

Michael J. Schneider, PhD, DC

CURRICULUM VITAE

BIOGRAPHICAL

Name: Michael J. Schneider, PhD, DC

Birth Place: Jersey City, NJ

Citizenship: U.S.A.

Business Address:

University of Pittsburgh, Department of Physical Therapy
Bridgeside Point 1, 100 Technology Drive, Suite 500
Pittsburgh, PA 15219-3130

EDUCATION AND TRAINING

UNDERGRADUATE

<u>Dates attended</u>	<u>Institution</u>	<u>Degree Received</u>	<u>Major Subject</u>
1975 – 1978	State University of New York Binghamton, NY	n/a	Biology

GRADUATE

<u>Dates attended</u>	<u>Institution</u>	<u>Degree Received</u>	<u>Major Subject</u>
1979 – 1982	Palmer College of Chiropractic Davenport, IA	Doctor of Chiropractic (DC)	Chiropractic
2002 – 2008	University of Pittsburgh Pittsburgh, PA	Doctor of Philosophy (PhD)	Rehabilitation Science

POST GRADUATE

<u>Dates attended</u>	<u>Institution</u>	<u>Degree Received</u>	<u>Major Subject</u>
2008 – 2009	University of Pittsburgh Pittsburgh, PA	Post Graduate Certificate	Clinical Research

APPOINTMENTS AND POSITIONS

ACADEMIC

<u>Years Inclusive</u>	<u>Institution</u>	<u>Rank/Title</u>
2008 - 2010	Department of Physical Therapy University of Pittsburgh, Pittsburgh, PA	Visiting Assistant Professor
2010 - 2014	Department of Physical Therapy University of Pittsburgh, Pittsburgh, PA	Assistant Professor
2014 - 2020	Department of Physical Therapy (Primary appointment) Clinical and Translational Science Institute (Secondary appointment) University of Pittsburgh, Pittsburgh, PA	Associate Professor
2020 - present	Department of Physical Therapy (Primary appointment) Clinical and Translational Science Institute (Secondary appointment) University of Pittsburgh, Pittsburgh, PA	Professor

NON-ACADEMIC

<u>Years Inclusive</u>	<u>Institution</u>	<u>Rank/Title</u>
1982 - 1990	Private practice of chiropractic Back Care Center Dumont, NJ 07628	Doctor of Chiropractic
1991 - 2009	Private practice of chiropractic Spine and Pain Care Center Pittsburgh, PA 15241	Doctor of Chiropractic
2009 - 2014	Private practice of chiropractic UPMC Center for Integrative Medicine Pittsburgh, PA 15232	Doctor of Chiropractic

CERTIFICATION AND LICENSURE

SPECIALTY CERTIFICATION

n/a

PROFESSIONAL LICENSURE

Licensing Board

Pennsylvania Board of Chiropractic Examiners
License #DC004201L

Year

1989 - present

MEMBERSHIPS IN PROFESSIONAL AND SCIENTIFIC SOCIETIES

<u>Organization</u>	<u>Year</u>
Member of American Chiropractic Association (ACA)	1980 - present
Member of Pennsylvania Chiropractic Association (PCA)	1990 - present
Member of American Public Health Association (APHA)	2006 - present
Member of North American Spine Society (NASS)	2011 - present
Member of International Society for the Study of the Lumbar Spine (ISSLS)	2016 - present
Member, World Federation of Chiropractic (WFC) Research Committee	2021 – present
Member, NIH Back Pain Consortium (BACPAC) Executive Committee	2021 - present

HONORS

2009	1 st Prize original research: “Mechanical vs. Manual Manipulation for Low Back Pain”. Association of Chiropractic Colleges - Research Agenda for Chiropractic Annual Conference
2011	2 nd Prize poster: “Complementary and Alternative Medicine for the Treatment of Pain in Fibromyalgia: A Systematic Review”. World Federation of Chiropractic 11 th Biennial Congress
2013	Researcher of the Year Award - American Chiropractic Association
2014	1 st Prize poster: “Mechanobiology of Complex Loading in Functional Spinal Units: Flexion/Extension with Combined Torsion”. Annual Meeting of International Society for the Study of the Lumbar Spine
2015	Jerome F. McAndrews Memorial Research Fund Award
2016	1 st Prize for Best Clinical Lumbar Spine Research. “Consensus on the Clinical Diagnosis of Lumbar Spinal Stenosis: Results of an International Delphi Study”. International Society for the Study of the Lumbar Spine.
2016	Presidential Award from American Chiropractic Association
2016	Distinguished Service Award from American Public Health Association, Chiropractic Health Care Section
2016	1 st Prize poster: “New, Brief Questionnaires that Assess Nonspecific Factors and Pain Outcomes”. World Federation of Chiropractic and Research Agenda for Chiropractic Conference
2017	1 st Prize poster for North America: “Non-surgical Treatments for Lumbar Spinal Stenosis: Results from a Randomized Controlled Trial”. World Federation of Chiropractic-Research Agenda for Chiropractic Conference
2022	Sheikh Zayed International Award for Traditional, Complementary and Alternative Medicine, United Arab Emirates

PUBLICATIONS

PEER REVIEWED ARTICLES

1. Farrokhi S, Bechard L, Gorczynski S, Patterson C, Kakyomya J, Hendershot BD, Condon C, Perkins L, Rhon D, Delitto A, **Schneider M**, Dearth C. The Influence of Active, Passive, and Manual Therapy Interventions for Low Back Pain on Opioid Prescription and Health Care Utilization. *Phys Ther*. 2023.
2. Gliedt JA, Anderson BR, Reynolds M, Moonaz S, Long CR, Russell R, **Schneider MJ**. The prevalence of substance use disorders in chiropractic patients in the United States: a descriptive study of two national datasets. *Journal of Substance Use*. Dec 2023:1-5.
3. Cupler ZA, Gliedt JA, Perle SM, Puhl AA, **Schneider MJ**. Associations between demographics and clinical ideology, beliefs, and practice patterns: a secondary analysis of a survey of randomly sampled United States chiropractors. *BMC Complementary Medicine and Therapies*. 2023;23(1):404.
4. Gliedt JA, Reynolds M, Moonaz S, Long CR, Russell R, **Schneider MJ**. Identifying and addressing patient substance use: a survey of chiropractic clinicians. *Chiropr Man Therap*. 2023. July 3;31(1):18. doi: 10.1186/s12998-023-00490-4. PMID: PMC10316550.
5. Bise CG, **Schneider M**, Freburger J, Fitzgerald GK, Switzer G, Smyda G, Peele P, Delitto A. First Provider Seen for an Acute Episode of Low Back Pain Influences Subsequent Health Care Utilization. *Phys Ther*. 2023 Jun 28:pzad067. doi: 10.1093/ptj/pzad067. Epub ahead of print. PMID: 37379349.
6. Gliedt JA, Spector AL, **Schneider MJ**, Williams J, Young S. A Description of Theoretical Models for Health Service Utilization: A Scoping Review of the Literature. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*. 2023; 60.
7. Bronfort G, Delitto A, **Schneider M**, Heagerty P, Chou R, Connett J, Evans R, George S, Glick R, Greco C, Hanson L, Keefe F, Leininger B, Licciardone J, McFarland C, Meier E, Schulz C, Turk D. Effectiveness of Spinal Manipulation and Biopsychosocial Self-Management compared to Medical Care for Low Back Pain: A Randomized Trial Study Protocol. *BMC Musculoskeletal Disorders*. 2023. PMID: PMC10187435
8. Eubanks JE, Carlesso C, Sundaram M, Bejarano G, Smeets R, Skolasky R, Vanushkina M, Turner R, **Schneider MJ**. Prehabilitation for Spine Surgery: A Scoping Review. *PM&R*. 2023; 1-16. PMID: 36730164
9. Gliedt JA, Spector AL, **Schneider MJ**, Williams J, Young S. Disparities in chiropractic utilization by race, ethnicity and socioeconomic status: A scoping review of the literature. *Journal of Integrative Medicine*. 2023. PMID: 36841750

10. Vo N, Piva S, Patterson C, McKernan G, Zhou L, Bell K, Anderst, Greco C, **Schneider M**, et al. Toward the Identification of Distinct Phenotypes: Research Protocol for the Low Back Pain Biological, Biomechanical, and Behavioral (LB³P) Cohort Study and the BACPAC Mechanistic Research Center at the University of Pittsburgh. *Pain Medicine*. 2023. PMID: 36715642
11. Greco CM, Wasan AD, **Schneider MJ**, Mehling W, Williams DA, Darwin J, et al. Biobehavioral Assessments in BACPAC: Recommendations, Rationale, and Methods. *Pain Medicine*. 2023. PMID: 36370080
12. Oyekan AA, Eagle SR, Trbovich AM, Shaw JD, **Schneider M**, Collins MW, Lee JY, Kontos AP. Neck Symptoms and Associated Clinical Outcomes in Patients following Concussion. *J Head Trauma Rehabil*. 2023. PMID: 36854136
13. Bise CG, Cupler Z, Mathers S, Turner R, Sundaram M, Catelani MB, Dahler S, Popchak A, **Schneider M**. Face-to-face telehealth interventions in the treatment of low back pain: A systematic review. *Complement Ther Clin Pract*. Volume 50, February 2023; 101671. PMID: 36854136
14. Tonelli Enrico V, **Schneider M**, Haas M, Vo N, Huang W, McFarland C, et al. The association of biomarkers with pain and function in acute and subacute low back pain: a secondary analysis of an RCT. *BMC Musculoskelet Disord*. 2022;23(1):1059. PMID: 36854136
15. Mauck MC, Aylward AF, Barton CE, Birkhead B, Carey T, Dalton DM, **Schneider MJ**, et al. Evidence-based interventions to treat chronic low back pain: treatment selection for a personalized medicine approach. *Pain Reports*. 2022;7(5):e1019 PMID: 36854136
16. Comer C, Ammendolia C, Battié MC, Bussières A, Fairbank J, Haig A, Melloh M, Redmond A, **Schneider MJ**, Standaert CJ, Tomkins-Lane C, Williamson E, Wong AY. Consensus on a standardised treatment pathway algorithm for lumbar spinal stenosis: an international Delphi study. *BMC Musculoskelet Disord*. 2022; 23(1):550. PMID: 35676677
17. Murphy DR, Justice B, Bise CG, Timko M, Stevans JM, **Schneider MJ**. The primary spine practitioner as a new role in healthcare systems in North America. *Chiropr Man Therap*. 2022; 30(1):6. PMID: 35139859
18. Ammendolia C, Hofkirchner C, Plener J, Bussières A, **Schneider MJ**, Young JJ, et al. Non-operative treatment for lumbar spinal stenosis with neurogenic claudication: an updated systematic review. *BMJ Open*. 2022; 12(1):e057724. PMID: 35046008
[Designated as an International Best Paper for the NASS Annual research conference, Oct 2022]
19. Eilayyan O, Thomas A, Hallé MC, Tibbles AC, Jacobs C, Ahmed S, **Schneider MJ**, et al. Promoting the use of a self-management strategy among novice chiropractors treating individuals with spine pain: A mixed methods pilot clustered-clinical trial. *PLoS One*. 2022; 17(1):e0262825. PMID: 35061845

20. George SZ, Fritz JM, Silfies SP, **Schneider MJ**, Beneciuk JM, Lentz TA, et al. Interventions for the Management of Acute and Chronic Low Back Pain: Revision 2021. *J Orthop Sports Phys Ther.* 2021; 51(11):CPG1-CPG60. PMID: 34719942
21. Plachinski SJ, Gliedt JA, Sacho R, **Schneider MJ**, King JA. Spinal manipulative therapy and cervical artery dissection: A retrospective comparison with spontaneous, traumatic, and iatrogenic etiologies at a single academic medical center. *Clin Neurol Neurosurg.* Sept 2021; 209(106941). PMID: 34547642
22. Carlesso C, Piva S, Smith C, Ammendolia C, **Schneider MJ**. Responsiveness of Outcome Measures in Nonsurgical Patients with Lumbar Spinal Stenosis: A Secondary Analysis from a Randomized Controlled Trial. *Spine.* 2021; 46(12):788-795. PMID: 33650839
23. Gliedt JA, Perle SM, Puhl AA, Daehler S, **Schneider MJ**, Stevans J. Evaluation of United States chiropractic professional subgroups: a survey of randomly sampled chiropractors. *BMC Health Serv Res.* 2021; 21(1):1049. PMID: 34610831
24. Hariharan KV, Timko M, Bise C, Sundaram M, **Schneider MJ**. Inter-examiner reliability study of physical examination procedures to assess the cervical spine. *Chiropr Man Ther.* June 2021. 29(1):20. PMCID: PMC8201716
25. Bussi eres A, Cancelliere C, Ammendolia C, Comer CM, Zoubi FA, Ch atillon CE, ...**Schneider MJ** et al. Non-Surgical Interventions for Lumbar Spinal Stenosis Leading to Neurogenic Claudication: A Clinical practice guideline. *J Pain.* Sept 2021. 22(9):1015-1039. PMID: 33857615
26. Delitto A, Patterson CG, Stevans JM, Freburger JK, Khoja SS, **Schneider MJ**, et al. Stratified care to prevent chronic low back pain in high-risk patients: The TARGET trial. A multi-site pragmatic cluster randomized trial. *EClinicalMedicine.* 2021; 34:100795. PMCID: PMC8040279
27. Stevans JM, Delitto A, Khoja SS, Patterson CG, Smith CN, **Schneider MJ**, et al. Risk Factors Associated with Transition from Acute to Chronic Low Back Pain in US Patients Seeking Primary Care. *JAMA Network Open.* 2021; 4(2):e2037371. PMCID: PMC7887659
28. Haldeman S, Nordin M, Tavares P, Mullerpatan R, Kopansky-Giles D, Setlhare V, **Schneider M**, et al. Distance Management of Spinal Disorders During the COVID-19 Pandemic and Beyond: Evidence-Based Patient and Clinician Guides from the Global Spine Care Initiative. *JMIR Public Health Surveill.* 2021; 7(2):e25484. PMCID: PMC7891494
29. Farrokhi S, Russell Esposito E, McPherson D, Mazzone B, Condon R, Patterson CG, **Schneider M**, et al. Resolving the Burden of Low Back Pain in Military Service Members and Veterans (RESOLVE): Protocol for a Multisite Pragmatic Clinical Trial. *Pain Med.* 2020; 21(Supplement_2): S45-S52. PMID: 33313735

30. Cupler ZA, Alrwaily M, Polakowski E, Mathers KS, **Schneider MJ**. Taping for conditions of the musculoskeletal system: an evidence map review. *Chiropr Man Ther*. 2020;28(1):52. PMID: PMC7491123
31. Côté P, Bussi eres A, Cassidy JD, Hartvigsen J, Kawchuk GN, Leboeuf-Yde C, Mior S, **Schneider M**. More published full-time researchers, early career researchers, clinician-researchers and graduate students unite to call for actions against the pseudoscientific claim that chiropractic care boosts immunity. *Chiropr Man Ther*. July 2020; 28(1):48. PMID: 32690049
32. Hariharan KV, Terhorst L, Maxwell MD, Bise CG, Timko MG, **Schneider MJ**. Inter-examiner reliability of radiographic measurements from open-mouth lateral bending cervical radiographs. *Chiropr Man Ther*. May 2020; 28(1):32. PMID: 32450918
33. Côté P, Bussi eres A, Cassidy JD, Hartvigsen J, Kawchuk GN, Leboeuf-Yde C, Mior S, **Schneider M**. A united statement of the global chiropractic research community against the pseudoscientific claim that chiropractic care boosts immunity. *Chiropr Man Ther*. Apr 2020; 28(1):21. PMID: 32366319
34. McCarthy AE, Bove AM, Piva S, 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*. Apr 2020; 50(4):198-204. PMID: 31663813
35. Tisherman R, Hartman R, Hariharan K, Vaudreuil N, Sowa G, **Schneider M**, Timko M, Bell K. Biomechanical Contribution of the Alar Ligaments to Upper Cervical Stability. *J Biomech*. Jan 2020; 99:109508. PMID: 31813563
36. Eilayyan O, Thomas A, Hall e MC, Ahmed S, Tibbles AC, Jacobs C, Mior S, Davis C, Evans R, **Schneider MJ**, Owens H, Zoubi FA, Barnsley J, Long CR, Bussi eres A. Promoting the use of self-management in patients with spine pain managed by chiropractors and chiropractic interns: barriers and design of a theory-based knowledge translation intervention. *Chiropr Man Therap*. Oct 2019; 27:44. PMID: 31636895
37. Ammendolia C, Côt e P, Rampersaud YR, Southerst D, **Schneider M**, Ahmed A, Bombardier C, Hawker G, Budgell B. Effect of active TENS versus de-tuned TENS on walking capacity in patients with lumbar spinal stenosis: a randomized controlled trial. *Chiropr Man Therap*. Jun 2019; 27:24. PMID: PMC6582553
38. Delitto A, Patterson C, Stevans J, Brennan G, Wegener S...**Schneider MJ**...Saper R. Study protocol for targeted interventions to prevent chronic low back pain in high-risk patients: A multi-site pragmatic cluster randomized controlled trial (TARGET Trial). *Contemp Clin Trials*. Jul 2019; 82:66-76. PMID: 31136834
39. Beneciuk JM, George SZ, Greco CM, **Schneider MJ**, Wegener ST, Saper RB, Delitto A. Targeted interventions to prevent transitioning from acute to chronic low back pain in high-risk patients: development and delivery of a pragmatic training course of psychologically informed physical therapy for the TARGET trial. *Trials*. May 2019; 20(1):256. PMID: PMC6501335
40. 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 After Total Knee Replacement: A Randomized Clinical Trial. *JAMA Netw Open*. Feb 2019; 2(2):e190018. PMID: PMC6484600

41. Ammendolia C, Rampersaud YR, Southerst D, Ahmed A, **Schneider M**, Hawker G, Bombardier C, Côté P. Effect of prototype lumbar spinal stenosis belt versus a lumbar support on walking capacity in lumbar spinal stenosis: a randomized controlled trial. *Spine J*. Mar 2019; 19(3):386-94. PMID: 30053521
42. **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. *JAMA Netw Open*. Jan 2019; 2(1):e186828. PMID: PMC6324321
43. Alrwaily M, **Schneider M**, Sowa G, Timko M, Whitney S, Delitto A. Stabilization exercises combined with neuromuscular electrical stimulation for patients with chronic low back pain: a randomized controlled trial. *Brazilian J Phys Ther*. Oct 2018; pii: S1413-3555(18)30439-8. PMID: 30482602
44. Anderst WJ, Gale T, LeVasseur C, Raj S, Gongaware K, **Schneider M**. Intervertebral kinematics of the cervical spine before, during, and after high-velocity low-amplitude manipulation. *Spine J*. Dec 2018; 18(12):2333-2342. PMID: 30142458
45. Alrwaily M, Almutiri M, **Schneider M**. Assessment of variability in traction interventions for patients with low back pain: a systematic review. *Chiropr Man Therap*. Sep 2018; 26:35. PMID: PMC6139896
46. Eilayyan O, Thomas A, Hallé M-C, Ahmed S, Tibbles AC, Jacobs C, Mior S, Davis C, Evans R, **Schneider M**, Alzoubi, Barnsley J, Long C, Bussieres A. Promoting the use of self-management in novice chiropractors treating individuals with spine pain: the design of a theory-based knowledge translation intervention. *BMC Musculoskelet Disord*. Sep 2018; 19(1):328. PMID: PMC6134709
47. Ammendolia C, Cote P, Southerst D, **Schneider M**, Budgell B, Bombardier C, et al. Comprehensive non-surgical treatment versus self-directed care to improve walking ability in lumbar spinal stenosis: A randomized trial. *Arch Phys Med Rehabil*. 2018; 99(12): 2408-2419. PMID: 30053521
48. Joyce C, **Schneider M**, Stevans JM, Beneciuk JM. Improving Physical Therapy Pain Care, Quality, and Cost through Effectiveness-Implementation Research. *Phys Ther*. May 2018; 98(5):447-56. PMID: 29669090
49. Murphy DR, **Schneider MJ**, Bise CG, Justice B. Noninvasive Treatments for Acute, Subacute, and Chronic Low Back Pain. *Ann Intern Med*. Dec 2017;167(11):833-4. PMID: 29204612
50. Lynch AD, Bove AM, Ammendolia C, **Schneider M**. Individuals with lumbar spinal stenosis seek education and care focused on self-management - results of focus groups among participants enrolled in a randomized controlled trial. *Spine J*. Aug 2018; 18(8):1303-1312. PMID: 29246847
51. Farrokhi S, Mazzone B, **Schneider M**, Gombatto S, Mayer J, Highsmith MJ, Hendershot BD. Biopsychosocial risk factors associated with chronic low back pain after lower limb amputation. *Medical Hypotheses*. Oct 2017; 108:1-9. PMID: 29055379
52. Bove AM, Lynch AD, Ammendolia C, **Schneider M**. The patient's experience with non-surgical treatment for lumbar spinal stenosis: a qualitative study. *Spine J*. Apr 2018; 18(4):639-647. PMID: 28870836

53. Alrwaily M, Timko M, **Schneider M**, Kawchuk G, Bise C, Hariharan K, Stevans J, Delitto A. The Treatment-Based Classification System for Low Back Pain: the movement control approach. *Phys Ther.* Dec 2017; 97(12):1147-1157. PMID: 30010971
54. 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.* June 2017;97(6):615-624. PMID: 29073739
55. Gliedt JA, **Schneider MJ**, Evans MW, King J, Eubanks JE Jr. The biopsychosocial model and chiropractic: a commentary with recommendations for the chiropractic profession. *Chiropr Man Therap.* Jun 2017. 25:16. PMID: 28593041
56. Hawk C, **Schneider MJ**, Haas M, Katz P, Dougherty P, Gleberzon B, Killinger LZ, Weeks J. Best Practices for Chiropractic Care for Older Adults: A Systematic Review and Consensus Update. *J Manipulative Physiol Ther.* May 2017; 40(4):217-229. PMID: 28302309
57. Ammendolia C, **Schneider M**, Williams K, Zickmund S, Hamm M, Stuber K, Tomkins-Lane C, Rampersaud YR. The physical and psychological impact of neurogenic claudication: the patients' perspectives. *J Can Chiropr Assoc.* Mar 2017; 61(1):18-31. PMID: 28413220
58. **Schneider M**, Murphy D, Hartvigsen J. Spine Care as a Framework for the Chiropractic Identity. *J Chiropractic Humanities.* 2016; 23(1):14-21. PMCID: PMC5127908
59. Murphy DR, **Schneider MJ**, Perle SM, Bise CG, Timko M, Haas M. Does case misclassification threaten the validity of studies investigating the relationship between neck manipulation and vertebral artery dissection stroke? *Chiropr Man Therap.* Nov 2016; 24:43. PMID: 27826415
60. **Schneider M**, Evans R, Haas M, Leach M, Delagran L, Hawk C, et al. The effectiveness and feasibility of an online educational program for improving evidence-based practice literacy: an exploratory randomized study of US chiropractors. *Chiropr Man Therap.* Aug 2016; 24:27. PMID: 27486510
61. Hurwitz EL, Vassilaki M, Li D, **Schneider MJ**, Stevans J, Phillips R, Phelan S, Lewis E, Armstrong R. Variations in Patterns of Utilization and Charges for the Care of Headache in North Carolina, 2000-2009: A Statewide Claims' Data Analysis. *J Manipulative Physiol Ther.* May 2016; 39(4): 229-39. PMID: 27166404
62. Hurwitz EL, Li D, Guillen J, **Schneider MJ**, Stevans J, Phillips R, Phelan S, Lewis E, Armstrong R, Vassilaki M. Variations in Patterns of Utilization and Charges for the Care of Neck Pain in North Carolina, 2000 to 2009: A Statewide Claims' Data Analysis. *J Manipulative Physiol Ther.* May 2016; 39(4): 240-51. PMID: 27166405
63. Hurwitz EL, Li D, Guillen J, **Schneider MJ**, Stevans J, Phillips R, Phelan S, Lewis E, Armstrong R, Vassilaki M. Variations in Patterns of Utilization and Charges for the Care of Low Back Pain in North Carolina, 2000 to 2009: A Statewide Claims' Data Analysis. *J Manipulative Physiol Ther.* May 2016; 39(4): 252-62. PMID: 27166406
64. Hawk C, **Schneider MJ**, Vallone S, Hewitt EG. Best Practices for Chiropractic Care of Children: A Consensus Update. *J Manipulative Physiol Ther.* Mar-Apr 2016; 39(3):158-68. PMID: 27040034
65. **Schneider MJ**, Terhorst L, Murphy D, Stevans JM, Hoffman R, Cambron JA. Exploratory Analysis of Clinical Predictors of Outcomes of Nonsurgical Treatment in Patients with Lumbar Spinal Stenosis. *J Manipulative Physiol Ther.* 2016; 39(2): 88-94. PMID: 26907616

66. Terhorst L, Leach M, Bussi eres A, Evans R, **Schneider MJ**. Evaluating the Psychometric Properties of the Evidence-Based Practice Attitude and Utilization Survey. *J Altern Complement Med*. Mar 2016; 22(4):328-35. doi: 10.1089/acm.2015.0221. PMID: 26982906
67. Tomkins-Lane C, Melloh M, Lurie J, Smuck M, Freeman B, Samartzis D, Hu R, Barz T, Stuber K, **Schneider M**, Haig A, Schizas C, Cheung J, Mannion AF, Staub L, Comer C, Macedo L, Ahn SH, Takahashi K, Sandella D. Consensus on the Clinical Diagnosis of Lumbar Spinal Stenosis: Results of an International Delphi Study. *Spine*. Aug 2016; 41(15): 1239-46. PMID: 26839989
68. Alrwaily M, Timko M, **Schneider M**, Stevans J, Bise C, Hariharan K, Delitto A. The Treatment-Based Classification System for Low Back Pain: Revision and Update. *Phys Ther*. Jul 2016; 96(7):1057-66. PMID: 26637653
69. Greco CM, Yu L, Johnston K, Dodds N, Morone N, Glick R, **Schneider MJ**, et al. Measuring nonspecific factors in treatment: item banks that assess the healthcare experience and attitudes from the patient's perspective. *Qual Life Res*. 2016; 25(7):1625-34. PMID: 26563249
70. Futch D, **Schneider MJ**, Murphy D, Grayev A. Vertebral artery dissection in evolution found during chiropractic examination. *BMJ Case Rep*. 2015 Nov 12, 2015. pii: bcr2015212568. PMID: 26564115
71. Piva SR, Moore C, **Schneider M**, Gil A, Almeida G, Irrgang J. A randomized trial to compare exercise treatment methods for patients after total knee replacement: protocol paper. *BMC Musculoskelet Disord*. 2015; 16:303 doi:10.1186/s12891-015-0761-5 PMID: 26474988
72. Bussieres AE, Terhorst L, Leach M, Stuber K, Evans R, **Schneider MJ**. Self-reported attitudes, skills and use of evidence-based practice among Canadian doctors of chiropractic: a national survey. *J Can Chiropr Assoc*. 2015; 59(4):332-48. PMID: 26826412
73. **Schneider MJ**, Evans R, Haas M, Leach M, Hawk C, Long C, et al. US chiropractors' attitudes, skills and use of evidence-based practice: A cross-sectional national survey. *Chiropr Man Therap*. May 2015; 23:16. PMID: PMC4422535
74. **Schneider M**, Haas M, Glick R, Stevans J, Landsittel D. Comparison of spinal manipulation methods and usual medical care for acute and subacute low back pain: a randomized clinical trial. *Spine*. Feb 2015; 40(4):209-17. PMID: PMC4326596
75. **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*. May 2014; 22:19. PMID: PMC4036105
76. Ammendolia C, Stuber K, Tomkins-Lane C, **Schneider M**, Rampersaud R, Furlan A, Kennedy C. What interventions improve walking ability in neurogenic claudication with lumbar spinal stenosis? A systematic review. *Eur Spine J*. Jun 2014; 23(6):1282-1301. PMID: 24633719
77. Cambron JA, **Schneider M**, Dexheimer JM, Iannelli G, Chang M, Terhorst L, Cramer GD. A pilot randomized controlled trial of flexion-distraction dosage for chiropractic treatment of lumbar spinal stenosis. *J Manipulative Physiol Ther*. Jul-Aug 2014; 37(6):396-406. PMID: 25108751
78. Weiner DK, Morone NE, Spallek H, Karp J, **Schneider M**, Washburn C, Dziabiak M, Hennon J, Elnicki D. E-Learning Module on Chronic Low Back Pain in Older Adults: Evidence of Impact on Medical Student OSCE Performance. *J Am Geriatr Soc*. Jun 2014; 62(6):1161-67. PMID: 24833496

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108. **Schneider MJ**. Tender Points/Fibromyalgia vs. Tender Points/Myofascial Pain Syndrome: A Need for Clarity in Terminology and Differential Diagnosis. *J Manip Physiol Ther.* 1995; 18(6): 398-406. PMID: 7595112
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110. **Schneider MJ.** Soft tissue effects of lumbar and sacroiliac joint manipulation. *J Chiro Technique.* 1992; 4(4):136-142.
111. **Schneider MJ.** The traction methods of Cox and Leander: The neglected role of the multifidus muscle in low back pain. *J Chiro Technique.* 1991; 3(3): 109-115.
112. **Schneider MJ.** Snapping hip syndrome in a marathon runner: Treatment by manual trigger point therapy. *Chiro Sports Medicine.* 1990; 4(2): 54-58.
113. Cohen JH, **Schneider MJ.** Receptor-Tonus Technique: An Overview. *J Chiro Technique.* 1990; 2(1): 13-16.

BOOK CHAPTERS AND BOOKS

1. Coulter ID, **Schneider MJ,** Egan J, Murphy DR, Mior SA, Jacob G. Back Pain: Chiropractor's View. In: Cheng B. (eds) Handbook of Spine Technology. Springer, Cham. 2020.
2. Brady DM, **Schneider MJ.** Fibromyalgia and Gastrointestinal Disorders. Chapter in: *Integrative Gastroenterology.* Oxford University Press. 2011.
3. **Schneider MJ.** Nimmo Technique: Soft Tissue Manipulation. Chapter in: *Conservative Management of Sports Injuries.* Hyde T, Gengenbach M, eds. Jones and Bartlett, Co. 2007.
4. **Schneider MJ.** Myofascial Low Back Pain. Chapter in: *Low Back Syndromes.* Morris C, ed. McGraw-Hill Publishers. 2006.
5. **Schneider MJ.** Tennis Elbow. Chapter in: *Clinical Mastery in the Treatment of Myofascial Pain and Dysfunction.* Whyte-Ferguson L, Gerwin R, eds. Lippincott, Williams & Wilkins. 2005.
6. **Schneider MJ,** Cohen JH, Laws S, eds. *The Collected Writings of Nimmo and Vannerson: Pioneers of Chiropractic Trigger Point Therapy.* Privately published by the editors. 2001. Pittsburgh, PA.
7. **Schneider MJ.** *Principles of Manual Myofascial Therapy.* Privately published by the author. 1999. Pittsburgh, PA.
8. **Schneider MJ.** Principles in the Management of Myofascial and Muscular Disorders; Chapter in *Advances in Chiropractic: Volume 3.* Ed: Dana Lawrence. Mosby Year Book, Inc. 1996.

OTHER PUBLICATIONS

Non-peer reviewed magazines and journals:

1. **Schneider M.** Manual and Mechanically Assisted Adjustment Methods: Are They Therapeutically Equal? *The American Chiropractor.* August 2015. pp 12-20.
2. **Schneider M.** Manual-thrust manipulation offers best short-term improvements for acute and sub-acute low back pain. *Spinal News International.* March 2015; p. 19.
3. Brady DM, **Schneider MJ.** Pain and Fatigue: When It's Fibromyalgia and When It's Not. *Townsend Letter.* October 2012; 351:44-50.

4. Patient educational booklets; published and distributed by O.P.T.P. Inc. Minneapolis, MN. 2004.

Schneider MJ, Farrell P. *Preventing Neck and Shoulder Pain*

Schneider MJ, Farrell P. *Preventing Low Back Pain and Injury*

Schneider MJ, Farrell P. *Low Back Rehabilitative Exercises*

Schneider MJ, Farrell P. *Neck and Shoulder Rehabilitative Exercises*

PROFESSIONAL ACTIVITIES

TEACHING

DPT Core Curriculum

PT 2088 Special Topics in Physical Therapy (1 credit)

This is a mandatory 1-credit course for all physical therapy students that was developed 3 years ago, to introduce the special topics of regenerative medicine and psychologically informed physical therapy (PIPT). This course was developed in part to introduce the students to Screening, Brief Intervention, and Referral to Treatment (SBIRT) for substance use/disuse. The School of Pharmacy received a federal grant to develop inter-professional SBIRT educational courses that included physical therapy; Kathy Kelly and I were co-investigators on this grant and incorporated SBIRT training into the Special Topics course. This course was offered each spring semester from 2017 – 2019.

PT 2033 Advanced Musculoskeletal Clinical Practice (3 credits)

The Doctor of Physical Therapy core curriculum includes a 3-semester sequence of three courses in the evaluation and treatment of musculoskeletal disorders. These courses cover a wide range of topics including physical examination, orthopedic tests, neurological screening, manual therapy, clinical reasoning and diagnosis. Students are taught how to assess and provide treatments within the scope of physical therapy practice to all musculoskeletal structures of the spine, upper and lower extremities. I am a guest lecturer in this series of courses providing lectures on the biopsychosocial model of healthcare, pain neuroscience, muscle pain/dysfunction, soft tissue mobilization techniques, fibromyalgia/central sensitization disorders and psychologically informed practice.

Post- Professional Education (past 5 years)

150-hour Certificate Course: I co-designed and implemented a post-professional certificate course *The Primary Spine Practitioner*, offered by the Department of Physical Therapy to licensed chiropractors and physical therapists. This course was initiated in early 2018 and has been taught to over 250 clinicians nationally and internationally. This course consists of a series of four 3-day live weekend workshops (“units”) supplemented by multiple asynchronous online educational modules. I have been involved with teaching a portion of all four units every year since the inception of the program. The program continues to attract new attendees on a yearly basis.

12-hour Continuing Education Course: “Muscle Pain/Dysfunction, Fibromyalgia and Soft Tissue Mobilization Techniques”. Tulip Seminars, Portland, OR. May 4-5, 2019.

12-hour Continuing Education Course: “Psychologically Informed Practice”. Wisconsin Chiropractic Association, Milwaukee, WI. November 1-2, 2019.

16-hour Continuing Education Course: “Primary Spine Practitioner” (Unit 2) presented at the University of Pittsburgh to physical therapists and chiropractors. Pittsburgh, PA. November 15-17, 2019.

16-hour Continuing Education Course: “Primary Spine Practitioner” (Unit 3) presented at the University of Pittsburgh to physical therapists and chiropractors. Pittsburgh, PA. February 28-March 1, 2020.

16-hour Continuing Education Course: “Primary Spine Practitioner” (Unit 4) presented as a virtual conference by the University of Pittsburgh to physical therapists and chiropractors. Co-instructors included Mike Timko and Donald Murphy. May 16, 2020.

16-hour Continuing Education Course: “Primary Spine Practitioner” (Unit 1) presented as a virtual conference by the University of Pittsburgh to physical therapists and chiropractors. Co-instructors included Mike Timko, Donald Murphy, Carol Greco and Amy Shanahan. June 26-28, 2020.

16-hour Continuing Education Course: “Primary Spine Practitioner” (Unit 2) presented as a virtual conference by the University of Pittsburgh to physical therapists and chiropractors. Co-instructors included Mike Timko, Donald Murphy and Bill Defoyd. September 25-27, 2020.

16-hour Continuing Education Course: “Primary Spine Practitioner” (Unit 3) presented as a virtual conference by the University of Pittsburgh to physical therapists and chiropractors. Co-instructors included Mike Timko, Donald Murphy and Bill Defoyd. December 4-6, 2020.

16-hour Continuing Education Course: “Primary Spine Practitioner” (Unit 4) presented as a virtual conference by the University of Pittsburgh to physical therapists and chiropractors. Co-instructors included Mike Timko and Donald Murphy. Pittsburgh, PA. March 5-7, 2021.

16-hour Continuing Education Course: “Primary Spine Practitioner” (Unit 1) presented as a virtual conference by the University of Pittsburgh to physical therapists and chiropractors. Co-instructors included Mike Timko and Donald Murphy. Pittsburgh, PA. April 23-25, 2021.

16-hour Continuing Education Course: “Primary Spine Practitioner” (Unit 2) presented as a virtual conference by the University of Pittsburgh to physical therapists and chiropractors. Co-instructors included Mike Timko and Donald Murphy. Pittsburgh, PA. June 25-27, 2021.

16-hour Continuing Education Course: “Primary Spine Practitioner” (Unit 3) presented as a virtual conference by the University of Pittsburgh to physical therapists and chiropractors. Co-instructors included Mike Timko and Donald Murphy. Pittsburgh, PA. September 24-26, 2021.

4-hour continuing education presentation: “Evidence-based Rehabilitative Exercise” presented at the American College of Chiropractic Consultants conference. Oakbrook, IL. October 7-9, 2021.

16-hour Continuing Education Course: “Primary Spine Practitioner” (Unit 4) presented as a virtual conference by the University of Pittsburgh to physical therapists and chiropractors. Co-instructors

16-hour Continuing Education Course: “Primary Spine Practitioner: The Biopsychosocial Model” (Unit 1) presented as a virtual conference by the University of Pittsburgh to physical therapists and chiropractors. Co-instructed with Mike Timko. Pittsburgh, PA. April 8-10, 2022.

16-hour Continuing Education Course: “Primary Spine Practitioner: The Lumbar Spine” (Unit 2) presented as a virtual conference by the University of Pittsburgh to physical therapists and chiropractors. Co-instructed with Mike Timko. Pittsburgh, PA. June 24-26, 2022.

16-hour Continuing Education Course: “Primary Spine Practitioner: The Cervical Spine” (Unit 3) presented as a virtual conference by the University of Pittsburgh to physical therapists and chiropractors. Co-instructed with Mike Timko. Pittsburgh, PA. September 23-25, 2022.

4-hour Continuing Education Course: “Psychologically Informed Practice”. Presentation to the American College of Chiropractic Consultants. November 3, 2022. Schaumburg, IL.

16-hour Continuing Education Course: “Primary Spine Practitioner” (Unit 4) presented as a virtual conference by the University of Pittsburgh to physical therapists and chiropractors. Co-instructed with Mike Timko. Pittsburgh, PA. December 2-4, 2022.

16-hour Continuing Education Course: “Primary Spine Practitioner: The Biopsychosocial Model” (Unit 1) presented as a virtual conference by the University of Pittsburgh to physical therapists and chiropractors. Co-instructed with Mike Timko. April 14-16, 2023. Pittsburgh, PA.

16-hour Continuing Education Course: “Primary Spine Practitioner: The Lumbar Spine” (Unit 2) presented as a virtual conference by the University of Pittsburgh to physical therapists and chiropractors. Co-instructed with Mike Timko. June 23-25, 2023. Pittsburgh, PA.

16-hour Continuing Education Course: “Primary Spine Practitioner: The Cervical Spine” (Unit 3) presented as a virtual conference by the University of Pittsburgh to physical therapists and chiropractors. Co-instructed with Mike Timko. September 22-24, 2023. Pittsburgh, PA.

16-hour Continuing Education Course: “Primary Spine Practitioner” (Unit 4) presented as a live in-person conference at the University of Pittsburgh to physical therapists and chiropractors. Co-instructed with Mike Timko. December 1-3, 2023. Pittsburgh, PA.

SERVICE AS MENTOR FOR GRADUATE AND UNDERGRADUATE STUDENTS

External PhD reviewer for the PhD dissertation thesis of Jeff Cooley DC, Murdoch University, Australia. November 2022.

Research mentor for Dr. Zachary Cupler, a DC who is pursuing a 2-year Master’s of Clinical Research Degree at the Institute for Clinical Research Education, University of Pittsburgh. June 2020 – present.

Research mentor for Dr. James Eubanks, a medical physician pursuing a clinical research intensive concurrent with his physical medicine and rehabilitation residency at the University of Pittsburgh Medical Center (UPMC). Sept 2019 – July 2023.

External PhD mentor for Jordan Gliedt, a DC working at the Medical College of Wisconsin who is pursuing a PhD in health services research focused on racial/ethnic disparities.

PhD mentor for Meenakshi Sundaram, a PT who is pursuing her PhD in Rehabilitation Science within the School of Health and Rehabilitation Sciences, University of Pittsburgh. Jan 2021 – present.

Served as advisor and member of PhD Committee for Christopher Bise. School of Health and Rehabilitation Sciences, University of Pittsburgh. 2016 - 2020.

Served as co-mentor and member of PhD Committee for Muhammad Alrwaily. School of Health and Rehabilitation Sciences, University of Pittsburgh. 2010 - 2017.

Served as advisor and mentor for BPhil degree for Emily Polakowski. School of Health and Rehabilitation Sciences, University of Pittsburgh. 2013 - 2015.

Served as research advisor for several University of Pittsburgh undergraduate rehabilitation science majors who elected a semester of independent research activities. 2013 - present.

Moderator for the PhD Dissertation Defense of Ricardo Ferrari. May 2, 2016, University of Pittsburgh.

Moderator for the PhD Dissertation Defense of Maha Almarwani. May 24, 2016, University of Pittsburgh.

Moderator of the PhD dissertation defense for Bader Alqahtani. May 8, 2017, University of Pittsburgh.

Moderator of the PhD dissertation defense of Brooke Klatt. Nov 21, 2017, University of Pittsburgh.

Moderator of the PhD dissertation defense of Kefah Alshebber. January 22, 2018, University of Pittsburgh.

Served as an external reviewer for the PhD dissertation defense of Katie Pohlman: Participated in oral defense via WEBex meeting with faculty from University of Alberta, Edmonton, Alberta, Canada. Dec10, 2018.

Served as an external reviewer for the PhD dissertation thesis of Julie Kendall. RMIT University, School of Graduate Research, Melbourne, Australia. December 18, 2018.

Research mentor - Directed Research Practicum for Jamie Schlier, a University of Pittsburgh undergraduate student majoring in Health and Physical Activity. January - April 2019.

RESEARCH

CURRENT GRANT SUPPORT:

NIH / NCCIH – 1 R01 AT012534-01

Title: Optimizing Impact of Manual Therapy and Exercise on Lumbar Spinal Stenosis with Neurogenic Claudication: A Multi-Site Feasibility Study

Term: 07/01/2023 – 06/30/2025

Amount: \$576,518

Role: Co-Investigator (5% FTE) [Principal Investigators: Paul Dougherty, Debra Weiner]

This is a two-site, three-arm feasibility study to prepare for a fully powered multi-center randomized clinical trial evaluating the efficacy of manual therapy plus exercise with or without intramuscular electroacupuncture for reducing pain and improving function in older adults with lumbar spinal stenosis and intermittent neurogenic claudication.

NIH/NIAMS 1U24AR076730-01

Title: The BEST Trial: Biomarkers for Evaluating Spine Treatments

Term: 10/01/2021 – 09/30/2024

Amount: \$882,209

Role: Co-Investigator (10% FTE) [Principal Investigators: Sara Piva, Gwen Sowa, Ajay Wasan]

The primary objective of this trial is to inform a precision medicine approach to the treatment of chronic low back pain (cLBP). BEST is a multi-site, sequential, multiple assignment randomized trial (SMART) to evaluate four evidence-based interventions for cLBP. The trial is designed to meet the primary objective of estimating an algorithm for optimally assigning treatments based on an individual's phenotypic markers and response to treatment. Interventions being evaluated in this trial are: (1) acceptance and commitment therapy, (2) duloxetine, (3) enhanced self-care, and (4) evidence-based exercise and manual therapy.

NIH / NIAMS – 1 U19 AR076725-01

Title: Profiling Biomechanical, Biological and Behavioral Phenotypes of Chronic Low Back Pain (LB³P)

Term: 09/30/2019 – 08/31/2024

Amount: \$16,756,172

Role: Co-Investigator (20% FTE) [Co-Principal Investigators: Gwen Sowa and Nam Vo]

This study establishes a Low Back Pain: Biological, Biomechanical, Behavioral Phenotypes (LB³P) Mechanistic Research Center at the University of Pittsburgh. The LB³P center will perform in-depth phenotyping of 1,000 patients with chronic low back pain and characterize patients using a multi-modal approach for targeted and improved treatment. The LB³P center will consist of three key research cores for data collection and analysis: Biological Core, Biomechanical Core, and Behavioral Core. Additional support in patient recruitment and data management will be provided by a Clinical Core, Informatics Core, and Administrative Core.

NIH / NCCIH – 1UH3 AT008769

Title: Spinal Manipulation and Patient Self-Management to Prevent Acute to Chronic Back Pain (PACBACK)

Term: 08/01/2017 – 07/31/2024

Amount: \$10,982,538

Role: Co-Principal Investigator at Pittsburgh site (35% FTE)

This is a 2-site randomized hybrid trial involving the University of Minnesota and the University of Pittsburgh. This study will address both clinical effectiveness and implementation with the long-term objective to reduce the overall burden of low back pain (LBP) by testing scalable first-line non-pharmacologic strategies that address the biopsychosocial aspects of acute/sub-acute LBP. 1,200 patients with acute LBP will be randomized into one of four groups: 1) primary care management; 2) spinal manipulation; 3) self-management; or 4) a combination of spinal manipulation and self-management.

NIH-VA-DoD Pain Collaboratory (DoD/USAMRAA) – NH170003

Title: Resolving the Burden of Low Back Pain in Military Service Members and Veterans: A Multi-Site Pragmatic Clinical Trial (RESOLVE)

Term: 5/01/2018 - 4/30/2024

Amount: \$6,236,253

Role: Co-Investigator (10% FTE) [Principal Investigator: Shawn Farrokhi]

This study will involve patients with acute low back pain who will be treated with standard physical therapy or by physical therapists who have received training in psychologically informed therapy. The primary outcome will be a comparison of the proportions of patients who turn chronic in each group.

NCMIC Foundation, Inc.

Title: Intervertebral Kinematics of the Cervical Spine Before, During and After Mobilization

Term: 06/1/2024 – 06/01/2025

Amount: \$50,000 (direct costs)

Role: Co-Principal Investigator (cost-shared)

This exploratory pilot study aims to characterize the three-dimensional intervertebral kinematics in the cervical spine of 30 patients with acute neck pain before, during and after three types of spinal mobilization/manipulation: 1) non-thrust cervical mobilization; 2) thrust manipulation; and 3) Activator mechanical mobilization. We will measure facet joint motion using biplane radiography, the force characteristics of the different mobilizations using dynamic load-pads, and neurophysiologic changes (H-reflex) in the biceps muscle.

PRIOR GRANT SUPPORT:

NIH / NCCIH – 1 R34 AT011209 - 01

Title: Integrated Supported Biopsychosocial Self-Management for Back Related Leg Pain

Term: 12/10/2020 – 11/30/2022

Amount: \$464,373

Role: Co-Investigator (5% FTE) [Principal Investigator: Brent Leininger]

This study will involve an integrated mind-body intervention, supported biopsychosocial self-management (SBSM) delivered by physical therapists and chiropractors. This R34 study will support the development and assess the feasibility of essential clinical trial elements in a randomized mixed methods pilot study (n=40) that will include SBSM and guideline informed medical care for chronic back-related leg pain.

NCMIC Foundation, Inc.

Title: Prevalence of neck pain/disability in a mild traumatic brain injury (mTBI) / concussion

Term: 4/21/2021 – 12/31/2022

Amount: \$34,241 (direct costs)

Role: Co-Principal Investigator (cost-shared)

There have been a few studies on very narrow populations which have shown a high prevalence of comorbid cervical spine pain in mTBI/concussion populations. The primary aim of this project is to

determine the prevalence of neck pain in a mTBI/concussion population regardless of mechanism of injury or athletic involvement.

PCORI Contract # PCS-1402-10867

Title: Targeted interventions to Prevent Chronic Low Back Pain in High Risk Patients: A Multi-Site Pragmatic Randomized Controlled Trial (TARGET)

Term: 7/01/2015 – 9/30/2020

Amount: \$12,174,689

Role: Co-Investigator (5% FTE) [Principal Investigator: Anthony Delitto, PT, PhD]

This trial is designed to study the number of patients who transition from acute to chronic low back pain (LBP), using a cluster randomization approach in 60 outpatient primary care physician (PCP) offices. Patients with acute LBP will be randomized to one of two treatment approaches: 1) usual medical care; or 2) early referral to a physical therapist who has received training in psychologically informed therapy. The primary outcome measure will occur at one year and will be a comparison between the proportions of patients in each treatment group who have transitioned to chronic LBP.

NIH / National Institute of Drug Abuse - BAA-No1DA-15-4422

Title: Center of Excellence in Pain Education: Pain Challenges in Primary Care

Term: 9/30/2015 - 9/29/2020

Amount: \$383,510

Role: Co-Investigator (0.5% FTE) [Principal Investigator: Zsuzsa Horváth]

The purpose of this grant was to continue previous funding to Centers of Excellence in Pain Education at various institutions around the country. Each center is expected to develop pain management curriculum resources for medical and other health professional schools.

SAMSA Contract 1H79 T1026423.01

Title: Screening, Brief Interventions and Referral to Treatment (SBIRT)

Term: 9/30/2016 - 9/29/2019

Amount: \$14,577(subcontract only)

Role: Co-Investigator (5% FTE) [Principal Investigator: Maureen Reynolds]

The purpose of the grant is twofold: to develop and implement training programs to teach students in health professions the skills necessary to provide patients with evidence-based Screening, Brief Interventions, and Referral to Treatment (SBIRT); and to develop leadership skills in students in healthcare professions that will encourage the implementation of SBIRT throughout the U.S. healthcare system.

University of Pittsburgh, Clinical and Translational Science Institute: T1/T2 Pilot Award

Title: Concussion and the Upper Cervical Spine

Term: 7/01/2017 – 6/30/2018

Amount: \$25,000

Role: Co-Principal Investigator (Cost-shared)

The purpose of this pilot study was to explore the kinematics of the upper cervical spine using bi-plane radiography in patients who have suffered both a concussion and cervical spine injury.

PCORI Contract # CER-1310-06994

Title: A Comparison of Treatment Methods for Patients Following Total Knee Replacement

Term: 9/1/2014 to 8/31/2017

Amount: \$1,961,395

Role: Co-Investigator (10% FTE) [Principal Investigator: Sara Piva, PT, PhD]

This study involved patients who had received total knee replacement surgery and compared the outcomes of physical function and physical activity between 3 treatment groups: clinic-based individual outpatient rehabilitative exercise, community-based group exercise classes, and usual medical care. Physical function was assessed by a self-reported questionnaire of knee function, and a battery of validated performance-based tests germane to patients after total knee replacement.

PCORI Contract # ME-1306-03827

Title: Modeling Strategies for Observational Comparative Effectiveness Research - What Works Best When

Term: 03/01/2014 – 02/28/2017

Amount: \$242,302

Role: Co-Investigator (2.5% FTE) [Principal Investigator: Doug Landsittel, PhD]

Without clear guidance for when to use what method in analysis of observational data, researchers often apply suboptimal methods, analytical findings suffer from serious flaws, and important topics in comparative effectiveness research (CER) go unanswered or are answered incorrectly. Developing a comprehensive decision tree tool for dictating the best analytical approach for a given circumstance is urgently needed to effectively utilize ever-expanding sources of observational data for CER. Results of this study will significantly enhance the subsequent quality of CER for observational studies.

NCMIC Foundation, Inc.

Title: Intervertebral Kinematics of the Cervical Spine Before, During and After High Velocity Low Amplitude Mobilization

Term: 12/1/2015 – 11/30/2017

Amount: \$10,000 (direct costs)

Role: Co-Principal Investigator (cost-shared)

This exploratory pilot study was designed to characterize the three-dimensional intervertebral kinematics in the cervical spine before, during and after spinal manipulation using biplane radiography in 10 patients with neck pain. This proof-of-concept pilot study has provided an opportunity to develop data collection methods for 3-D radiographic imaging of cervical vertebral motion during manipulation.

PCORI Contract # CER-1410-25056

Title: A Comparison of Non-Surgical Treatment Methods for Patients with Lumbar Spinal Stenosis

Term: 1/15/2013 – 12/31/2016

Amount: \$1,826,997

Role: Principal Investigator (35% FTE)

This was a 3-year comparative effectiveness trial that recruited 260 older adults with lumbar spinal stenosis. Eligible subjects were randomized into one of three pragmatic treatment approaches: 1) usual medical care; 2) community-based group exercise; or 3) clinic-based individualized manual therapy and rehabilitative exercise. All subjects were treated for a 6-week course of care. Primary outcome measures were two validated research measurement tools; the Swiss Spinal Stenosis Questionnaire (self-reported pain/function) and the Self-Paced Walking Test (performance-based walking measure).

NCMIC Foundation, Inc.

Title: Outcomes in Neurogenic Claudication Due to Degenerative Lumbar Spinal Stenosis: A Patient's Perspective

Term: 6/15/2013 – 6/14/2014

Amount: \$23,372

Role: Principal Investigator (cost-shared)

This was a qualitative pilot study using semi-structured one-on-one telephone interviews with 25 patients diagnosed with lumbar spinal stenosis. The main objective of this study was to determine what outcomes were perceived to matter most among individuals seeking operative and/or non-operative care for neurogenic claudication due to their lumbar spinal stenosis.

NIH/ NCCAM Grant: 1 R21 AT007547-01

Title: Distance Education Online Intervention for Evidence Based Practice Literacy

Term: 9/30/2012 – 8/29/2014

Amount: \$382,699

Role: Principal Investigator (20% FTE)

The specific aims of this study were to develop and test the effectiveness of a distance-learning educational program about the principles of evidence-based practice (EBP) for chiropractic providers. The outcome measure was a validated EBP instrument that provides information about the attitudes, skills, and use of EBP in chiropractic practice.

NIH Pain Consortium – Contract #: GS-10F-0261K Task Order #: HHSN271201100111U

Title: Center of Excellence in Pain Education: Pain Challenges in Primary Care

Term: 7/9/2012 – 6/30/2015

Amount: \$412,985

Role: Co-Investigator (2.5% FTE) [Principal Investigator: Debra Weiner, MD]

This was a 3-year grant that was awarded to 12 health professional schools around the U.S. to create Centers of Excellence in Pain Education. Each center was expected to act as an activity hub for the development and distribution of pain management curriculum resources for medical and other health professional schools.

NIH/ NCCAM Grant: 1 R01 AT006453-01

Title: The Healing Context in CAM: Instrument Development and Initial Validation

Term: 9/30/2010 – 8/31/2015

Amount: \$2,320,010

Role: Co-Investigator (10% FTE) [Principal Investigator: Carol Greco, PhD]

The overall objective of this study was to develop and test an efficient self-report instrument to measure CAM-relevant contextual factors important in healing.

University of Pittsburgh Rehabilitation Institute Pilot Grant

Title: Reliability Study for Assessment of Cranio-Cervical Junction Hypermobility

Term: 6/1/2013 – 5/31/2015

Amount: \$27,500

Role: Co-Investigator (cost-shared) [Principal Investigator: Michael Timko, PT]

The specific aims of this pilot study were designed to gather preliminary data about the reliability of physical examination and radiographic screening procedures for occult hypermobility of the cranio-cervical junction (CCJ). Exploratory aims are performing correlations between other clinical findings and these screening procedures, as well as gathering a preliminary estimate of the point prevalence of CCJ hypermobility in a sample of sports concussion patients.

NIH/ NCCAM Grant: 4 R00 AT004196-05

Title: A Comparison of Manual vs. Mechanical Chiropractic Manipulation Methods

Term: 6/1/2010 – 5/31/2013

Amount: \$756,339

Role: Principal Investigator (20% FTE)

This study compared the clinical effectiveness of the two most commonly used chiropractic manipulation methods for patients with acute low back pain with a standard medical care comparison group. We successfully achieved our recruitment goal (N=105) with greater than 90% adherence to treatment in all three arms of the study.

NIH/ NCCAM Grant: 1 K99 AT004196-02

Title: A Comparison of Manual vs. Mechanical Chiropractic Manipulation Methods

Term: 8/1/2008 – 5/31/2010

Amount: \$190,714

Role: Principal Investigator (75% FTE)

This grant was the 2-year post-doctoral training component of a 5-year K99/R00 NIH award entitled "Pathways to Independence". To my knowledge, I am the only chiropractor in the U.S. to date who has received this NIH award. During the first year of this award, I completed the 1-year certificate program in Clinical Research at the Clinical and Translational Science Institute (CTSI) and the University of Pittsburgh. During the second year I travelled to the University of Western States in Portland, Oregon to work with the principal investigator of a large NIH-funded clinical trial of manipulation for chronic low back pain.

NIH/ NCCAM Grant: 5 R21 AT003969-03

Title: Prolotherapy for treatment of chronic lateral epicondylitis

Term: 9/1/2007 – 8/31/2011

Amount: \$549,414

Role: Co-Investigator (10% FTE) [Principal Investigator: Ronald Glick, MD]

This was a 3-year randomized trial designed to compare prolotherapy injection (hypertonic dextrose) with control injection (normal saline) for the treatment of chronic tennis elbow.

NCMIC Foundation Grant

Title: Consensus Process to Develop a “Best Practices” Document on the Role of Chiropractic Care in Health Promotion, Disease Prevention and Wellness

Term: 10/01/2010 - 09/30/2011

Amount: \$65,325

Role: Co-Investigator [Principal Investigator: Cheryl Hawk, DC, PhD]

The goal of this project was to develop a “best practices” document on chiropractic care for health promotion, disease prevention and wellness.

NCMIC Foundation Grant

Title: Consensus Process to Develop “Best Practices” Document for Chiropractic Care for Older Adults

Term: 09/01/2009-05/31/2010

Amount: \$58,250

Role: Co-Investigator [Principal Investigator: Cheryl Hawk, DC, PhD]

The goal of this project was to develop a “best practices” document on chiropractic care for older adults, using formal consensus methods.

Foundation for Chiropractic Education and Research Grant

Title: Consensus Process to Develop “Best Practices” Document for Chiropractic Care for Children

Term: 08/01/2008 - 07/31/2009

Amount: \$96,000

Role: Co-Investigator [Principal Investigator: Cheryl Hawk, DC, PhD]

The goal of this project was to develop a “best practices” document on chiropractic care for children, using formal consensus methods.

Platform Presentations (past 5 years)

The conservative management of spinal stenosis: A clinical practice guideline and best practice document. World Federation of Chiropractic Research Conference, March 21-23, 2019. Berlin, Germany. (This study was a finalist in the award competition for best original research.)

The Optimal Role of the First Contact Practitioner in Spine Care. Panel member in 90-minute symposium and panel discussion. North American Spine Society Annual Conference. September 25-28, 2019. Chicago, IL.

Point-Counterpoint: Is It Necessary or Possible to Make a Specific Diagnosis? Panel member in 90-minute symposium and panel discussion. North American Spine Society annual conference. September 25-28, 2019. Chicago, IL.

The clinical management of lumbar spinal stenosis. Interdisciplinary Spine Conference: Spinal Stenosis. September 28-29, 2019. Ft. Wayne, IN.

Presentation entitled "Manual Therapies: Why the Conflicting Evidence" followed by 60-minute panel discuss about research evidence for spinal manipulation and other manual therapies. Interprofessional Collaborative Spine Conference. November 8-9, 2019. Pittsburgh, PA.

The Primary Spine Practitioner – 30-minute platform presentation during the Forward Summit 2020, a virtual chiropractic conference sponsored by the Forward-Thinking Chiropractic Alliance attended by over 3,000 chiropractors. May 15-17, 2020. (virtual presentation)

First Contact Provider for Spine Care - 30-minute platform presentation during Spine Online 2020, a virtual chiropractic conference sponsored by the Australian Chiropractic Association and attended by over 1,000 chiropractors. June 15-17, 2020. (virtual presentation)

21st Century Chiropractic: Where are We Going? Keynote Address for the 75th Anniversary Conference -Canadian Memorial Chiropractic College. Toronto, Canada. June 3, 2021. (virtual 3-day conference)

Rehabilitative Exercise: Which Exercise for Which Patient? Platform presentation at 75th Anniversary Conference - Canadian Memorial Chiropractic College. Toronto, Canada. June 3, 2021. (virtual 3-day conference)

Overview of the updated APTA Clinical Practice Guideline for Low Back Pain. Virtual presentation to the physical therapists at James Haley Veteran's Hospital and Clinics, Tampa, FL. July 27, 2021 (virtual presentation)

Risk Factors Associated with Transition from Acute to Chronic Low Back Pain in US Patients Seeking Primary Care. World Federation of Chiropractic Biennial Research Congress. September 23-25, 2021. (virtual conference)

Evidence-based Rehabilitative Exercise. 4-hour continuing education presentation at the American College of Chiropractic Consultants conference. October 7-9, 2021. Oakbrook, IL.

Stratified care to prevent chronic low back pain in high-risk patients: TARGET trial. A multi-site pragmatic cluster randomized trial. International Forum for Back and Neck Pain Research in Primary Care. Global Virtual Conference, November 11-13, 2021. (virtual presentation)

Nonoperative treatment for lumbar spinal stenosis with neurogenic claudication. An updated systematic review. (Ammendolia: presenter/Schneider co-author). International Forum for Back and Neck Pain Research in Primary Care. Global Virtual Conference, November 11-13, 2021. (virtual presentation)

Team Based Healthcare. Presentation to Fulcrum Health network chiropractors, acupuncturists, and massage therapists. November 11, 2021. (virtual presentation)

Stratified care to prevent chronic low back pain in high-risk patients: TARGET trial. A multi-site pragmatic cluster randomized trial. Presentation at Panther Rounds, University of Pittsburgh Department of Physical Medicine and Rehabilitation. November 17, 2021. (virtual presentation)

Presentation to UPMC Primary Spine Practitioner Grand Rounds Topic: Challenges with PT Referrals from Primary Care. Co-presented with Dr. Anthony Delitto. January 28, 2022. (virtual presentation)

First Provider Seem for Acute Episode Low Back Pain: Influences on Subsequent Healthcare Utilization. (Bise: presenter/Schneider co-author) American Physical Therapy Association, Combined Sections Meeting. February 3-5, 2022. San Antonio, TX.

Emergency Department Use for Acute Low Back Pain: a Trajectory and Utilization Analysis. (Bise: presenter/Schneider co-author) American Physical Therapy Association, Combined Sections Meeting. February 3-5, 2022. San Antonio, TX.

Integration of Chiropractic Education into Public Universities presented to the Emirates Chiropractic Association. October 9, 2022. Abu Dhabi, United Arab Emirates.

Presentation to the Clinical Learning, Evidence And Research (CLEAR) center at the University of Washington. Topic: Preoperative Spine Education for Lumbar Spinal Stenosis Surgery. (Eubanks:presenter/Schneider co-presenter). February 25, 2022. (virtual presentation)

Psychologically Informed Practice. 4-hour continuing education presentation to the American College of Chiropractic Consultants. November 3, 2022. Schaumburg, IL.

The Need for a D.C. Program at a Major Public University in the U.S.A. World Federation of Chiropractic Educational Conference. November 2-5, 2022. St. Louis, MO.

Primary Spine Practitioner Certificate Program (Timko: presenter/Schneider co-presenter). American Physical Therapy Association, Combined Sections Meeting. February 21-24, 2023. San Diego, CA.

How Research is Creating New Opportunities for the Chiropractic Profession. Parker Seminars. February 25-26, 2023. Las Vegas, NV.

The association of biomarkers with pain and function in acute and subacute low back pain: a secondary analysis of a randomized controlled trial. Association of Chiropractic Colleges Educational Conference and Research Agenda Conference. March 23-25, 2023. New Orleans, LA.

Development of the SpineMobility Smartphone APP to Increase Physical Activity in Older Adults with Lumbar Spinal Stenosis: An Intervention Mapping Approach. (Ammendolia: presenter/Schneider co-author) International Forum for Back and Neck Pain Research. August 29-September 1, 2023. Groningen, The Netherlands.

Prehabilitation in Spine Surgery from an American and European Perspective. 90-minute workshop presentation and panel discussion. International Forum for Back and Neck Pain Research. August 29-September 1, 2023. Groningen, The Netherlands.

Creating an evidence-based contemporary health professional education program from scratch. Presentation to research faculty in departments of physiotherapy and chiropractic at Macquarie University. October 5, 2023. Sydney, Australia.

Gaps in Chiropractic Research of Older Adults. 90-minute presentation and workshop at the Annual Researchers' Day at Central Queensland University. October 10, 2023. Brisbane, Australia.

Why People-Centeredness Must be our Mantra. Plenary Session Address: 17th World Federation of Chiropractic Biennial Congress. October 12-14, 2023. Gold Coast, Australia.

Pain-Related Single Nucleotide Polymorphisms: Association with Lumbar Spinal Stenosis Patient Experience and Non-Surgical Treatment Outcomes. 17th World Federation of Chiropractic Biennial Congress. October 14, 2023. Gold Coast, Australia.

POSTER PRESENTATIONS (past 5 years)

Randomized Trial on Exercise at Late-Stage after Total Knee Replacement. Combined Sections Meeting of APTA. January 24-26, 2019. Washington, DC.

Inter-Examiner Reliability Study of Physical Examination Procedures to Assess the Cervical Spine. World Federation of Chiropractic Research Conference. March 21-23, 2019. Berlin, Germany.

Inter-Examiner Reliability of Radiographic Measurements from Open-Mouth Lateral Bending Cervical Radiographs. World Federation of Chiropractic Research Conference. March 21-23, 2019. Berlin, Germany.

Does duration of symptoms affect walking outcomes in patients receiving non-surgical care for lumbar spinal stenosis? World Federation of Chiropractic Research Conference. March 21-23, 2019. Berlin, Germany.

Assessing Context Factors in Pain Treatment: Using patient and provider formative and process evaluation to guide implementation strategies. PCORI Annual Meeting. September 18-20, 2019. Washington, DC.

Effect of Physical Activity on Cartilage Degradation and Inflammation in Individuals with Lumbar Spinal Stenosis. Combined Sections Meeting of American Physical Therapy Association. February 13-15, 2020. Denver, CO.

Responsiveness of Outcome Measures in Non-surgical Patients with Lumbar Spinal Stenosis: A Secondary Analysis from a Randomized Controlled Trial. 16th Annual Rehabilitation Institute Research Day. University of Pittsburgh. October 7, 2020. [virtual poster]

Effect of Physical Activity on Cartilage Degradation and Inflammation in Individuals with Lumbar Spinal Stenosis. American College of Rheumatology Convergence 2020 Conference. November 5-9, 2020. [virtual poster]

The association of blood biomarkers with pain and function in acute and subacute low back pain: a secondary analysis from a randomized clinical trial. International Society for the Study of the Lumbar Spine. June 2-4, 2021. [virtual poster]

Evaluation of United States chiropractic professional subgroups: a survey of randomly sampled chiropractors. World Federation of Chiropractic, Biennial Research Congress. September 23-25, 2021. [Virtual conference]

Stratified care to prevent chronic low back pain in high-risk patients: TARGET trial. A multi-site pragmatic cluster randomized trial. World Federation of Chiropractic Biennial Research Congress. September 23-25, 2021. [virtual poster]

Risk Factors Associated with Transition from Acute to Chronic Low Back Pain in US Patients Seeking Primary Care. International Forum for Back and Neck Pain Research in Primary Care. November 11-13, 2021. [virtual poster]

Pre-operative educational interventions in spine surgery: a scoping review. International Forum for Back and Neck Pain Research in Primary Care. November 11-13, 2021. [virtual poster]

Responsiveness of Outcome Measures in Non-Surgical Patients with Lumbar Spinal. (Carlesso: presenter/Schneider co-author) American Physical Therapy Association, Combined Sections Meeting. February 3-5, 2022. San Antonio, TX. (finalist for best orthopaedic poster award)

Cervical Spine Physical Examination Procedures: An Inter-Examiner Reliability Study. (Sundaram: presenter/Schneider co-author) American Physical Therapy Association, Combined Sections Meeting. February 3-5, 2022. San Antonio, TX.

Influences on ideology, beliefs, and practice patterns of United States chiropractors: a secondary analysis of a national survey. World Federation of Chiropractic Educational Conference. (Cupler: presenter/Schneider co-presenter) November 2-5, 2022. St. Louis, MO.

Risk Factors Associated with Transition from Acute to Chronic Low Back Pain in US Patients Seeking Primary Care. Parker Seminars. February 25-26, 2023. Las Vegas, NV.

Comparative clinical effectiveness of nonsurgical treatment methods in patients with lumbar spinal stenosis: A randomized clinical trial. Parker Seminars. February 25-26, 2023. Las Vegas, NV. (received 1st place award for best independent scientist poster)

Association between ideology, beliefs, and practice patterns of United States chiropractors: a secondary analysis of a national survey. Association of Chiropractic Colleges Educational Conference and Research Agenda Conference. March 23-25, 2023. New Orleans, LA.

Biological, Biomechanical, and Behavioral Domains of Chronic Low Back Pain: Protocol for the Identification of Distinct Phenotypes. International Forum for Back and Neck Pain Research. August 29 - September 1, 2023. Groningen, The Netherlands.

Prevalence of neck pain and disability in mild traumatic brain injury (concussion). International Forum for Back and Neck Pain Research. August 29 - September 1, 2023. Groningen, The Netherlands.

Preoperative Spinal Education (POSE) for Lumbar Spinal Stenosis Surgery: A Pilot Study. International Forum for Back and Neck Pain Research. August 29 - September 1, 2023. Groningen, The Netherlands.

Prevalence of Neck Pain/Disability in Mild Traumatic Brain injury (Concussion): An Observational Study. 17th World Federation of Chiropractic Biennial Congress. October 12-14, 2023. Gold Coast, Australia.

OTHER RESEARCH RELATED ACTIVITIES

I have been an ad hoc reviewer for the following journals:

1. *The Spine Journal*: Official journal of the North American Spine Society.
2. *Chiropractic & Manual Therapies*: An open access journal published by BioMed Central.
3. *BMC Musculoskeletal Disorders*: An open access journal published by BioMed Central.
4. *Journal of Manipulative and Physiological Therapeutics*: A publication of Elsevier.
5. *Journal of Orthopedic and Sports Physical Therapy*: Official publication of the Orthopaedic Section and the Sports Medicine Section of the American Physical Therapy Association.
6. *Physical Therapy & Rehabilitation Journal (PTJ)*: Official scientific journal of the American Physical Therapy Association (APTA).
7. *Physical Medicine and Rehabilitation Journal*: A publication of Elsevier.
8. *Archives of Physical Medicine and Rehabilitation*: Official journal of the American Congress of Rehabilitation Medicine and the American Academy of Physical Medicine and Rehabilitation.
9. *Journal of Chiropractic Medicine*: A publication of Elsevier.

10. *Journal of Integrative and Complementary Medicine*: A publication of Mary Ann Liebert, Inc.
 11. *UpToDate*, an electronic resource for healthcare professionals published by Wolters Kluwer.

RESEARCH RELATED SERVICE

I have served on research committees and advisory boards for several national and international organizations:

- Research Advisory Board Member, American Chiropractic Association (2015 - 2023)
- Advisory Panel Member, Clinical Effectiveness and Decision Sciences, Patient Centered Outcomes Research Institute (2016 - 2019)
- Consensus Panel Member, International Society for the Study of the Lumbar Spine: Clinical Guideline for Diagnosis and Non-Surgical Management of Lumbar Spinal Stenosis (2017 - 2022)
- Guideline Committee Member, Canadian Chiropractic Guidelines Initiative: Lumbar Spinal Stenosis (2018 - 2020)
- Guideline Committee Member, American Physical Therapy Association, Clinical Practice Guideline: Low Back Pain (2018 - 2021)
- Advisory Panel Member, Scientific Commission, Council on Chiropractic Guidelines and Practice Parameters (2018 - present)
- Executive Committee Member – NIH Back Pain Consortium (BACPAC) Research Program (2021 - present)

LIST OF CURRENT RESEARCH INTERESTS

My primary research interests are in these areas:

- Phenotyping chronic low back pain by exploring biological, behavioral and biomechanical factors
- Clinical effectiveness of manual therapy, exercise and self-management for low back pain and lumbar spinal stenosis
- Exploring the association between cervical spine dysfunction, cervicogenic headache and concussion (traumatic brain injury)
- Dissemination/implementation studies to uncover the barriers/facilitators associated with providing guideline concordant care within the primary care environment
- Exploring the association between psychosocial factors and physical factors in patients with chronic low back and neck pain

OTHER SERVICE

2016 - present	Institutional Review Board (IRB) University of Pittsburgh, Pittsburgh, PA	Committee D Member
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I attend regular monthly IRB Committee D meetings and currently serve as the only committee member with a background in musculoskeletal disorders and rehabilitation. Therefore, I am often designated as the primary reviewer on most new IRB submissions that involve research with physical medicine, physical therapy, or rehabilitation/exercise components.