, Yates A, Kamath A, Dasa V, Brown GA, Gerlinger T, Villaneuva T, **Piva SR**, Hebel J, et al. Surgical management of osteoarthritis of the knee: evidence-based guideline. *J Am Acad Orthop Surg*. 2016; 24(8):e87-93. PMID not applicable.
59. Khoja SS*, Almeida GJ, Wasko MC, Terhorst L, **Piva SR**. Association of light intensity physical activity with lower cardiovascular risk factor burden in rheumatoid arthritis. *Arthritis Care Res (Hoboken)*. 2016;68(4):424-31. PMID: PMC6217964.
60. Farrokhi S, Chen YF, **Piva SR**, Fitzgerald GK, Jeong JH, Kwok CK. The influence of knee pain location on symptoms, functional status and knee-related quality of life in older adults with chronic knee pain: data from the Osteoarthritis Initiative. *Clin J Pain*. 2016;32(6):463-70. PMID: PMC4766069.
61. Almeida GJ*, Irrgang JJ, Fitzgerald GK, Jakicic JM, **Piva SR**. Reliability of physical activity measures during free-living activities in people after total knee arthroplasty. *Phys Ther*. 2016;96(6):898-907. PMID: PMC6410954

62. Roy TC*, **Piva SR**, Christiansen BC, Leshner JD, Doyle PM, Waring RM, Irrgang JJ, Moore CG, Brininger TL, Sharp MA. Heavy loads and lifting are risk factors for musculoskeletal injuries in deployed female soldiers. *Mil Med*. 2016;181(11):e1476-e1483. PMID not applicable.
63. Woollard JD*, Bost JE, **Piva SR**, Kelley Fitzgerald G, Rodosky MW, Irrgang JJ. The relationship of preoperative factors to patient-reported outcome in rotator cuff repair: a systematic review. *Physical Therapy Rev*. 2016; 21(3-6):138-150.
64. Distefano G*, Standley RA, Dubé JJ, Carnero EA, Ritov VB, Stefanovic-Racic M, Toledo FG, **Piva SR**, Goodpaster BH, Coen PM. Chronological age does not influence ex-vivo mitochondrial respiration and quality control in skeletal muscle. *J Gerontol A Biol Sci Med Sci*. 2017;72(4):535-542. PMID: PMC6075361.
65. Stevans JM, Fitzgerald GK, **Piva SR**, Schneider M. Association of early outpatient rehabilitation with health service utilization in managing Medicare beneficiaries with nontraumatic knee pain: retrospective cohort study. *Phys Ther*. 2017;97(6):615-624.
66. Farrokhi S, Jayabalan P, Gustafson JA, Klatt BA, Sowa GA, **Piva SR**. The influence of continuous versus interval walking exercise on knee joint loading and pain in patients with knee osteoarthritis. *Gait Posture*. 2017;56:129-133. PMID: PMC5669616.
67. Woollard JD*, Bost JE, **Piva SR**, Kelley Fitzgerald G, Rodosky MW, Irrgang JJ. The ability of preoperative factors to predict patient-reported disability following surgery for rotator cuff pathology. *Disabil Rehabil*. 2017;39(20):2087-96. PMID not applicable.
68. Almeida GJ*, Terhorst L, Irrgang JJ, Fitzgerald GK, Jakicic JM, **Piva SR**. Responsiveness of physical activity measures following exercise programs after total knee arthroplasty. *J Exerc Sports Orthop*. 2017;4(3):1-8. PMID: PMC6051713.
69. **Piva SR**, Almeida GJ, Gil AB, DiGioia AM, Helsel DL, Sowa GA. Effect of comprehensive behavioral and exercise intervention on physical function and activity participation after total knee replacement - a pilot randomized study. *Arthritis Care Res (Hoboken)*. 2017;69(12):1855-1862. PMID: PMC5563278.
70. Disantis AY*, **Piva SR**, Irrgang JJ. Standardized patient reported outcomes do not capture functional deficits of patients following contemporary total knee replacement: descriptive study. *J Exerc Sports Orthop*. 2018;5(1). PMID: PMC6203347.
71. Almeida GJ*, Khoja SS, **Piva SR**. Physical activity after total joint arthroplasty: a narrative review. *Open Access J Sports Med*. 2018;9:55-68. PMID: PMC5859891.
72. Na A*, **Piva SR**, Buchanan TS. Influences of knee osteoarthritis and walking difficulty on knee kinematics and kinetics. *Gait Posture*. 2018;61:439-444. PMID: PMC6311109.
73. **Piva SR**, Khoja SS, Toledo FGS, Wasko MC, Fitzgerald GK, Goodpaster BH, Smith CN, Delitto A. Neuromuscular electrical stimulation compared to volitional exercise in improving muscle function in rheumatoid arthritis: a randomized pilot study. *Arthritis Care Res (Hoboken)*. 2019;71(3):352-361. PMID: PMC6249117.
74. Gil AB, **Piva SR**, Irrgang JJ. Considerations for Assessment and Applicability of Studies of Intervention. *Clin Sports Med*. 2018 Jul;37(3):427-440. PMID not applicable.
75. Jayabalan P, Gustafson J, Sowa GA, **Piva SR**, Farrokhi S. A stimulus-response framework to investigate the influence of continuous versus interval walking exercise on select serum biomarkers in knee osteoarthritis. *Am J Phys Med Rehabil*. 2018 PMC6579045.
76. Gustafson JA, Anderton W, Sowa GA, **Piva SR**, Farrokhi S. Dynamic knee joint stiffness and contralateral knee joint loading during prolonged walking in patients with unilateral knee osteoarthritis. *Gait Posture*. 2018;68:44-49. PMID: PMC6370490.

77. Schneider MJ, Ammendolia C, Murphy DR, Glick RM, Hile E, Tudorascu DL, Morton SC, Smith C, Patterson CG, **Piva SR**. Comparative clinical effectiveness of nonsurgical treatment methods in patients with lumbar spinal stenosis: a randomized clinical trial. *JAMA Netw Open*. 2019;2(1):e186828. PMID: PMC6324321.
78. **Piva SR**, Schneider MJ, Moore CG, Catelani MB, Gil AB, Klatt BA, DiGioia AM, Almeida GJ, Khoja SS, Sowa G, Irrgang JJ. Effectiveness of later-stage exercise programs vs usual medical care on physical function and activity following total knee replacement: a randomized clinical trial. *JAMA Netw Open*. 2019;2(2):e190018. PMID: PMC6484600
79. Gustafson JA, Anderton W, **Piva SR**, Farrokhi S. Dynamic knee joint stiffness and contralateral knee joint loading during prolonged walking in patients with unilateral knee osteoarthritis. *Gait Posture*. 2019;68:44-49. PMID: PMC6370490
80. Almeida GJ*, Khoja SS, **Piva SR**. Dose-response relationship between neuromuscular electrical stimulation and muscle function in people with rheumatoid arthritis. *Phys Ther*. 2019;99(9). PMID: PMC6735838
81. Khoja SS*, Patterson CG, Goodpaster BH, Delitto A, **Piva SR**. Skeletal muscle fat in individuals with rheumatoid arthritis compared to healthy adults. *Exp Gerontol*. 2020;129:110768. PMID not applicable.
82. Winger ME*, Caserotti P, Cauley JA, Boudreau RM, **Piva SR**, Cawthon PM, Harris TB, Barrett-Connor E, Fink HA, Kado DM, Strotmeyer ES. Associations between novel jump test measures, grip strength, and physical performance: The osteoporotic fractures in men (MrOS) study. *Aging Clin Exp Res*. 2020;32(4):587-595. PMID not applicable.
83. Alomar JA*, Catelani MBC, Smith CN, Patterson CG, Artman TM, **Piva SR**. Validity and responsiveness of floor sitting-rising test in post-total knee arthroplasty- a cohort study. *Arch Phys Med Rehabil*. 2020; pii: S0003-9993(20)30210-0. PMID not applicable.
84. McCarthy AE*, Bove AM, **Piva SR**, Mecca LP, Schneider MJ. A qualitative study of preparation for lumbar spinal stenosis surgery: Perceptions of patients and physical therapists. *J Orthop Sports Phys Ther*. 2020;50(4):198-205. PMID not applicable.
85. Williams BA, Ibinson JW, Ritter Jones ME, Ezaru CS, Rakesh HR, Paiste HJ, Gilbert KL, Mikolic JM, Muluk VS, **Piva SR**. Extended perineural analgesia after hip and knee replacement when buprenorphine-clonidine-dexamethasone is added to bupivacaine: Preliminary report from a randomized clinical trial. *Pain Med*. 2020 Nov 1;21(11):2893-2902.
86. Pinto ACPN*, **Piva SR**, Vieira AGDS, Gomes SGCN, Rocha AP, Tavares DRB, Santana MVA, Carlesso C, Andriolo A, Santos FC, Fregni F, Trevisani VFM. Transcranial direct current stimulation for fatigue in patients with Sjogren's syndrome: A randomized, double-blind pilot study. *Brain Stimul*. 2021 Jan-Feb;14(1):141-151. doi: 10.1016/j.brs.2020.12.004. Epub 2020 Dec 17. PMID: 33340767.
87. Winger ME*, Caserotti P, Ward RE, Boudreau RM, Hvid LG, Cauley JA, **Piva SR**, Harris TB, Glynn NW, Strotmeyer ES. Jump power, leg press power, leg strength and grip strength differentially associated with physical performance: The Developmental Epidemiologic Cohort Study (DECOS). *Exp Gerontol*. 2021 Mar;145:111172. doi: 10.1016/j.exger.2020.111172. Epub 2020 Nov 24. PMID: 33245997.
88. Bell KM, Onyeukwu C, Smith CN, Oh A, Devito Dabbs A, **Piva SR**, Popchak AJ, Lynch AD, Irrgang JJ, McClincy MP. A Portable System for Remote Rehabilitation Following a Total Knee Replacement: A Pilot Randomized Controlled Clinical Study. *Sensors (Basel)*. 2020 Oct 27;20(21):6118. doi: 10.3390/s20216118. PMID: 33121204
89. C Carlesso*, **S Piva**, C Smith, C Ammendolia, M Schneider. Responsiveness of Outcome Measures in Non-Surgical Patients with Lumbar Spinal Stenosis: A Secondary Analysis from a Randomized Controlled Trial. *Spine (in press)*.
90. Pugliese JM, Coyle PC, Knox PJ, Sions JM, Patterson CG, Pohlig RT, Simon CB, Weiner DK, George SZ, **Piva S**, Hicks GE. The Manual Therapy and Strengthening for the Hip (MASH) Trial: Protocol for a Multisite Randomized Trial of a Subgroup of Older Adults With Chronic Back and Hip Pain. *Phys Ther*. 2022 Jan 1;102(1):pzab255. doi: 10.1093/ptj/pzab255. PMID: 34751784; PMID: PMC8831280.

91. Williams BA, Ibinson JW, Bonant SA, Gilbert KL, **Piva SR**. A Tale of Two Cohorts: The Trials and Tribulations of Ever-Changing Orthopedic / Acute Pain Medicine Hospital Practices During the Execution of Military-Funded Clinical-Translational Research (2013-2021). *Pain Med*. 2022 Jan 3;23(1):1-3. doi: 10.1093/pm/pnab267.
92. Williams BA, Ibinson JW, Mikolic JM, Boudreaux-Kelly MY, Paiste HJ, Gilbert KL, Bonant SA, Ritter ME, Ezaru CS, Muluk VS, **Piva SR**. Day-One Pain Reductions After Hip and Knee Replacement When Buprenorphine-Clonidine-Dexamethasone Is Added to Bupivacaine Nerve/Plexus Blocks: A Randomized Clinical Trial. *Pain Med*. 2022 Jan 3;23(1):57-66. doi: 10.1093/pm/pnab325.
93. Williams BA, Dalessandro JH, Kennedy PJ, Ezaru CS, Ritter ME, Maerz DA, Ibinson JW, **Piva SR**. Institutional Benchmarks of Joint Replacement Analgesia and Mobilization After Intrathecal Morphine vs Multimodal Peripheral Nerve/Plexus Blocks. *Pain Med*. 2021 Dec 11;22(12):3116-3119. doi: 10.1093/pm/pnab193.
94. Bove AM*, Dong ER, Hausmann LRM, **Piva SR**, Brach JS, Lewis A, Fitzgerald GK. Exploring race differences in satisfaction with rehabilitation following total knee arthroplasty: a qualitative study. *J Gerontol A Biol Med Sci* 2022 Feb 3;77(2):e48-355.
95. Bove AM, Hausmann LRM*, **Piva SR**, Brach JS, Lewis A, Fitzgerald GK. Race differences in physical function and physical therapy utilization following total knee arthroplasty. *Arthritis Care Res* 2022 Jan;74(1):79-88.
96. Harris A, Branstetter B, Li J, Piva SR, Johnson JT, Nilsen ML. Evaluation of Neck Disability Using Computed-Tomography in Head and Neck Cancer Survivors. *Front Pain Res (Lausanne)*. 2022 May 17;3:910247. doi: 10.3389/fpain.2022.910247. PMID: 35655749; PMCID: PMC9152144.
97. Winger ME*, Caserotti P, Cauley JA, Boudreau RM, **Piva SR**, Cawthon PM, Orwoll ES, Ensrud KE, Kado DM, Strotmeyer ES; Osteoporotic Fractures in Men (MrOS) Research Group. Lower Leg Power and Grip Strength are Associated with Increased Fall Injury Risk in Older Men: the Osteoporotic Fractures in Men (MrOS) Study. *J Gerontol A Biol Sci Med Sci*. 2022 Jun 5:glac122. doi: 10.1093/gerona/glac122. Epub ahead of print. PMID: 35662329.

***Trainee mentored to publication**

Invited Manuscripts

1. Childs JD, **Piva SR**, Whitman JM. Lower cervical spine. In: *Physical Therapy for the Cervical Spine and Temporomandibular Joint*. Home Study Course 13.3, Orthopaedic Section of the American Physical Therapy Association, La Crosse, WI, 2003.
2. **Piva SR**. The American classification system for conservative treatment of low back pain. Post-professional Continuing Education in Health and Distance Learning in Sports and Orthopaedic Physical Therapy – Brazilian National Society of Sports Physical Therapy. *PROFISIO ESPORTIVA E TRAUMATO-ORTOPÉDICA*. 2013;3(1):9-61.

Book Chapters and Monographs

1. Erhard RE, **Piva SR**. Manipulation therapy. In: Plackzek JD, ed. and Boyce DA, ed. *Orthopaedic Physical Therapy Secrets*. Hanley & Belfus; 2001:102-111.
2. **Piva SR**, Irrgang JJ. Evaluation of Anterior Knee Pain. In: Manske RC, ed. *Patellofemoral Joint Revisited-Implications for the 21st Century*. Sports Section of the American Physical Therapy Association; 2003:19-40.
3. **Piva SR**. *Physical Therapy for the Cervical Spine and Temporomandibular Joint*. Home Study Course 13.3, Orthopaedic Section of the American Physical Therapy Association, La Crosse, WI; 2003.
4. **Piva, SR**. *Association between impairments and function in individuals with patellofemoral pain syndrome* [dissertation]. Pittsburgh, PA: University of Pittsburgh; 2005. <http://d-scholarship.pitt.edu/7887/>

5. **Piva SR.** Physical Therapy for Patients with Shoulder Injuries – University of Pittsburgh Classification System In: Lech O, ed. *Fundamentals of Shoulder Surgery – Orthopaedics and Rehabilitation*. Revinter; 2005:495-504.
6. **Piva SR.** Physical Therapy for Patients with Shoulder Injuries – University of Pittsburgh Classification System. In: Lech O, Ranzzi A, Bordin F, Faggion M, Zillmer V, Piluski P, eds. *Upper Extremity- Physical Therapy Approaches to Manage Common Orthopaedic Conditions*. Revinter; 2005:142-151.
7. **Piva SR.** *The American Classification System for Conservative Treatment of Low Back Pain*. Post-professional Continuing Education in Health and Distance Learning in Sports and Orthopaedic Physical Therapy – Brazilian National Society of Sports Physical Therapy; 2013.

Published Abstracts

1. **Piva SR,** Diacoles D, Poletto JM. Effects of ultrasound on muscles of rats after metallic implantation. *Anais of 18 Aniversario do Instituto de Biociencias*. 1988;1POA:58.
2. Childs JD, **Piva SR,** Erhard RE. Side-to-side weight-bearing asymmetry in patients with low back pain. *J Man Manip Ther*. 2002;10(3):156-157.
3. **Piva SR,** Erhard RE, Childs JD, Hicks G, Al-Abdulmohsin, Hamza. Reliability of measuring iliac crest level in the standing and in sitting position using a new measurement device. *J Man and Manip Ther*. 2002;10(3):164-165.
4. Fitzgerald GK, **Piva SR,** Irrgang JJ, Bouzabar F, Starz TW. Quadriceps activation failure as a moderator of the relationship between quadriceps strength and physical function in individuals with knee osteoarthritis. *Arthritis Rheum*. 2002;46(9):S198,#447.
5. **Piva SR,** Fitzgerald GK, Irrgang JJ, Bouzabar F, Starz TW. Reliability and validity of the get up and go test in patients with knee osteoarthritis. *Arthritis Rheum*. 2002;46(9):S228, #534.
6. Baum E, Irrgang JJ, Childs JD, **Piva SR,** Fitzgerald GK. Measurement of anterior laxity of the knee: a comparison of two arthrometers. In: Proceedings of the 70th Annual American Academy of Orthopaedic Surgeons Meeting; 2003; New Orleans, LA. Abstract 228.
7. Bizzini M, Childs JD, **Piva SR,** Delitto A. Systematic review of the quality of randomized controlled trials for patellofemoral pain syndrome -part I. *J Orthop Sports Phys Ther*. 2003;33(2):A-9.
8. Childs JD, **Piva SR,** Bizzini M, Delitto A. Systematic review of the quality of randomized controlled trials for patellofemoral pain syndrome -part II: implications for the conduct of clinical trials. *J Orthop Sports Phys Ther*. 2003;33(2):A-10.
9. Childs JD, Fritz JM, **Piva SR,** Erhard RE. Clinical decision-making in the identification of patients likely to benefit from lumbosacral manipulation: a traditional versus an evidence-based approach. *J Orthop Sports Phys Ther*. 2003;33(2):A-20.
10. Fitzgerald GK, **Piva SR,** Irrgang JJ. The effectiveness of neuromuscular electrical stimulation for quadriceps strengthening in postoperative ACL rehabilitation: standard versus criterion-based application. *J Orthop Sports Phys Ther*. 2003;33(2):A-9.
11. **Piva SR,** Erhard RE, Childs JD, Browder DA. Inter-tester reliability of measurements of passive intervertebral and active movements of the cervical spine. *J Man Manip Ther*. 2003;11(3):165-166.
12. Childs JD, **Piva SR,** Erhard RE. Immediate improvements in side-to-side weight-bearing and iliac crest symmetry after manipulation in patients with low back pain. *J Man Manip Ther*. 2003;11(3):168-169.
13. Childs JD, **Piva SR,** Fritz JM. Validation of the psychometric properties of the physical impairment index in patients

- with chronic back pain. *J Orthop Sports Phys Ther.* 2004; 34(1):PL-10.
14. Fitzgerald GK, **Piva SR**, Irrgang JJ. The prevalence of self-reported joint instability in Knee osteoarthritis and Its relationship to physical function. *J Orthop Sports Phys Ther.* 2004;34(1):PL-19.
 15. Delitto A, Fritz JM, Wisniewsky SR, **Piva SR**, Welch WC. Predictors of walking capacity in patients with lumbar spinal stenosis. *J Orthop Sports Phys Ther.* 2004;34(1):PL-16.
 16. Childs JD, **Piva SR**, Fritz JM. Responsiveness of the numeric pain rating index in patients with chronic low back pain. *J Orthop Sports Phys Ther.* 2004;34(1):PL- 14.
 17. Childs JD, **Piva SR**, Fritz JM. Psychometric properties of the functional rating index in patients with chronic low back pain. *J Orthop Sports Phys Ther.* 2004;34(1):PL-12.
 18. **Piva SR**, Fitzgerald GK, Irrgang JJ, Jones S, Hando B, Childs J. Reliability of measures of impairments associated with patellofemoral pain syndrome. *J Orthop and Sports Phys Ther.* 2006;36:A3.
 19. Scopaz K*, **Piva SR**, Fitzgerald GK. The mediating effect of knee pain on the relationship of biobehavioral factors to function in patients with knee osteoarthritis. *Arthritis Rheum.* 2007;56(9):S511.
 20. Altubasi IM, Teixeira PEP, **Piva SR**, Fitzgerald GK. Knee joint laxity, as measured by stress radiograph, does not alter the relationship between strength and function in patients with knee osteoarthritis [735]. *Arthritis Rheum.* 2008;58(9):S439
 21. Scopaz K*, **Piva SR**, Fitzgerald GK. The relationship of fear, anxiety, and depression with physical function in patients with knee osteoarthritis [736]. *Arthritis Rheum.* 2008;58(9):S440
 22. **Piva SR**, Gil AB, Almeida GJM, Fitzgerald GK. Improvements in muscle impairments are associated with improvement in physical function in patients with total knee arthroplasty [1151]. *Arthritis Rheum.* 2008;58(9):S596
 23. Almeida GJM*, Wasko MC, Kilby LL, Smith JL, Jakicic JM, **Piva SR**. Physical activity measured by SenseWear armband in women with rheumatoid arthritis: a feasibility study [1181]. *Arthritis Rheum.* 2008;58(9):S607
 24. Almeida GJM*, **Piva SR**, Kilby LL, Penn SK, Wasko MC. Factors associated with physical activity in women with rheumatoid arthritis [1184]. *Arthritis Rheum.* 2008;58(9):S608
 25. Teixeira PEP*, Fitzgerald GK, Gil AB, Almeida GJM, **Piva SR**. Association between hip muscle strength and physical function in individuals with total knee arthroplasty [1977]. *Arthritis Rheum.* 2008;58(9):S892
 26. **Piva SR**, Almeida GJM, Gil AB, Teixeira PEP, Fitzgerald GK. Effectiveness and feasibility of a balance training program post total knee arthroplasty - pilot randomized trial. *J Orthop Sports Phys Ther.* 2009;39(1):A29-30.
 27. Almeida GJM*, Wasko MC, Kilby LL, Penn SK, Smith JL, Jakicic JM, **Piva SR**. Physical activity measured by SenseWear armband in women with rheumatoid arthritis: a pilot study. *J Orthop Sports Phys Ther.* 2009;9(1):A25.
 28. Almeida GJM*, Gil AB, Fitzgerald GK, **Piva SR**. Asymmetries in physical impairments and spatial-temporal parameters of gait in total knee arthroplasty. *J Orthop Sports Phys Ther.* 2009;39(1):A48.
 29. Teixeira PEP*, Gil AB, Almeida GJM, **Piva SR**. Reliability and validity of hip muscle strength measures after total knee arthroplasty. *J Orthop Sports Phys Ther.* 2009;39(1):A28.
 30. **Piva SR**, Strudle N, Almeida GJM, Wasko MC, Fitzgerald GK, Delitto A; Associates of tolerance to neuromuscular electrical stimulation in rheumatoid arthritis. *Arthritis Rheum.* 2009; 60(suppl):1134.
 31. **Piva SR**, Almeida JM, Murphy Y, Wasko MC; Association of physical function and disability with physical activity in women with rheumatoid arthritis. *Arthritis Rheum.* 2009;60(suppl):1976.
 32. Teixeira PEP*, **Piva SR**, Fitzgerald GK; Exercise effects on self-reported functional tasks in knee osteoarthritis. *Arthritis Rheum.* 2009;60(suppl):1881.

33. Almeida GJM*, Wasko MC, Jeong K, Moore CG, **Piva SR**; Number of days necessary to wear portable activity monitors in patients with rheumatoid arthritis. *Arthritis Rheum.* 2009;60(suppl):1862.
34. Gil AB*, Sparto P, **Piva SR**, Fitzgerald GK; The influence of hip muscle strength and hip frontal plane moment on the knee adduction moment in people with knee osteoarthritis. *Arthritis Rheum.* 2009;60(suppl):1934.
35. Teixeira PEP, Fitzgerald GK, Gil AB, Almeida GJ, **Piva SR**. Association between hip muscles strength and physical function in individuals with total knee arthroplasty. *Arthritis Rheum.* 2010;58(9):S892-S893
36. Fitzgerald GK, **Piva SR**, Wisniewski SR. Clinical measures associated with self-reported knee instability in knee osteoarthritis (KOA). *Arthritis Rheum.* 2010;62(suppl): 2052.
37. Maia Neto FJ*, Almeida GJM, Fitzgerald GK, **Piva SR**. The effect of an exercise program in gait asymmetry in patients after total knee arthroplasty. *Arthritis Rheum.* 2010;62(suppl):2059.
38. Khoja SS*, Daliman D, **Piva SR**. The effectiveness of thoracic spine manipulation on pain and disability in patients with neck pain: a pilot randomized clinical trial. *Arthritis Rheum.* 2010;62(suppl):2060.
39. Almeida GJM*, Brower KS, Celik D, Chang HC, **Piva SR**. Validity of portable devices to assess physical activity in patients with total knee arthroplasty. *Arthritis Rheum.* 2010;62(suppl):2061.
40. Khoja SS*, Almeida GJM, Goodpaster BH, **Piva SR**. Muscle area and muscle quality relate to physical activity in subjects with rheumatoid arthritis. *Arthritis Rheum.* 2011;63(suppl):1560.
41. Khoja SS*, Goodpaster BH, **Piva SR**. Muscle quality contributes more to postural balance than muscle atrophy in people with rheumatoid arthritis. *Arthritis Rheum.* 2011;63(suppl):2611.
42. Almeida GJ*, **Piva SR**. Associations between changes in physical function and physical activity in response to an exercise program in patients with rheumatoid arthritis. *Arthritis Rheum.* 2011;63(suppl):1561.
43. Fitzgerald GK, White DK, **Piva SR**. Associations between changes in impairments and treatment response following exercise therapy in subjects with knee osteoarthritis. *Osteoarthritis Cartilage.* 2012;17:S263-S264.
44. Farrokhi, S.; **Piva, SR**. R.; Gil, A. B. Severity of patellofemoral joint disease Is associated with increased functional limitations and lower limb impairments in patients with coexisting tibiofemoral osteoarthritis. *Osteoarthritis Cartilage.* 2012;20:S15.
45. Almeida GJ*, **Piva SR**. Physical activity behavior in patients with arthritis. *Arthritis Rheum.* 2013;65(suppl):354-355.
46. **Piva SR**, Catelani MB, Almeida GJ. Comprehensive behavioral intervention compared to standard of care exercise program after total knee arthroplasty: a pilot randomized trial. *Arthritis Rheum.* 2013;65(suppl):356.
47. Khoja SS*, Goodpaster B, **Piva SR**. Skeletal muscle fat and its association with physical function and physical activity in adults with rheumatoid arthritis. *Arthritis Rheum.* 2014; 66(suppl):1091.
48. Catelani MB*, Khoja SS, Almeida GJ, **Piva SR**. Investigation of parameters used to test quadriceps muscle power using isokinetic dynamometer in arthritis. *Arthritis Rheum.* 2014; 66(suppl):2326.
49. Almeida GJ*, Khoja S, Catelani M, **Piva SR**. Perceived barriers to exercise reported by older adults after total knee replacement. *J Orthop Sports Phys Ther.* 2014;14(1):A145.
50. Almeida GJ*, Irrgang JJ, **Piva SR**. Reliability of physical activity measures during free-living in individuals with knee osteoarthritis. *J Orthop Sports Phys Ther.* 2015;45(1):A188.
51. Khoja SS*, Almeida GJ, Wasko MCM, **Piva SR**. Sleep efficiency and cardiovascular risk burden in rheumatoid arthritis [2170]. *Arthritis Rheum.* 2015;67(10)
52. Almeida GJ*, Irrgang JJ, **Piva SR**. Responsiveness of physical activity measures following exercise intervention in individuals after total knee arthroplasty. *Arthritis Rheum.* 2015; 67(suppl):S1089.

53. Jayabalan P, Gustafson J, **Piva SR**, Sowa G, Farrokhi S. The effect of walking exercise regimens on joint biomechanics and serum biomarker profile in patients with knee osteoarthritis. *Osteoarthritis Cartilage*. 2015;23(2):A47.
54. Jayabalan P, Gustafson J, Huang W, **Piva SR**, Sowa G, Farrokhi S. The influence of continuous versus interval walking exercise on joint loading and serum biomarker profile in patients with knee osteoarthritis. *PM R*. 2015;9(7):S89-S90.
55. Farrokhi S, **Piva SR**, Fitzgerald G, Kwok C. Association of pain location with symptoms, functional limitations, and knee-related quality of life in patients with knee pain: data from the Osteoarthritis Initiative [OPL33]. *J Orthop Sports Phys Therapy*. 2015;45(1).
56. Farrokhi S, Chen YF, **Piva SR**, Fitzgerald GK, Jeong JH, Kwok CK. The influence of knee pain location on symptoms, functional status and knee-related quality of life in older adults with chronic knee pain: data from the Osteoarthritis Initiative. *Clin J Pain*. 2016;32(6):463.
57. Khoja* SS, Almeida GJ, Wasko MC, Terhorst L, **Piva SR**. Light intensity physical activity is associated with lower cardiovascular risk factor burden in rheumatoid arthritis. *Arthritis Care Res (Hoboken)*. 2016;68(4):424.
58. Winger M*, Caserotti P, Cauley JA, Boudreau R, **Piva SR**, Cawthon PM, Orwoll E, Strotmeyer ES. Associations between the novel jump test, grip strength and physical performance, the MrOS study. *Innov Aging*. 2017;1(S321):1215.
59. Shaibi S, Saif S, Kang P, **Piva SR**, Farrokhi S. The association between knee instability and diminished performance-based function among patients with knee osteoarthritis: data from the Osteoarthritis Initiative [OPL55]. *J Orthop Sports Phys Therapy*. 2017;47(1).
60. Baker NA, Mecca LP, **Piva SR**. Flare warnings: people with rheumatoid arthritis perceptions of their flares [2374]. *Arthritis Rheumatol*. 2018;70(suppl)
61. Almeida GJ, Khoja SS, **Piva SR**. Effect of changes in physical activity on cartilage degradation in knee osteoarthritis [419]. *Arthritis Rheumatol*. 2018;70(suppl).
62. Almeida GJ, Khoja SS, **Piva SR**. Dose-response relationship between neuromuscular electrical stimulation and muscle function in patients with rheumatoid arthritis: [418]. *Arthritis Rheumatol*. 2018;70(suppl)
63. Schneider M, Ammendolia C, Murphy D, Glick R, **Piva SR**, Hile E, Tudorascu D, Morton S. A comparison of nonsurgical treatment methods for patients with lumbar spinal stenosis [OPL50]. *J Orthop Sports Phys Therapy*, 2018;48(1)
64. Disantis AY, **Piva SR**, Irrgang JJ. Standardized patient reported outcomes do not capture functional deficits of patients following contemporary total knee replacement: descriptive study. *J Orthop Sports Phys Therapy*. 2018;5(1).
65. McCarthy A, Catelani M, Mecca L, Coyle P, **Piva SR**. Focus groups on patients' perceptions about exercise programs delivered at later stages post total knee replacement [OPO146]. *J Orthop Sports Phys Therapy*. 2019;49(1).
66. **Piva SR**; Patterson C; Catelani M; Gil A; Schneider M; Almeida G; Khoja SS; Irrgang J. Randomized trial on exercise at late stages after total knee replacement [OPO167]. *J Orthop Sports Phys Therapy*. 2019;49(1).
67. Schneider M, Ammendolia C, Murphy D, Glick R, **Piva SR**, Hile E, Tudorascu D, Morton S. A Comparison of Nonsurgical Treatment Methods for Patients with Lumbar Spinal Stenosis. *Spine J*. 2018;17(10):S89.
68. Alomar J, Catelani M, Smith C, Patterson C, **Piva SR**. Validity of floor sitting and rising test in people post total knee replacement [OPO5]. *J Orthop Sports Phys Therapy*. 2019;49(1).

69. Nalbandian S, Baquet A, Mazzone B, Yoder A, **Piva SR**, Farrokhi S. The associations between resting pain, peak activity pain, and self-reported function in service members with knee pain [OPO154]. *J Orthop Sports Phys Therapy*. 2019;49(1).
70. Almeida GJ, Khoja SS, Terhorst T, Sowa G, **Piva SR**, Schneider M. Effect of physical activity on cartilage degradation and inflammation in individuals with lumbar spinal stenosis. *Combined Sections Meeting of APTA*. In press.
71. Bove AM, Hausmann LRM, **Piva SR**, Brach JS, Lewis A, Fitzgerald GK. Race differences in physical function and post-acute physical therapy utilization following total knee arthroplasty. Platform presentation at American Physical Therapy Association Combined Sections Meeting. February 2021. (Conference held virtually due to COVID-19 pandemic.)
72. Bove AM, Dong ER, Hausmann LRM, **Piva SR**, Brach JS, Lewis A, Fitzgerald GK. Exploring race differences in patient satisfaction with rehabilitation following total knee arthroplasty. Poster presentation at American Physical Therapy Association Combined Sections Meeting. February 2021. (Conference held virtually due to COVID-19 pandemic.)

PROFESSIONAL ACTIVITIES

TEACHING

Undergraduate

Course Number	Title	Years	Students	Responsibilities
REHSCI1285	Introduction to Evidence-Based Rehabilitation	2005 - 2018	60 BSRS	Course Coordinator, lecturer; develop curriculum, identify guest speakers, evaluate student assignments; 45 contact hours/term.
REHSCI1292	Diversity and Cultural Issues in Health, Disability and Rehabilitation	2016 - present	40 BSRS	Guest Lecture, "The Brazilian Health System."

Graduate

Course Number	Title	Years	Students	Responsibilities
PT2032	Musculoskeletal Physical Therapy II	2005 - 2006	50-52 DPT	Lectures, Upper Extremity Rehabilitation modules. 15 contact hrs/term.
	Advanced Musculoskeletal Anatomy	2006 - 2018	54-60 DPT	Develop modules and lecturer, Elbow, Wrist, Hand, Facial muscles; facilitate PBL sessions. 15 contact hrs/term.
PT Clinical Rounds	Physical Therapy Clinical Rounds	2006 - present	70-80 DPT	Presenter, Musculoskeletal Rehabilitation and Research.
HRS3002 and HRS3004	Methods of Inquiry for Rehabilitation Scientists	2006 - present	4-5 PhD	Evaluate and score students' preliminary exams.

PT2072 – PT2078	Evidence-Based Practice Curriculum	2007 - present	50-60 DPT	Guide development of capstone database. Facilitate journal clubs and guest lecturers. 1-3 contact hrs/term.
			3-5 DPT	Review and grade Performance Improvement projects.
CLRES2820	Special Topics in Clinical Trials	2012 - present	10-15 MS, ICRE	Guest Lecture, “Physical Therapy and Exercise Trials.”
HRS3000	Doctoral Seminar	2014 - 2016	8-10 PhD	Guest Lectures, "Research Design and Career Development." 2 contact hrs/term.
PT2088	Special Topics in Physical Therapy	2017	60 DPT	Develop curriculum modules “Regenerative Rehabilitation on Cartilage, Bone, Tendons and Muscles.” Coordinate journal clubs and invite guest lecturers. 14 contact hrs/term.
EPIDEM2950	Epidemiology of Aging Workshop	2019	9 MS, MPH	Guest Lecture, “Implementation of Exercise Interventions for Patients after Total Knee Replacement.”

CURRICULUM DEVELOPMENT

2005	Developed REHSCI1285: Introduction to Evidence-Based Rehabilitation.
2006, 2014	Developed and revised PT2030: Advanced Musculoskeletal Anatomy modules on Elbow, Wrist, Hand and Facial Muscles.
2008, 2015	Developed and revised preliminary exam, Methods of Inquiry for Rehabilitation Scientists, PhD program, Rehabilitation Sciences.
2008-2012	Developed research modules for DPT students, Summer Research Experience Program - Clinical and Translational Science Institute and the Institute for Clinical Research Education, University of Pittsburgh.
2014, 2019	Developed and revised curriculum, research component, Orthopaedic and Sports Physical Therapy Residency Program, University of Pittsburgh Medical Center – Centers for Rehabilitation Services.
2017	Developed PT2088: Special Topics in Physical Therapy modules on Regenerative Rehabilitation in Cartilage, Bone, Tendons and Muscles.

MENTORING

Undergraduate

2009

Rebecca Hess – Research Experience, BS in Rehabilitation Science Program, SHRS.

Project Title: “Measuring skill in walking of older adults, validity and responsiveness of figure 8 walk”

Manuscript published in *Phys Ther*, 2010.

2009-2010

Kelly Brower – Research Experience, Bachelor of Philosophy (BPhil), SHRS.

Project Title: “Validation of portable activity monitors in patients with rheumatoid arthritis”

Manuscript published in *Arch Phys Med Rehabil*, 2015.

2018 - 2019

Annie McCarthy – Research Experience, BS in Rehabilitation Science Program, SHRS.

Project Title: “A qualitative study on perceptions of patients about exercise programs delivered at late-stage post-total knee replacement”

Abstract published in *Arthritis Rheum*, 2018.

2021 – present

Mara Ann Hartoyo – primary mentor for Bachelor of Philosophy, University Honors College.

10. Bianca Elias, 2022 FAER Med Student Anes Research Fellowship.

Graduate

2007

Kristen Scopaz – Research Experience, School of Medicine.

Project Title: “Effect of baseline quadriceps activation on changes in quadriceps strength after exercise therapy in subjects with knee osteoarthritis” and “Relationships of fear, anxiety, and depression with physical function in patients with knee osteoarthritis”

Manuscripts published in *Arthritis Rheum*, 2009 and *Archives Phys Medi Rehabil*, 2009.

2009

Nathan Strudle – Research Experience, DPT student, SHRS.

Project Title: “Associates of tolerance to neuromuscular electrical stimulation in rheumatoid arthritis.”

Abstract published in *Arthritis Rheum*, 2009.

2009

Carolyn Schroeder – DPT student, funded through Multidisciplinary Short Term START UP Summer Research Experience Program - Clinical and Translational Science Institute and the Institute for Clinical Research Education, University of Pittsburgh.

Project Title: “The reliability and validity of the stair climbing test in individuals with total knee arthroplasty”

Manuscript published in *Arch Phys Med and Rehabil*, 2010.

2010

Francisco Maia – DPT student, funded through Multidisciplinary Short Term START UP Summer Research Experience Program - Clinical and Translational Science Institute and the Institute for Clinical Research Education, University of Pittsburgh.

Project Title: “Can intense exercise promote symmetry in gait parameters following total knee replacement?”

Abstract published in *Arthritis Rheum*, 2010.

2011 - 2012

Shuhei Suzuki – Research Internship, DPT student, SHRS.

Project Title: “Characteristics of clinicians working in professional tennis setting: a survey study”

Awarded SHRS funding for research in perceptions of PT in international tennis tournaments.

Manuscript published in *J Med Sci Tennis*, 2014.

2012

Stephanie Lasinski – DPT student, funded through Multidisciplinary Short Term START UP Summer Research Experience Program - Clinical and Translational Science Institute and Institute for Clinical Research Education, University of Pittsburgh.
Project Title: "Psychosocial correlates of NMES tolerance in subjects with rheumatoid arthritis"
Manuscript published in *Physiother Prac. Res*, 2013.

2013

Amy Trotnick – DPT student, funded through Multidisciplinary Short Term START UP Summer Research Experience Program - Clinical and Translational Science Institute and the Institute for Clinical Research Education, University of Pittsburgh.
Project Title: Dose-response of neuromuscular electrical stimulation in patients with rheumatoid arthritis"

2017

Yizhi (Nick) Li – PhD student, Department of Neuroscience.
Project Title: "Contribution of muscle function on neuromuscular synaptic plasticity"

2018

Jehan Alomar – Research Experience, MSPT student.
Project Title: "Validity and responsiveness of floor Sitting-Rising Test (SRT) in post-total knee arthroplasty"
Abstract presented at Annual Meeting of the American College of Rheumatology, 2018. Manuscript published in *Arch Phys Med Rehabil*, 2020.

2019 - 2020

Cristiane Carlesso – MS student, Department of Physical Therapy, SHRS.
Project Title: "Responsive of outcome measures in non-surgical lumbar spine stenosis patients: a secondary analysis from a randomized control trial"
Manuscript submitted to *Spine Journal*.

2022 – present

Jordan Hoydick, Research M.S program in bioengineering.
Committee Member.

Orthopaedic and Sports Physical Therapy Residents

2014 - present

Research mentor for Orthopaedic and Sports Physical Therapy Residency Program, University of Pittsburgh Medical Center – Centers for Rehabilitation Services.
Develop research program curriculum, lecturer, coordinate journal clubs, invite guest speakers, facilitate visits to University research labs, mentor abstract and peer-reviewed manuscript development.

Residents:

Ashley Young
Allison Burfield
James Townsend
Jacob Nigolian
Thad Boucher
Erin Angeline
Michelle Kazmie
Christopher Daily

Michael Tsang
Lillie Silverstein
Jordan Cargile
Jess Galey
Lillian Koch
Tyler Ho

Master's Thesis Committees

2007 - 2008

Paulo E.P. Teixeira, Department of Physical Therapy

Role: Master's Committee

Thesis Title: "Reliability of Measures of Hip Muscle Strength in Individuals with Total Knee Replacement"

Received MS degree in 2008.

Mr. Teixeira is Senior Research Fellow at Spaulding Rehabilitation Hospital, Harvard University, MA.

2017

George Kimmel, Department of Epidemiology

Role: Master's Committee

Thesis Title: "Sensory Peripheral Nerve Function in Patients following Total Knee Replacement".

Received MS degree in 2017.

Mr. Kimmel is Decision Support Analyst at Gateway Health.

Doctoral Dissertation Committees and Post-doc Mentoring

2007 - 2009

Ovande Furtado, PhD student, Department of Health and Physical Activity

Role: Dissertation Committee

Dissertation Title: "Development and Validation of a Gross Motor Development Test for Field Studies"

Dr. Furtado received his PhD in 2009.

Dr. Furtado is Associate Professor at California State University, CA.

2007 - 2015

Gustavo J. Almeida, PhD student, School of Health and Rehabilitation Sciences

Role: Chair of Dissertation Committee, Primary Advisor

Dissertation Title: "Psychometrics of Measures of Physical Activity in Individuals with Arthritis"

Dr. Almeida received his PhD in 2015.

Dr. Almeida is Assistant Professor in the Department of Physical Therapy, University of Texas Health at San Antonio.

2008 - 2012

Ibrahim Altubasi, PhD student, School of Health and Rehabilitation Sciences

Role: Dissertation Committee

Dissertation Title: "The Effect of Neuromuscular Electrical Stimulation (NMES) in Inducing Muscle Hypertrophy and Improvement in Muscle Torque Output within the Quadriceps Muscle of Elderly People"

Dr. Altubasi received his PhD in 2012.

Dr. Altubasi is Assistant Professor and Assistant Dean for Quality Assurance at the University of Jordan, Amman, Jordan.

2009 - 2012

Jason D. Woollard, PhD student, School of Health and Rehabilitation Sciences

Role: Dissertation Committee

Dissertation Title: "Development of a Clinical Prediction Rule for Maximizing the Probability of Successful Arthroscopic Subacromial Decompression in Patients with Chronic Subacromial Impingement Syndrome"

Dr. Woollard received his PhD in 2012.

Dr. Woollard is Assistant Professor at Chatham University, PA.

2009 - 2016

Samannaaz Khoja, PhD student, School of Health and Rehabilitation Sciences

Role: Chair of Dissertation Committee, Primary Advisor

Dissertation Title: "Skeletal Muscle Fat and Its Association with Physical Function in Rheumatoid Arthritis"

Dr. Khoja received her PhD in 2016.

Dr. Khoja is Research Assistant Professor in the Department of Physical Therapy, University of Pittsburgh.

2011 - 2013

Ali Hamad Alnahdi, PhD student, Biomechanics and Movement Science, University of Delaware

Role: Dissertation Committee

Dissertation Title: "Altered Loading and Quadriceps Strength after Unilateral Total Knee Arthroplasty"

Mr. Alnahdi received her PhD in 2013.

Dr. Alnahdi is Associate Professor at King Saud University, Saudi Arabia.

2011 - 2014

Tanja Roy, PhD student, School of Health and Rehabilitation Sciences

Role: Chair of Dissertation Committee, Primary Advisor

Dissertation Title: "Risk Factors for Musculoskeletal Injuries in Female Soldiers Deployed to Afghanistan"

Dr. Roy received her PhD in 2014.

Dr. Roy is Chief of Injury Epidemiology, US Army Public Health Command, Aberdeen Proving Ground, MD.

2011 - 2014

Rodrigo de Marche Baldon, PhD student, Universidade Federal of São Carlos

Role: Dissertation Committee

Dissertation Title: "Efeito do Treinamento de Estabilização Lombo-pélvica em Mulheres com Síndrome da Dor Femoropatelar"; *received Brazil's CNPQ Award for Best Manuscript*

Dr. Baldon received his PhD in 2014.

Dr. Baldon is Assistant Professor at Universidade Federal of São Carlos, Brazil.

2013 - 2015

Giovanna Distefano Ferrari, PhD student, School of Health and Rehabilitation Sciences

Role: Co-Chair of Dissertation Committee

Dissertation Title: "The Associations between Age-associated Changes in Mitochondrial Function and Sarcopenia"

Dr. Ferrari received his PhD in 2015.

Dr. Ferrari is Postdoctoral Research Scientist at the Transitional Research Institute for Metabolism and Diabetes, Advent Health Orlando, FL.

2015 - 2017

Annalisa Na, PhD Student, University of Delaware

Role: Dissertation Committee

Dissertation Title: "Influences of Biomechanical and Neuromuscular Strategies on Physical Function in Patients with Knee

Osteoarthritis”

Dr. Na received her PhD in 2017.

Dr. Na is Assistant Research Professor at Drexel University.

2016 - 2018

Sara Peterson, PhD student, School of Health and Rehabilitation Sciences

Role: Dissertation Committee

Dissertation Title: “Neuromuscular Electrical Stimulation Use in Transtibial Amputations: A Pilot Study”

Dr. Peterson received her PhD in 2018.

Dr. Peterson is Director and Instructor, Master of Science in Prosthetics and Orthotics Program, University of Pittsburgh.

2016 - 2020

Allyn Bove, PhD Student, School of Health and Rehabilitation Sciences

Role: Dissertation Committee

Dissertation Title: “Racial and Ethnic Disparities in Functional Outcomes and Physical Therapy Utilization after Total Knee Arthroplasty”

Dr. Bove received her PhD in 2020.

Dr. Bove is Assistant Professor in the Department of Physical Therapy, University of Pittsburgh

2017 - 2020

Mary Winger, PhD student, Graduate School of Public Health

Role: Dissertation Committee

Dissertation Title: “Muscle Power and Strength and their Relationship with Physical Function and Fall Injuries in Older Adults”

Dr. Winger received her PhD in 2020.

Dr. Winger is Analytics Data Integration Developer UPMC Health Plan.

2018 - 2019

Sarah R. Bass, PhD student, School of Health and Rehabilitation Sciences

Role: Dissertation Committee

Dissertation Title: “Effects of Vibration Training on Upper Limb Strength, Function and Pain in Individuals with Paraplegia”

Dr. Bass received her PhD in 2019.

Dr. Bass is Health System Specialist at Walter Reed National Military Medical Center.

2018 - 2019

Douglas J. White, Ed.D. student, School of Education

Role: Dissertation Committee

Dissertation Title: “Return to Physical Activity at 18 to 24 months Status Post Total Knee Replacement: A Needs Assessment Study”

Dr. White received his PhD in 2019.

2019 - 2020

Ana Carolina P.N. Pinto, Non-degree Visiting Research Student, Fulbright Scholar, Brazil

Project Title: “Effect of Transcranial Direct Current Stimulation Combined with Exercise on Fatigue in Patients with Primary Sjogren’s Syndrome: Protocol for a Double-blinded Randomized Trial”

Dr. Pinto is Assistant Professor at Federal University of Amapa, Brazil.

2020 - present

Valerio Tonelli Enrico, PhD student, School of Health and Rehabilitation Sciences

Role: Co-Chair Dissertation Committee
 Dissertation Title: “Inflammatory Biomarkers in Chronic Low Back Pain”
 Anticipated degree completion in 2024.

2020 - present

Cristiane Carlesso, PhD student, School of Health and Rehabilitation Sciences
 Role: Chair Dissertation Committee
 Dissertation Title: “The Role of Paraspinal Muscle Atrophy and Fat Infiltration on Mobility in Chronic Low Back Pain”
 Anticipated degree completion in 2024.

2020 - present

Audrey Aguero PhD student, School of Health and Rehabilitation Sciences
 Role: Committee Member

2022 - present

Meenakshi Sundaram, PhD in Rehab Sciences, School of Health and Rehabilitation Sciences
 Role: Committee Member

2019 - present

Kathleen Poploski – Postdoc, Department of Physical Therapy, SHRS.
 Research interest: Health services research in musculoskeletal disorders in the military.

2020 - present

Marit E. Johnson – Postdoc, Department of Orthopaedic Surgery, School of Medicine.
 Research interest: Development of digital health technology in rehabilitation.

2020 – present

Sara Peterson, Post-Doctoral Fellow in RST Department.
 Co-Mentor.

RESEARCH

CURRENT GRANT SUPPORT

Grant Number	Title	Role	% Effort	Years	Amount
U24AR076730	Back Pain Consortium (BACPAC) Research Program Data Integration, Algorithm Development and Operations Management Center - Biomarkers for Evaluating Spine Treatments (BEST) Trial.	Co-PI Pitt Site	20%	2021 -2024	
U19AR076725	HEALing LB3P: Profiling Biological, Biomechanical, Behavioral Phenotypes (G Sowa and N Vo, PIs)	Co-I Director of Clinical Core	25%	2019-2024	\$16,756,074 Total \$3,667,810 Clinical Core
	Treatment categorization during follow-ups of HEALing LB3P.	PI subaward	2%	2020-2023	\$180,000

R01AG041202	Chronic Low Back Pain in Older Adults: The Role of Existing Hip Impairments (G Hicks, PI)	Site PI	20%	2018-2022	\$1,134,992 Subaward
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PRIOR GRANT SUPPORT

Grant Number	Title	Role	% Effort	Years	Amount
DoD - MRMC 13232002	Effect of Three Regional Anesthetics on Rehabilitation Outcome for Veterans 1-2 Days after Knee or Hip Replacement (B Williams, PI)	Co-PI	10%	2015-2020	\$1,012,141 Subaward
Pepper Center, University of Pittsburgh Pilot Funding	Peripheral Nerve Function Changes with Exercise Intervention after Total Knee Replacement (E Strotmeyer, Co-PI)	Co-PI	5%	2015-2015	\$25,000
Epidemiology Small Grant	Neuromuscular Function Improvement with Exercise Intervention after Total Knee Replacement (E Strotmeyer, Co-PI)	Co-PI	3%	2015-2015	\$5,000
Patient-Centered Outcomes Research Institute – PCORI CER-1310-06994	A Comparison of Treatment Methods for Patients following Total Knee Replacement	PI	35%	2014-2018	\$2,003,652
Patient-Centered Outcomes Research Institute – PCORI CER-1410-25056	A Comparison of Non-Surgical Treatment Methods for Patients with Lumbar Spine Stenosis (M Schneider, PI)	Co-I	10%	2013-2016	\$1,150,000
Rehabilitation Institute, University of Pittsburgh	Dose-response of Walking Exercise on Lower Extremity Biomechanics and Inflammatory Biomarkers in Knee Osteoarthritis (S Farrokhi, PI)	Co-I	5%	2012-2013	\$50,000
Rehabilitation Institute, University of Pittsburgh	The Feasibility of a Comprehensive Behavioral Intervention for Patients with TKA	PI	10%	2011-2012	\$50,000
3K01HD058035-Administrative Supplement -01A1W1 PI	Request to buy equipment to be used during implementation of K01	PI	Subsumed in K award	2010-2011	\$50,000
1 K01 HD058035	Neuromuscular Electrical Stimulation in Individuals with Rheumatoid Arthritis	PI	75%	2009-2014	\$605,389
SHRS Research Development Fund	Validation of the Sense Wear armband and Actigraph in Patients with	PI	2%	2008	\$1,000

Rheumatoid Arthritis (RA)						
College of Rheumatology Research & Education Foundation	Neuromuscular Electrical Stimulation (NMES) to Reverse Muscle Atrophy in Patients with RA- Funds to buy electronic dynamometer	PI	Subsumed in K award	2007-2008	\$46,000	
K12 RR024154-02	Neuromuscular Electrical Stimulation (NMES) to Reverse Muscle Atrophy in Patients with RA. (W Kapoor-PI)	Scholar	75%	2006-2009	\$440,000	
Central Research Development Fund-CRDF, Office of Research, University of Pittsburgh	The Effect of a Balance Training Program on Function in Patients with Total Knee Arthroplasty – a Pilot Study	PI	5%	2006-2008	\$16,000	
UPMC Health System Competitive Medical Research Fund-CMRF, Office of Research Health Sciences, University of Pittsburgh	The Effect of a Balance Training Program on Function in Patients with Total Knee Arthroplasty – a Pilot Study	PI	5%	2006-2008	\$25,000	
R01-AR048760-02s1	Knee Stability Training in Individuals with Knee OA (K Fitzgerald, PI)	Scholar	20%	2006-2008	\$50,000	
Pepper Center, University of Pittsburgh Scholars Pilot Program	The Effect of a Balance Training Program on Function in Patients with Total Knee Arthroplasty – a Pilot Study	PI	2%	2006-2007	\$8,500	
Cardon Rehabilitation Products Grant, American Academy of Orthopaedic Manual Physical Therapy	The Effectiveness of Thoracic Spine Manipulation on Success Rate, Disability, Function and Impairments in Patients with Neck Pain	PI	5%	2003-2004	\$1,500	
Clinical Research Grant Program, Orthopaedic Section, American Physical Therapy Association	Association between Impairments and Function in Response to Physical Therapy in Individuals with Patellofemoral Pain Syndrome	PI	5%	2002-2004	\$7,500	
Pennsylvania Physical Therapy Association Research Fund	Association between Impairments and Function in Response to Physical Therapy in Individuals with Patellofemoral Pain Syndrome	PI	5%	2002-2003	\$1,000	
Small Grant Program, Sports Section, American Physical Therapy Association	The Relationship of Strength and Flexibility of Soft Tissues around the Hip to the Presence or Absence of Patellofemoral Pain Syndrome (J Childs-PI)	Co-I	5%	2002	\$1,000	

OTHER RESEARCH RELATED ACTIVITIES:***Editorial Board Member***

2007 - 2017 Editorial Review Board Member, Journal of Orthopaedic and Sports Physical Therapy

Journal Referee

2002 - present Journal of Physiotherapy Theory and Practice

2002 - present Journal of Orthopaedic and Sports Physical Therapy

2003 - present Physical Therapy Journal

2005 - present Arthritis and Rheumatism - Arthritis Care and Research

2012 to present Archives of Physical Medicine and Rehabilitation

2014 – present Journal of Rheumatology

2015 – present British Medical Journal

2016 - present Arthritis Research & Therapy

2017 – present BMC Musculoskeletal Disorders

2019 – present Osteoarthritis and Cartilage

Grant Reviewer

2003 - 2004 Grant Reviewer for the American Academy of Orthopaedic Manual Physical Therapy

2006 Reviewer for Pilot Program, Institute for Personalized Medicine in collaboration with UPMC, University of Pittsburgh

2010 - 2012 Member of External Review Grant Committee for the Orthopaedic Section APTA

2011 - 2012 Grant Reviewer of the Musculoskeletal, Oral and Skin Sciences (MOSS) Integrated Review Group Study Section-NIH

2012 - 2013 External reviewer for the Portuguese Foundation for Science and Technology (FCT)

2012 - 2014 Reviewer of Innovative Research Grant and Arthritis Foundation Investigator Award - The Arthritis Foundation

Reviewer for Department of Psychiatry - Research Review Committee

2015	
2015 - 2017	Reviewer for Patient-Centered Outcomes Research Institute (PCORI) for Cycle 3 2016 Merit Review, Assessment of Prevention, Diagnosis and Treatment Options- PCORI Funding Announcement (PFA); invited for additional 2 rounds of review, but could not serve due to COI
2016	APTA Orthopaedic Section and Foundation for Physical Therapy, Scientific Review Committee
2017	Reviewer for pilot grant submissions for the Rehabilitation Institute/Aging Institute, University of Pittsburgh
2018	Reviewer for grant applications submitted to the Institute for Personalized Medicine and University of Pittsburgh Cancer Institute
2018	Reviewer for internal grant process for Department of Occupational Therapy
2019 - present	Reviewer for internal grant process for Department of Physical Therapy
2019 - present	Reviewer for grant applications submitted to Competitive Medical Research Fund (CMRF)
Other	
2006 - 2021	Ad hoc abstract reviewer for Orthopaedic Section of American Physical Therapy Association, Combined Sections Meeting
2007 - 2010	Sentinel reader for McMaster Online Rating of Evidence, Clinical Relevance Online Rating System, McMaster University
2018 -2022	Abstract reviewer for the Annual Meeting Abstracts of American College of Rheumatology

LIST OF CURRENT RESEARCH INTERESTS

- Develop and examine the effectiveness of exercise programs for joint disorders, especially the knee joint
- Comparative effectiveness research of physical therapy approaches used for joint disorders.
- Phenotyping patient characteristics that contribute to chronic low back pain

INVITED SEMINARS AND LECTURESHIPS

Local Presentations

1. Quadriceps femoris muscle inhibition in patients with knee osteoarthritis: Preliminary results. Third Annual University of Pittsburgh Arthritis Institute Research Symposium; December 2000; Pittsburgh, PA.
2. Managing patients with cervical spine dysfunction: an introduction to a classification system. Southwest District of the Pennsylvania Physical Therapy Association: Spring Seminar; May 2000; Pittsburgh, PA.
3. Managing the push-pull of two careers: clinical scientists. 2009 Women in Medicine and Science Forum; April 2009; University of Pittsburgh, PA.

4. The efficacy of a balance exercise program in patients with total knee replacement – results of a pilot study. Claude D. Pepper Center Research Series; October 2009; Pittsburgh, PA.
5. Physical therapy management of patients following total knee replacement. Marquette Challenge CE Course; 2011; University of Pittsburgh, PA.
6. Associations between changes in physical function and physical activity in response to an exercise program in patients with rheumatoid arthritis. Celebrating Research on Aging- Building Collaborations for the Future; The Aging Institute Annual Meeting, April 2012; Pittsburgh, PA.
7. Physical Therapy at the University of Pittsburgh. Represented PT Department in SHRS Open House event. August 2012, Pittsburgh, PA.
8. The identification of candidate biomarkers to assess the efficacy of a novel rehabilitation regimen for patients following a total knee arthroplasty: a pilot study. 9th Annual Rehabilitation Institute Research Day; June 2013; Pittsburgh, PA.
9. Rehabilitation after total knee arthroplasty. Are we on the right path? VA Pittsburgh Health System; October 2014; Pittsburgh, PA.
10. Physical Therapy at the University of Pittsburgh. Represented PT Department in SHRS Open House event. July 2014, Pittsburgh, PA.
11. Bending the Rules: What's Best for Patients After Total Knee Replacement? Featured in FACETS Fall/Winter 2014.
12. Exercise and arthritis. Arthritis Foundation Event: Take a Swing at Arthritis. Wildwood Country Club; May 2016; Pittsburgh, PA.
13. So, do you want to be a PT? Presented at SHRS "So You Want to Be A" Represented PT Department and profession in SHRS Open House event. July 2017; Pittsburgh, PA.
14. Associations between the novel jump test, grip strength and physical performance: the MrOS study. Pitt Public Health Dean's Day, GSPH; April 2017; Pittsburgh, PA.
15. Sensory peripheral nerve function in total knee replacement patients. University of Pittsburgh Medical Center (UPMC) Aging Institute 11th Annual Research Day on Aging; May 2017; Pittsburgh, PA.
16. 4-drug nerve block in total knee and hip replacement: quality control and protocol development for research study. VA Pittsburgh Healthcare System; October 2018 and April 2019; Pittsburgh, PA.
17. So, do you want to be a PT? Presented at SHRS "So You Want to Be A" Represented PT Department and profession in SHRS Open House event. April 2019; Pittsburgh, PA.
18. Research Success = Patient Success. Featured in FACETS Spring/Summer 2020.
19. Happy 10th Anniversary, PT-CTRC! Celebrating the Evolution of Research and Collaboration. Feature in FACETS Spring Summer 2020.
20. Grant Budgets: Everything you wanted to know but were afraid to ask. University of Pittsburgh Pepper Center. May 2022. Pittsburgh, PA.

National/International Presentations

1. Effects of ultrasound on rat muscles after metallic implantation. IX Brazilian Congress of Physical Therapy and I Physical Therapy Congress of São Paulo; October 1989; São Paulo, Brazil.
2. Treatment of patellar pain of adolescents and young adults by global reeducation. III Brazilian Congress of Orthopedic Physical Therapy and V South American Congress of Sports Physical Therapy; June 1997; Porto Alegre, Brazil.
3. Shoulder rehabilitation - the Lyon School. Jornada de Ombro e Cotovelo do Estado do Rio Grande do Sul; August 1997; Porto Alegre, Brazil.

4. Manual therapy for shoulder and knee. I Congresso do RS e VI Jornada de Ortopedia e Traumatologia do Planalto Medio; May 1998; Passo Fundo, Brazil.
5. Reliability of measuring iliac crest height in standing and in sitting position using a new measurement device. Fourth Interdisciplinary World Congress on Low Back and Pelvic Pain; November 2001; Montreal, Canada.
6. Decreasing the amplitude of the electrical stimulus during the burst-superimposition maximum voluntary quadriceps isometric force test. Second Annual Marilyn Gossman Graduate Student Seminar, Combined Sections Meeting of the American Physical Therapy Association; February 2001; San Antonio, TX.
7. Systematic review of the quality of randomized controlled trials for Patellofemoral Pain Syndrome. Combined Sections Meeting of the American Physical Therapy Association; February 2003; Tampa, FL.
8. Responsiveness of the numeric pain rating index in patients with chronic low back pain. Combined Sections Meeting of the American Physical Therapy Association; Nashville, February 2004; Nashville, TN.
9. Research Information Exchange - Clinical Prediction Rules. Combined Section Meeting of the American Physical Therapy Association; February 2005; New Orleans, LA.
10. Association between impairments and function in individuals with patellofemoral pain syndrome. Combined Section Meeting of the American Physical Therapy Association, San Diego, February 2006; San Diego, CA.
11. Reliability of measures of impairments associated with patellofemoral pain syndrome. Combined Sections Meeting of the American Physical Therapy Association, San Diego, February 2006; San Diego, CA.
12. Research information exchange – clinical prediction rules. Combined Section Meeting of the American Physical Therapy Association. Orthopaedic Section. San Diego, February 2006; San Diego, CA.
13. Neuromuscular electrical stimulation and volitional exercise for individuals with rheumatoid arthritis. Clinical and Translational Science Institute Annual Meeting; April 2007; Washington, DC.
14. Evidence based evaluation and treatment of cervical radiculopathy in the performing artist. Combined Sections Meeting of the American Physical Therapy Association; Performing Arts SIG– Orthopaedic Section; February 2008; Nashville, TN.
15. Improvements in muscle impairments are associated with improvement in physical function in patients with total knee arthroplasty. American College of Rheumatology Annual Scientific Meeting; October 2008; San Francisco, CA.
16. Effectiveness and Feasibility of a Balance Training Program Post Total Knee Arthroplasty -Pilot Randomized Trial. Combined Sections Meeting of the American Physical Therapy Association; February 2009; Las Vegas, NV.
17. Research information exchange – case studies. Combined Sections Meeting of the American Physical Therapy Association; February 2009; Las Vegas, NV.
18. Feasibility of wearing an activity monitor to measure physical activity in patients with RA. Within Our Reach, American College of Rheumatology Research and Education Foundation; June 2009; San Diego, CA.
19. Factors associated with the tolerance of the neuromuscular electrical stimulation in patients with RA. American College of Rheumatology Annual Scientific Meeting. Philadelphia, October 2009; Philadelphia, PA.
20. The effect of an exercise program in gait asymmetry in patients after total knee arthroplasty. American College of Rheumatology Annual Scientific Meeting; October 2010; Atlanta, GA.
21. Use of portable devices to assess physical activity in patients with total knee arthroplasty. American College of Rheumatology Annual Scientific Meeting; October 2010; Atlanta, GA.
22. Muscle area and muscle quality relate to physical activity in subjects with rheumatoid arthritis. American College of Rheumatology Annual Scientific Meeting; October 2010; Atlanta, GA.

23. Physical therapy management in patients following total knee replacement. Congresso Fisioterapico Santa Casa de Misericordia; June 2011; São Paulo, Brazil
24. New approaches of physical therapy management in knee osteoarthritis. Congresso Fisioterapico Santa Casa de Misericordia; June 2011; São Paulo, Brazil
25. Muscle quality contributes more to postural balance than muscle atrophy in people with rheumatoid arthritis. American College of Rheumatology Annual Scientific Meeting. November 2011; Chicago, IL.
26. Associations between changes in Physical Function and Physical Activity in Response to an Exercise Program in Patients with Rheumatoid Arthritis. American College of Rheumatology Annual Scientific Meeting. November 2011; Chicago, IL.
27. Physical therapy management in patients following total knee replacement. III Congresso Sulbrasileiro de Fisioterapia Traumato-Ortopédica; September 2011; Passo Fundo, Brazil.
28. Treatment based classification for patients with low back pain. III Congresso Sulbrasileiro de Fisioterapia Traumato-Ortopédica; September 2011; Passo Fundo, Brazil.
29. Workshop – when to use manipulation for patients with low back pain. III Congresso Sulbrasileiro de Fisioterapia Traumato-Ortopédica; September 2011; Passo Fundo, Brazil.
30. Participant of round table on treatment of patients with spine disorders. III Congresso Sulbrasileiro de Fisioterapia Traumato-Ortopédica; September 2011; Passo Fundo, Brazil.
31. Participant of round table on lower extremities dysfunctions. III Congresso Sulbrasileiro de Fisioterapia Traumato-Ortopédica; September 2011; Passo Fundo, Brazil.
32. Muscle quality contributes to postural balance in rheumatoid arthritis. Combined Sections Meeting of American Association of Physical Therapy; January 2013; San Diego, CA.
33. Associations between changes in physical function and physical activity in response to an exercise program in patients with rheumatoid arthritis. American College of Rheumatology Annual Meeting; October 2013; San Diego, CA.
34. Comprehensive behavioral intervention compared to standard of care program after total knee arthroplasty: a pilot randomized trial. American College of Rheumatology Annual Meeting, October 2013; San Diego, CA.
35. Best practices of rehabilitation following total knee arthroplasty. American College of Rheumatology Annual Meeting; October 2014; Boston, MA.
36. Reliability of physical activity measures during free-living in individuals with knee osteoarthritis. Combined Sections Meeting of American Association of Physical Therapy; February 2015; Indianapolis, IN.
37. Physical activity in adults with arthritis and its contribution to health outcomes. Combined Sections Meeting of American Association of Physical Therapy; February 2015; Indianapolis, IN.
38. Investigation of parameters used to test quadriceps muscle power using isokinetic dynamometer in arthritis. Combined Sections Meeting of American Association of Physical Therapy; February 2015; Indianapolis, IN.
39. Are general and central adiposity associated with MRI-assessed structural changes in the knees of older adults? ARHP III: Epidemiology and Public Health III. American College of Rheumatology Annual Meeting; November 2015; San Francisco, CA.
40. Physical activity in osteoarthritis presented at the International Convention on Science, Education and Medicine in Sport (ICSEMIS); September 2016; Santos, Brazil.
41. Doctor in physical therapy at University of Pittsburgh – model of clinical education, Universidade Federal de São Paulo, Campus Baixada Santista; September 2016; Santos, Brazil.

42. Get in the game with PCORI: a successful research group's experience. Combined Sections Meeting of American Association of Physical Therapy; February 2016; Anaheim, CA.
 43. The effect of prolonged walking exercise on knee joint contact force in patients with knee osteoarthritis. Gait and Clinical Movement Analysis Society Conference; May 2016; Memphis, TN.
 44. Randomized trial on exercise at late stages after total knee replacement. ACR/ARHP Annual Meeting; October 2018; Chicago, IL.
 45. Dose-response of neuromuscular electrical stimulation on muscle function in patients with rheumatoid arthritis. Combined Sections Meeting of American Physical Therapy Association; February 2018; New Orleans, LA.
 46. Effect of changes in physical activity on cartilage degradation in knee osteoarthritis. Combined Sections Meeting of American Physical Therapy Association; January 2019; Washington, DC.
 47. Cristiane Carlesso, Sara Piva, Michael Schneider, Carlo Ammendolia, Clair Smith. Responsiveness of Outcome Measures in Non-Surgical Patients with Lumbar Spinal Stenosis. APTA Combined Sections Meeting. Feb 2022.
 48. Bove A, McDonough C, Piva SR, Patterson CG. Inclusive Recruitment Strategies in Clinical Trials: Insights from Rehabilitation Research. Society for Clinical Trials, Annual Conference, San Diego, California, May 16-18, 2022.
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SERVICE

University and School

2005 - present	PT Department - Member of DPT Admissions Committee.
2006 - present	SHRS - Member of Graduate Faculty Committee, Evidence Based Practice/Clinical Epidemiology - Method of Inquiry Core. Review admission of PhD students, contribute to assessment and revision or program, represent Associate Dean of Graduate studies in Comp Exams.
2007 - 2021	PT Department - Member of the IRB-Scientific Review Committee.
2007 - 2010	University - Member of Pepper Junior Scholar's Working Group, Claude D. Pepper Older Americans Independence Center.
2009 - present	Member of several Faculty Search Committees for the PT Department and SHRS.
2010 - 2020	Co-Director of Physical Therapy- Clinical and Translational Research Center (PT-CTRC).
2021 - present	Director of the PT-CTRC. Develop and implement new cost model and finance system; evaluate customer needs to best utilize available resources; coordinate staff effort distribution; manage hiring; oversee equipment purchasing and maintenance; supervise research and administrative staff; and reconfigure space to increase efficiency while meeting COVID-19 distancing requirements. Develop and administer COVID-19 mitigation plan, training, and staff workplace return.
2012 - 2014	PT Department - Co-Chair of Website Committee.
2012 - present	PT Department - Member of Space Committee.

2013 - 2015	PT Department - Volunteer Faculty Advisor of DPT students at Student Health Services Clinic - pro bono physical therapy 4-6 times per year
2015	PT Department – Successfully nominated faculty member to receive SHRS Distinguished Teaching award.
2016 - present	SHRS – Chair of ad hoc Promotion Review Committees and Member of Promotion Review Committee – 2 per year in average. .
2018	SHRS - Representative for National Research Mentoring Network to disseminate training across school.
2018	PT Department - Spearheaded Development of Research Website.
2018 - 2019	University – Mentor for the Institutional Mentoring Program Across a Community of Color (IMPACT). Coordinated monthly meetings and activities with mentees across several Schools.
2019	Member of Junior Faculty Orientation Committee – develop Graduate Faculty Applicant Orientation Manual: Working Toward Graduate Faculty Status.
2019	University - Moderator of “Panel on Faculty Success,” sponsored by the Office of the Provost.
2019	University – Coordinate Departmental Research Training Program for High School Students. Program supported by Neighborhood Learning Alliance and Three Rivers Workforce to provide minority students from Pittsburgh Public Schools summer internship experience.
2019 - present	Department - Vice-Chair for Research in the PT Department. Provide executive management of research activities; ensure research compliance; liaise with the university, school, and other administrative leaders, in support of research; foster research quality and productivity; and oversee the financing of research.
2020	SHRS – Member of COVID-19 Research Restart Task Force.
2022	Data Steward for two research projects of Drs. Whitney and Klatt.

National

2010	Nominated by American Physical Therapy Association to review “Knee disorders” In: Hegmann KT, edit. <i>Occupational medicine practice guidelines</i> . Evaluation and management of common health problems and functional recovery in workers. 3rd ed. Elk Grove Village (IL): American College of Occupational and Environmental Medicine (ACOEM).
2011 - 2012	Member of Total Knee Quality Measure Work Group- Physician Consortium for Performance Improvement and American Association of Hip and Knee Surgeons. Nominated by American Association of Physical Therapy.
2011 - 2012	Member Award Committee- Section on Research- American Physical Therapy Association

2013 - 2014	Chair Award Committee- Section on Research, American Physical Therapy Association.
2013 - 2014	Member of Total Knee Quality Measure Work Group- Physician Consortium for Performance Improvement and American Association of Hip and Knee Surgeons. Nominated by American Association of Physical Therapy.
2013 - 2015	Moderator of Research Sections, American College of Rheumatology Annual Meetings.
2013 - 2015	Member of Surgical Management of Osteoarthritis of the Knee (SMOAK) Clinical Practice Guideline (CPG) Work Group. Nominated by American Association of Physical Therapy.
2016 - present	External Reviewer for promotion to Associate Professor and Professor, 1-2 a year.
2017 - 2021	Member of working group for development of clinical performance measures for Surgical Management of Osteoarthritis of the Knee (SMOAK), American Physical Therapy Association.
2017 - 2021	Member of the American College of Rheumatology (ACR) Practice Guidelines Subcommittee; developed rheumatology guidelines for rheumatoid arthritis, osteoarthritis, glucocorticoid-induced osteoporosis, gout, lupus nephritis, extrarenal lupus, vasculitis, psoriatic arthritis, axial spondyloarthritis, perioperative management, and reproductive health.
2018 - 2021	Nominated by the APTA to serve on technical expert panel, "Patient-reported outcomes following elective total hip and/or total knee arthroplasty: hospital-level performance measure." The Centers for Medicare & Medicaid Services (CMS) and Yale New Haven Health Services Corporation – Center for Outcomes Research and Evaluation (YNHHSC/CORE).
2019 – 2021	Member of ACAPT Postdoctoral Research Fellowship for DPTs Task Force; investigating alternative and successful models of research training.
2021 – 2022	Member Minimal Dataset – BACPAC consortium
2021 – present	Member of the Clinical Management Committee. BACPAC Consortium and HEAL initiative with NIAMS/NIH.
2022	Member of Protocol Review Committee and DSMB for NCCIH/NIH.
