CURRICULUM VITAE Ryan P. Duncan, PT, DPT, MSCI

Date: June 30, 2023

Name: Ryan Patrick Duncan

Address, Telephone, and E-mail:

Business: Washington University School of Medicine

Program in Physical Therapy

Campus Box 8502

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Present Position: 2020-present: Associate Professor, Physical Therapy & Neurology

Education:

Undergraduate:

2007 - B.S., Maryville University in St. Louis, St. Louis, MO

Graduate:

2008 - M.P.T., Maryville University in St. Louis, St. Louis, MO 2012 - D.P.T., Washington University in St. Louis, St. Louis, MO 2019 - M.S., Washington University in St. Louis, St. Louis, MO

Academic Positions / Employment:

2008-2009: Physical Therapist

Barnes Jewish Hospital

St. Louis, MO

2009-2012: Research Physical Therapist

Washington University in St. Louis, Program in Physical Therapy

St. Louis, MO

2012-2015: Adjunct Faculty

Maryville University in St. Louis

St. Louis, MO

2013-2014: Instructor of Physical Therapy & Neurology

Washington University in St. Louis, Program in Physical Therapy

St. Louis, MO

2014-2020: Assistant Professor of Physical Therapy & Neurology

Washington University in St. Louis, Program in Physical Therapy

St. Louis, MO

2020-present: Associate Professor of Physical Therapy & Neurology

Washington University in St. Louis, Program in Physical Therapy

St. Louis, MO

Clinical Title and Responsibilities:

2013-2018, Physical Therapist, Washington University Physical Therapy Clinics

Teaching Title and Responsibilities:

Associate Professor, Program in Physical Therapy, Department of Neurology

Professional Clinical Doctorate (DPT) Curriculum:

M02 625 Neurology Medicine, Course Master

M02 655 Professional Issues & Skill Development IV, Course Assistant

M02 628 Case Integration I Lab, Small Group Adviser

M02 642 Case Integration II Lab, Small Group Adviser

M02 654 Case Integration III, Capstone Adviser

M02 650 Diagnosis and Evidence Analysis III, Capstone Adviser

M02 606 Kinesiology I, Gait Lab Assistant

Clinician / Scholar / Educator – Thread Co-Lead

Module 5 – Prevention, Diagnosis, and Management of Movement Problems – Team Member

Module 7 – Practice and Movement – Team Member

Module 8 – Practice, Health, and Equity – Module Lead

University and Clinical Appointments and Committees:

2013-2018, Physical Therapist, Washington University PT Clinics

Licensure and Certification:

2008-present: License No. 2008034888 (Missouri, Active)

Honors and Awards:

2008: Dan Hartwig Award for Academic Excellence, Leadership, and Humanitarianism (Maryville University in St. Louis)

2012: Lorraine F. Lake Award (Washington University, Program in Physical Therapy)

2013: World Parkinson Congress – Travel Grant recipient

2013: NIH Loan Repayment Program Recipient (NINDS)

2014: Chattanooga Research Award (American Physical Therapy Association)

2016: World Parkinson Congress – Travel Grant recipient

2016: NIH Loan Repayment Program Renewal Recipient (NINDS)

2017: NIH Loan Repayment Program Renewal Recipient (NINDS)

2017: Outstanding Citizenship Award (Washington University Clinical Research Training Center)

2020: Helen May Bradley Achievement Award (Maryville University in St. Louis)

Editorial Responsibilities:

2011-present: Reviewer for Parkinson's Disease

2013-present: Reviewer for Journal of Rehabilitation Medicine

2013-present: Reviewer for Archives of Physical Medicine & Rehabilitation

2013-present: Reviewer for Journal of Parkinson's Disease

2013-present: Reviewer for Journal of Neurologic Physical Therapy

2013-present: Reviewer for Physical Therapy

2013-present: Reviewer for Parkinsonism & Related Disorders

2013-present: Reviewer for International Journal of Therapy & Rehabilitation

2013-present: Reviewer for Journal of Medical Internet Research – Research Protocols

2014-present: Reviewer for Neurodegenerative Disease Management

2014-present: Reviewer for American Journal of Physical Medicine & Rehabilitation

- 2014-present: Reviewer for Gait & Posture
- 2014-present: Reviewer for Complementary Therapies in Medicine
- 2014-present: Reviewer for BioMed Research International
- 2014: Grant Reviewer for Netherlands Organization of Scientific Research
- 2014: Abstract Reviewer for World Confederation of Physical Therapy International Congress
- 2015-present: Reviewer for Movement Disorders Clinical Practice
- 2015-present: Reviewer for Acta Neurologica Scandinavica
- 2015-present: Reviewer for Experimental Brain Research
- 2015-present: Reviewer for Acta Neurologica Belgica
- 2015: Abstract Reviewer for APTA Combined Sections Meeting Neurology Section
- 2015: Grant Reviewer for LSVT Global, Inc.
- 2015-present: Reviewer for PLoS One
- 2015-present: Reviewer for Neurorehabilitation & Neural Repair
- 2016-present: Reviewer for *Physiotherapy*
- 2016-present: Reviewer for BMJ Open
- 2016-present: Reviewer for Clinical Neurology and Neurosurgery
- 2016-present: Reviewer for Clinical Rehabilitation
- 2016-present: Reviewer for Disability and Rehabilitation
- 2016-present: Reviewer for Archives of Gerontology and Geriatrics
- 2017-present: Reviewer for Physiotherapy Theory and Practice
- 2017-present: Reviewer for Systematic Reviews
- 2017-present: Editorial Board Member, Journal of Neurologic Physical Therapy
- 2019-present: Reviewer for Journal of Geriatric Oncology
- 2019-present: Reviewer for Annals of Physical Medicine & Rehabilitation
- 2019-present: Reviewer for Arthritis Care & Research
- 2019-present: Reviewer for Canadian Journal on Aging
- 2020-present: Reviewer for Physiotherapy Canada
- 2022-present: Reviewer for Neuroscience Letters

National Panels, Committees, Boards:

2015-2017: Member, Scientific Advisory Board, Davis Phinney Foundation

2017-2018: Member, Honors and Awards Committee, American Physical Therapy Association

2017: Member, Planning Committee, American Parkinson Disease Association – Greater St. Louis Chapter, Optimism Walk

2020: Member, Planning Committee, American Parkinson Disease Association – Greater St. Louis Chapter, Midwest Parkinson's Disease Congress

2021: Reviewer, "Competencies for Exercise Professionals Working with People with Parkinson's Disease", Parkinson's Disease Foundation.

2021: Content Expert and Reviewer, "Physical Therapist Management of Parkinson Disease: A Clinical Practice Guideline", Academy of Neurologic Physical Therapy.

2021: NIH Study Section, Ad Hoc Member – Human-Animal Interaction (ZHD1 DSR-H (55) 2), Review Panel Member, April 2, 2021.

2022: NIH Study Section, Ad Hoc Member – Human-Animal Interaction (ZHD1 DSR-H (55) 2), Review Panel Member, April 8, 2022.

2022: Ad Hoc Grant Reviewer, France Parkinson's Association, May 2022

2015, 2016, 2022: Grant Reviewer for Parkinson's UK

2023: Grant Reviewer for European Research Council

2023: NIH Study Section, Ad Hoc Member – NINDS Special Emphasis Panel (**ZNS1 SRB G(58**)), Review Panel Member, May 2023

Community Service Contributions:

Departmental, University, or Hospital System Committees and Activities:

2019: Consideration Team Lead, Student Return on Investment, Washington University, Program in Physical Therapy

Professional Societies and Organizations:

2008-present: American Physical Therapy Association

2008-present: American Physical Therapy Association of Missouri

2013-2017: Chair, Eastern District

2014-2017: Delegate, Eastern District

2017-present: Chief Delegate

2008-2010: American Physical Therapy Association, Acute Care Section

2010-present: American Physical Therapy Association, Research Section

2010-present: American Physical Therapy Association, Neurology Section

2012-2019: Combined Sections Meeting Programming Committee

2013-2017: Co-Chair, Combined Sections Meeting Programming Committee

2010-present: International Society for Posture and Gait Research

2014-present: International Parkinson's and Movement Disorders Society

2020-present: American Physical Therapy Association, Education Section

Media Activities:

2013: "Parkinson's 'Freezers' Likely to Stumble", MedPage Today

2013: "Staying Active Reduces Falls in Older Adults", St. Louis Post-Dispatch

2013: "Physical Therapy and Exercise for Parkinson Disease", Greater St. Louis American Parkinson's Disease Association Newsletter

2014: "Passionate and precise, the Tango is also therapeutic", The Washington Post

2015: "Why You Should Get Physical Therapy for Parkinson's Disease", Guest Blog Author, getPT1st.com

2015: "Physical Therapy for Parkinson Disease: How to Prep for your First Visit", Guest Blog Author, Michael J. Fox Foundation

2016: "Get to the Table or Be on the Menu – Importance of Professional Advocacy", Senior Rehab Project – Podcast, seniorrehabproject.com

2016: "Pulse Q&A with Ryan Duncan, PT, DPT", Guest Blog Author, American Physical Therapy Association

2017: "Falls in Parkinson Disease: Can They Be Reduced or Prevented?", Greater St.

Louis American Parkinson's Disease Association Newsletter

2020: "4D Podcast: Getting Clinicians Involved in Research," Featured Guest,

Degenerative Disease Special Interest Group, Academy of Neurologic Physical Therapy

2020: "Parkinson's Research Update," Featured Guest, iMove TelePT Facebook Live

2022: "10 Things Women with Parkinson's Disease Can Do to Get the Care They Need," Expert Contributor, EverydayHealth.com

2022: "Low Back Pain in Parkinson Disease," Author, Greater St. Louis Chapter of the American Parkinson's Disease Association Newsletter

2022: "Such a Pain in the...Back?", Guest Blog Author, World Parkinson Congress Blog, worldpdcongress.org, (https://www.worldpdcongress.org/home/2022/3/8/such-a-pain-in-theback)

2023: "College of Medicine Works to Establish Parkinson's Cure Center", University Press, Interviewee (https://www.upressonline.com/2023/06/college-of-medicine-works-to-establish-parkinsons-cure-center)

2023: "Fear Avoidance Behaviors' Impact on Movement and Participation with Merrill Landers and Ryan Duncan" – Podcast for the Degenerative Disease Special Interest Group of the Academy of Neurologic Physical Therapy

Invited Professorships and Lectureships:

"A Comparison of the Accuracy of Two Pulse Oximeter Technologies during Ambulation a Wheeled Walker: a Pilot Study"

Platform Presentation

APTA - Combined Sections Meeting, Las Vegas, NV

February 2008

"Parkinson Disease and Rehabilitation"

Lecture Series

Barnes Jewish Hospital Rehabilitation, St. Louis, MO

May 2010

"Community-based Dance for People with Parkinson Disease"

Platform Presentation

APTA – Combined Sections Meeting, New Orleans, LA

February 2011

"Four Square Step Test Performance in Parkinson Disease"

Platform Presentation

APTA – Combined Sections Meeting, Chicago, IL

February 2012

"An Evidence-Based Approach to Examination and Intervention for People with Parkinson's Disease Across the Continuum of Disability"

Continuing Education Course

Missouri Physical Therapy Association, Fall Conference, Columbia, MO

October 2012

"Balance Differences between People with and without Freezing of Gait in Parkinson Disease"

Hot Topic Presentation

World Parkinson Congress, Montreal, Canada

October 2013

"Falls in Parkinson Disease: Causes, Prediction, and Prevention"

Educational Session

APTA – Combined Sections Meeting, Indianapolis, IN

February 2015

"An Evidence-Based Approach to Examination and Intervention for People with Parkinson's Disease Across the Continuum of Disability"

Continuing Education Course

Memorial Hospital – Rehabilitation Special Interest Group, Belleville, IL

August 2015

"An Evidence-Based Approach to Examination and Intervention for People with Parkinson's Disease Across the Continuum of Disability"

Pre-Conference Continuing Education Course

American Physical Therapy Association, Combined Sections Meeting, Anaheim, CA February 2016

"Investing in Your Profession: Advocacy in Physical Therapy" National Advocacy Dinner, Saint Louis, MO April 2016

"Physical Therapy and Deep Brain Stimulation in Parkinson Disease"

Comprehensive Opportunities in Rehabilitation Research Training – Annual Retreat, Pittsburgh, PA August 2016

"An Evidence-Based Approach to Examination and Intervention for People with Parkinson's Disease Across the Continuum of Disability"

Continuing Education Course

Academy of Neurologic Physical Therapy, Regional Course, Chicago, IL September 2016

"APTA Legislative Priorities: Role of Professional Advocacy" Professional Issues Course (PT 8130) University of Missouri, Columbia, MO November 2016, 2017, 2018, 2019, 2020, 2021, 2022

"Evidence-Based Rehabilitation in Parkinson Disease" Anderson Hospital – Department of Rehabilitation January 2017

"Low Back Pain in Parkinson Disease"

Comprehensive Opportunities in Rehabilitation Research Training – Annual Retreat, Newark, DE August 2017

"Physical Therapy to Reduce Falls in Parkinson Disease" Midwest Parkinson's Congress American Parkinson Disease Association October 2017

"Physical Therapist Assessment in Parkinson Disease" BJC Department of Rehabilitation Annual Continuing Education Course November 2017

"Exercise in Parkinson Disease" Davis Phinney Foundation Victory Summit – Oklahoma City, OK December 2017 "Applying the Movement System Diagnoses to Neurodegenerative Disease" Educational Session
APTA – Combined Sections Meeting, New Orleans, LA
February 2018

"Low Back Pain in Parkinson Disease: Impact on Disease Severity, Physical Activity, and Quality of Life"

Platform Presentation APTA – Combined Sections Meeting, New Orleans, LA February 2018

"Exercise in Parkinson Disease" Davis Phinney Foundation Victory Summit – Los Angeles, CA August 2018

"Falls and Fall Risk in Older Adults"
WUPT Lecture Series at OASIS – St. Louis, MO
July 2018

"Low Back Pain in Parkinson Disease"

Comprehensive Opportunities in Rehabilitation Research Training – Annual Retreat, Newark, DE August 2018

"Exercise in Parkinson Disease" Davis Phinney Foundation Victory Summit – Albuquerque, NM October 2018

"Update on Physical Therapy Examination and Treatment in Parkinson Disease" Missouri Physical Therapy Association – Eastern District – St. Louis, MO January 2019

"Low Back Pain in Parkinson's Disease: Is It Related to Age?"

Comprehensive Opportunities in Rehabilitation Research Training – Annual Retreat, Denver, CO August 2019

"National and Local Legislative Issues in Physical Therapy" Midwest Student Conclave – Kansas Physical Therapy Association – Kansas City, MO September 2019

"Evidence-Based Examination and Treatment of People with Parkinson Disease" Memorial Hospital – Rehabilitation Special Interest Group – Belleville, IL October 2019

"Exercise in Parkinson Disease"
Greater St. Louis Chapter of the American Parkinson's Disease Association – Quincy, IL November 2019

"An Evidence-Based Approach to Examination and Intervention for People with Parkinson's Disease Across the Continuum of Disability"
Continuing Education Course
Academy of Neurologic Physical Therapy, Regional Course, St. Louis, MO
December 2019

"Pain in Parkinson Disease" Movement Disorders Section Journal Club Washington University in St. Louis, St. Louis, MO July 2020

"Pain in Parkinson's Disease"
Department of Anesthesiology, Pain Management Section
Washington University in St. Louis, St. Louis, MO
March 2021

"Pain in Parkinson Disease: It's Complicated" Parkinson's Pointe Support Group, Aurora, CO (virtual) May 2021

"Musculoskeletal Conditions in Neurologic Disease: Pain in Parkinson's Disease" Washington University Program in Physical Therapy – Alumni Movement System Update June 2021

"Unraveling the Complexities of Low Back Pain in Parkinson Disease" Massachusetts General Hospital – Rehabilitation Sciences Invited Lectureship August 2021

"Musculoskeletal Pain in Parkinson Disease" PhysicalTherapy.com Continuing Education event (virtual) September 2021

"Geriatric Low Back Pain: Current and Future Considerations" American Physical Therapy Association – Combined Sections Meeting (San Antonio, TX) February 2022

"Musculoskeletal Pain in Parkinson's Disease: Why Should We Care?" University of Nevada Las Vegas – Department of Physical Therapy March 2022

"Making Sense of Pain in People with Neurologic Conditions" American Physical Therapy Association of Missouri – Spring Conference (Kansas City, MO) April 2022

"An Evidence-Based Approach to Assessment and Treatment for People with Parkinson's Disease Across the Continuum of Disability"
Continuing Education Course
Parkinsonlife Corporation, Tampa Bay, FL

November 2022

"Mind Over Movement: Fear Avoidance Behaviors Impacting Movement and Participation in People with Neurologic Conditions"

American Physical Therapy Association – Combined Sections Meeting (San Diego, CA) February 2023

"Finding Your Research Path"

American Physical Therapy Association – Combined Sections Meeting (San Diego, CA) February 2023

"Relationship Between Low Back Pain-Related Disability, Motor Capacity, and Executive Function in Parkinson Disease" (Platform Presentation)

American Physical Therapy Association – Combined Sections Meeting (San Diego, CA) February 2023

"Proactivity Across the Parkinson's Continuum – Pre-Habilitation: Preventing Complications" World Parkinson Congress (Barcelona, Spain)
July 2023

Consulting Relationships and Board Memberships

None

Research:

Previous:

Research Physical Therapist

"Mechanisms of Deep Brain Stimulation"

PI: Joel Perlmutter

Source: NIH/NINDS (R01 NS041509)

\$3,385,654; 2001-2016

Research Physical Therapist

"Oculomotor Control and Gait in Parkinson Disease"

PI: Earhart

Source: NIH/NCMRR (R01 HD056015)

\$475,200; 2009-2012

Research Physical Therapist

"Unveiling the Natural History of Quality of Life and Mobility Decline in Persons with Parkinson's

Disease: A Prospective Cohort Study"

PI: Earhart

Source: Davis Phinney Foundation

\$96,000; 2009-2012

Research Physical Therapist

"PD4PD: Partnered Dance for Parkinson Disease"

PI: Earhart

Source: Parkinson's Disease Foundation

\$150,000; 2009-2011

Research Physical Therapist

"Freezing of Gait in Parkinson Disease: An Interdisciplinary Approach"

PI: Gammon Earhart

Source: University Research Strategic Alliance

\$25,000; 2011-2012

Co-Principal Investigator

"Telemedicine & Tango for Parkinson's Disease: In-Person vs. Virtual Dance Class"

PIs: Ryan Duncan, Marie McNeely, Gammon Earhart

Source: Washington University Department of Neurology / Health South Corporation

\$30,000; 2015-2016

Research Physical Therapist

"Exercise and Parkinson's: Comparing Interventions and Exploring Neural Mechanisms"

PI: Gammon Earhart

Source: NIH/NINDS (R01 NS077959)

\$1,900,000; 2012-2017

Scholar

"Physical Therapy and Deep Brain Stimulation in Parkinson Disease"

Primary Mentor: Joel Perlmutter, MD; Secondary Mentor: Linda Van Dillen, PT, PhD

Source: NIH/NICHD/NCMRR/NINDS (K12 HD055931 – PI: Mueller)

\$75,000; 2016-2019

Scholar

"Physical Therapy and Deep Brain Stimulation in Parkinson Disease"

Primary Mentor: Joel Perlmutter, MD; Faculty Mentor: Jane Garbutt, MD

Source: Mentor Training Program in Clinical Investigation (MTPCI) – ICTS

Washington University School of Medicine

Co-Investigator

Principal Investigator: Elizabeth Salerno

"Characterizing Mental and Cognitive Health and Physical Activity in the Perioperative Breast Cancer

Setting"

Source: Washington University Center for Perioperative Mental Health

\$40,000; 2021-2022

Current:

Research Physical Therapist

Principal Investigators: Gammon Earhart, Terry Ellis

"Walking and mHealth to Increase Participation in Parkinson Disease (WHIP-PD)"

Source: NIH/NICHD R01 HD092444

\$669,771; 2018-2023

Principal Investigator

"Low Back Pain in Parkinson Disease"

Primary Mentor: Joel Perlmutter, MD; Secondary Mentor: Linda Van Dillen, PT, PhD

Source: NIH/NICHD K23 HD100569

\$104,698; 2020-2024

Co-Investigator

Principal Investigator: Elizabeth Salerno

"Prehabilitation to Revolutionize Oncology: Telehealth Exercise for Cognitive Triumphs (PROTECT)"

Source: Siteman Investigator Program – Washington University and Barnes Jewish Hospital

\$199,992; Jan 2023-Jan 2025

Pending:

None

Trainee/Mentee/Sponsorship Record:

Graduate Students:

2011-2013: Alysha Rasch, PT, DPT, Rachel Merideth, PT, DPT, Megan McCormick, PT, DPT, Sarah McDaniel, PT, DPT, Sara Townsend, PT, DPT – advisor for Maryville University DPT student research project

2012-2013: Katie Webb, PT, DPT – Washington University Program in Physical Therapy, advisor for case report and literature synthesis

2013-2015: Samantha Poteet, SPT, Kristin Scherer, SPT, Patrick Jacobs, SPT, Kyle Reynolds, SPT, Whitley Hudson, SPT – Maryville University DPT student research project

2015: Cameron Jadali, PT, DPT – Clinical Experience IV – Washington University Program in Physical Therapy

2016: Sarah Moore, PT, DPT – Washington University Program in Physical Therapy, advisor for case report and literature synthesis

2017: John Sosanya, PT, DPT – Washington University Program in Physical Therapy, advisor for case report and literature synthesis

2018: Ning Ding, PT, DPT – Washington University Program in Physical Therapy, advisor for case report and literature synthesis

2019: Kristen Ivy, SPT – Washington University Program in Physical Therapy, advisor for case report and literature synthesis

2020: Madeline Scrivner, SPT – Washington University Program in Physical Therapy, advisor for case report and literature synthesis

2020: Kallie Hart, SPT – Washington University Program in Physical Therapy, advisor for case report and literature synthesis

2021: Ian Huffman, SPT – Washington University Program in Physical Therapy, advisor for literature synthesis

- 2021: Jamie Reuter, SPT Washington University Program in Physical Therapy, advisor for literature synthesis
- 2022: Matthew Tassler, SPT Washington University Program in Physical Therapy, advisor for literature synthesis
- 2022: Nidhi Talpade, SPT Washington University Program in Physical Therapy, advisor for literature synthesis
- 2023: Payton Huffman, DPT Washington University Program in Physical Therapy, advisor for literature synthesis
- 2023: Emily Dyson, DPT Washington University Program in Physical Therapy, advisor for literature synthesis

Bibliography:

Original, peer-reviewed articles in refereed journals:

- 1. **Duncan RP**, Earhart GM. Measuring participation in individuals with Parkinson disease: relationships with disease severity, quality of life, and mobility. *Disabil Rehabil*. 2011;33(15-16):1440-1446. PMID: 20191047.
- 2. **Duncan RP**, Leddy AL, Earhart GM. Management of balance and gait in older individuals with Parkinson's disease. *Aging Health*. 2011;7(2):205-218.
- 3. **Duncan RP**, Leddy AL, Earhart GM. Five times sit to stand test performance in Parkinson disease. *Arch Phys Med Rehabil*. 2011;92(9):1431-1436. PMID: 21878213.
- 4. **Duncan RP**, Earhart GM. Randomized controlled trial of community-based dancing to modify disease progression in Parkinson disease. *Neurorehabil Neural Repair*. 2012;26(2):132-143. PMID: 21959675.
- 5. **Duncan RP**, Leddy AL, Cavanaugh JT, Dibble LE, Ellis TD, Ford MP, Foreman KB, Earhart GM. Accuracy of fall prediction in Parkinson disease: six-month and 12-month prospective analyses. *Parkinsons Dis.* 2012;1-7. PMID: 22191069.
- 6. McNeely ME, **Duncan RP**, Earhart GM. Medication improves balance and complex gait performance in Parkinson disease. *Gait & Posture*. 2012;36(1):144-148. PMID: 22418585.
- 7. Pickett KA, **Duncan RP**, Permutt A, Marshall B, Hershey T, Earhart GM. Balance impairment present in young individuals with Wolfram syndrome. *Gait & Posture*. 2012;36(3):619-624. PMID: 22771154.
- 8. **Duncan RP**, Earhart GM. Should one measure balance or gait to best predict falls among people with Parkinson disease? *Parkinsons Dis.* 2012; 923493. PMID: 23213622.
- 9. Pickett KA, **Duncan RP**, Hoekel J, Marshall B, Hershey T, Earhart GM. Early presentation of gait impairment in Wolfram Syndrome. *Orphanet J Rare Dis*. 2012;7:92. PMID: 23217193.

- 10. Foster ER, Golden L, **Duncan RP**, Earhart GM. Community-based Argentine tango dance program is associated with increased activity participation among individuals with Parkinson's disease. *Arch Phys Med Rehabil*. 2013;94(2):240-9. PMID: 22902795.
- 11. **Duncan RP**, Earhart GM. Four square step test performance in people with Parkinson disease. *J Neurol Phys Ther*. 2013;37(1):2-8. PMID: 23364168.
- 12. **Duncan RP**, Leddy AL, Cavanaugh JT, Dibble LE, Ellis TD, Ford MP, Foreman KB, Earhart, GM. Comparative utility of the BESTest, Mini-BESTest, and Brief-BESTest for predicting falls in individuals with Parkinson disease: a cohort study. Comparison with the BESTest and Mini-BESTest. *Phys Ther*. 2013;93(4):542-50. PMID: 23174567.
- 13. Nemanich ST, **Duncan RP**, Cavanaugh J, Dibble L, Ellis T, Ford M, Foreman KB, Earhart GM. Predictors of walking speeds and differences between preferred and fast as possible walking speeds in people with Parkinson disease. *Parkinsons Dis.* 2013; 141720. PMID: 23841020.
- 14. Peterson DS, Pickett KA, **Duncan RP**, Perlmutter JS, Earhart GM. Brain activity during complex gait tasks in Parkinson disease. *Clin Neurophysiol*. 2013; 125(5):995-1005. PMID: 24210997.
- 15. Peterson DS, Pickett KA, **Duncan R,** Perlmutter JS, Earhart GM. Gait-related brain activity in people with Parkinson disease with freezing of gait. *PLoS One*. 2014;9(3):e90634. PMID: 24595265.
- 16. **Duncan RP,** Earhart GM. Are the effects of community-based dance on disease severity, balance, and functional mobility reduced with time in Parkinson disease? A two-year prospective pilot study. *J Alt Comp Med.* 2014;20(10):757-63. PMID: 25192393.
- 17. **Duncan RP**, Leddy AL, Cavanaugh JT, Dibble LE, Ellis TD, Ford MP, Foreman KB, Earhart, GM. Detecting and predicting balance decline in Parkinson disease: a prospective cohort study. *J Parkinsons Dis.* 2015;5(1):131-9. PMID: 25514984.
- 18. Earhart GM, **Duncan RP**, Huang JL, Perlmutter JS, Pickett KA. Comparing interventions and exploring neural mechanisms of exercise in Parkinson disease: a study protocol for a randomized controlled trial. *BMC Neurology*. 2015;15(1):9. PMID: 25652002.
- 19. McNeely ME, **Duncan RP**, Earhart GM. A comparison of dance interventions in people with Parkinson disease and older adults. *Maturitas*. 2015;81(1):10-6. PMID: 25771040.
- 20. **Duncan RP**, Cavanaugh JT, Earhart GM, Ellis TD, Ford MP, Foreman KB, Leddy AL, Paul SS, Canning CG, Thackeray A, Dibble LE. External validation of a simple clinical tool used to predict falls in people with Parkinson disease. *Parkinsonism Relat Disord*. 2015;21(8):960-3. PMID: 26003412.
- 21. **Duncan RP**, Leddy AL, Cavanaugh JT, Dibble LE, Ellis TD, Ford MP, Foreman KB, Earhart, GM. Balance differences in people with Parkinson disease with and without freezing of gait. *Gait Posture*. 2015;42(3):306-9. PMID: 26141905.

- 22. McNeely ME, **Duncan RP**, Earhart GM. Impact of Dance on Mood, Cognition, Participation, and Quality of Life in Parkinson Disease and Older Adults. *Maturitas*. 2015;82(4):336-41. PMID: 26318265.
- 23. McNeely ME, Mai MM, **Duncan RP**, Earhart GM. Differential effects of tango versus Dance for PD in Parkinson disease. *Frontiers Aging Neurosci*. 2015;7:239. PMID: 26733865.
- 24. Paul SS, Thackeray A, **Duncan RP**, Cavanaugh JT, Ellis TD, Earhart GM, Ford MP, Foreman KB, Dibble LE. Two-year trajectory of fall risk in people with Parkinson's disease: a latent class analysis. *Archives of Physical Medicine & Rehabilitation*. 2016;97(3):372-9. PMID: 26606871.
- 25. Christofoletti G, McNeely ME, **Duncan RP**, Campbell MC, Earhart GM. Factors impacting mobility in Parkinson's disease: evaluating the contribution of age, disease severity, and executive function. *Human Mov Sci.* 2016; 49:308-314. PMID: 27551818.
- 26. Seidler KJ, **Duncan RP**, McNeely ME, Hackney ME, Earhart GM. Feasibility and preliminary efficacy of a telerehabilitation approach to group adapted tango instruction for people with Parkinson disease. *Journal of Telemedicine and Telecare*. 2017;23(8):740-6. PMID: 27624469.
- 27. **Duncan RP**, Combs-Miller S, Leddy A, Cavanaugh J, Dibble L, Ellis T, Ford M, Foreman KB, Earhart GM. Do the 10 Meter and 6 Minute Walk Tests measure unique aspects of gait performance in Parkinson disease? *Gait Posture*. 2017; 52:178-182. PMID: 27915221.
- 28. Sutter EN, Seidler KJ, **Duncan RP**, Earhart GM, McNeely ME. Relationships Between Gait and Postural Responses in Parkinson Disease. *Journal of Rehabilitation Medicine*. 2017; 49(6):505-511. PMID: 28553677.
- 29. **Duncan RP,** McNeely ME, Earhart GM. Maximum step length test performance in people with Parkinson disease. *Journal of Neurologic Physical Therapy*. 2017; 41(4):215-221. PMID: 28922312.
- 30. Prateek GV, Skog I, McNeely ME, **Duncan RP**, Earhart GM, Nehorai A. Modeling, detecting, and tracking freezing of gait in Parkinson disease using inertial sensors. *IEEE Trans Biomed Eng.* 2018; 65(10):2152-2161. PMID: 29989948.
- 31. Myers PS, McNeely ME, Pickett KA, **Duncan RP**, Earhart GM. Effects of exercise on gait and motor imagery in people with Parkinson disease and freezing of gait. *Parkinsonism & Related Disorders*. 2018;53:89-95. PMID: 29754837.
- 32. **Duncan RP**, Van Dillen LR, Garbutt JM, Earhart GM, McNeely ME, Perlmutter JS. Balance and Gait Training for People with Parkinson Disease with Deep Brain Stimulation: a Protocol for a Pilot Randomized Controlled Trial. *Pilot & Feasibility Studies*. 2018; 4:54. PMID: 29484198.
- 33. Rawson KS, Creel P, Templin L, Horin AP, **Duncan RP**, Earhart GM. Freezing of Gait Boot Camp: Feasibility, Safety, and Preliminary Efficacy of a Community-Based Group Intervention. *Neurodegenerative Disease Management*. 2018; 8(5):307-314. PMID: 30223709.

- 34. Rawson KS, McNeely ME, **Duncan RP**, Pickett KA, Perlmutter JS, Earhart GM. Exercise and Parkinson Disease: Comparing Tango, Treadmill and Stretching. Journal of Neurologic Physical *Therapy*. 2019; 43(1):26-32. PMCID: PMC6294320.
- 35. **Duncan RP,** Van Dillen L, Garbutt J, Earhart GM, Perlmutter JS. Low Back Pain in Parkinson Disease: Impact on Functional Mobility, Physical Activity, and Quality of Life. *Physical Therapy*. 2019; 99(10):1346-1353. PMID: 31343700.
- 36. Rawson KS, Cavanaugh JT, Colon-Semenza C, Deangelis T, **Duncan RP**, Fulford D, LaValley MP, Mazzoni P, Nordahl T, Quintiliani LM, Saint-Hillaire M, Thomas CA, Earhart GM, Ellis TD. Design of the WHIP-PD Study: A Phase II, Twelve-Month, Dual-Site, Randomized Controlled Trial Evaluating the Effects of a Cognitive-Behavioral Approach for Promoting Enhanced Walking Activity Using Mobile Health Technology in People with Parkinson Disease. *BMC Neurology*. 2020: 20(1):146. PMID: 32312243.
- 37. May DS, Van Dillen LR, Earhart GM, Rawson KS, Perlmutter JS, **Duncan RP.** Effects of Subthalamic Nucleus Deep Brain Stimulation and Levodopa on Balance in People with Parkinson's Disease: A Cross Sectional Study. *Brain Sci.* 2020; 10(10): 693.
- 38. Abraham A, **Duncan RP**, Earhart GM. The Role of Mental Imagery in Parkinson's Disease Rehabilitation. *Brain Sci.* 2021; 11:185.
- 39. Zajac JA, Cavanaugh JT, Colon-Semenza C, Deangelis TR, **Duncan RP**, Fulford D, LaValley M, Nordahl T, Rawson KS, Saint-Hillaire M, Thomas CA, Earhart GM, Ellis TD. Are Mobile Persons With Parkinson's Disease Necessarily More Active? *J Neurol Phys Ther.* 2021; 45(4): 259-265.
- 40. Tueth LS, **Duncan RP**. Musculoskeletal Pain in Parkinson's Disease: a Narrative Review. *Neurodegenerative Disease Management.* 2021; 11(5):373-385.
- 41. Zajac JA, Cavanaugh JT, Baker T, **Duncan RP**, Fulford D, Girnis J, LaValley M, Nordahl T, Porciuncula F, Rawson KS, Sain-Hillaire M, Thomas CA, Earhart GM, Ellis TD. Does Walking Capacity Contribute to Walking Activity in People with Parkinson Disease? *Parkinsonism Relat Disord*. 2022; 105:123-127.
- 42. Girnis J, Cavanaugh JT, Baker T, **Duncan RP**, Fulford D, Girnis J, LaValley M, Nordahl T, Porciuncula F, Rawson KS, Sain-Hillaire M, Thomas CA, Zajac JA, Earhart GM, Ellis TD. Patterns of Walking Intensity and Duration in Parkinson Disease. *Journal of Neurologic Physical Therapy*. 2023; 47(3):146-154.
- 43. Salerno ES, Saint-Maurice PF, Wan F, Peterson LL, Park Y, Cao Y, **Duncan RP**, Troiano RP, Matthews CE. Prospective Associations Between Accelerometry-Derived Physical Activity and Sedentary Behaviors and Mortality Among Cancer Survivors. *Journal of the National Cancer Institute Cancer Spectrum.* 2023; 7(2):pkad007.

Abstracts – selected, high impact meeting abstracts:

1. **Duncan RP**, Earhart GM. Relationships Between Participation, Quality of Life and Mobility in Individuals with Parkinson Disease. World Parkinson Congress, Glasgow, Scotland, UK. *Mov Disord*. 2010;25(Suppl 3):S705.

- 2. Earhart GM, Rotello JMM, **Duncan RP**. Short-Term Effects of a Community-Based Tango Program on Motor and Non-Motor Symptoms, Activities of Daily Living, and Motor Complications in PD. World Parkinson Congress, Glasgow, Scotland, UK. *Mov Disord*. 2010;25(Suppl 3):S697-S698.
- 3. **Duncan RP**, Rotello JMM, Earhart GM. Community-based Dance for People with Parkinson Disease. APTA Combined Sections Meeting, New Orleans, LA. 2011.
- 4. **Duncan RP**, Earhart GM. Four Square Step Test Performance In Individuals with Parkinson Disease. APTA Combined Sections Meeting, Chicago, IL. 2012.
- 5. Earhart GM, **Duncan RP**, Leddy AL, Cavanaugh JT, Ellis T, Ford MP, Foreman KB, Dibble LE. Prospective Identification of Fallers with Parkinson Disease Using the BESTest and MiniBESTest. APTA Combined Sections Meeting, Chicago, IL. 2012.
- 6. Earhart GM, **Duncan RP**. Should One Measure Balance or Gait to Best Predict Falls Among People with Parkinson Disease? International Society for Posture and Gait Research Trondheim, Norway. 2012.
- 7. **Duncan RP,** Leddy A, Cavanaugh J, Dibble L, Ellis T, Ford M, Foreman KB, Earhart GM. Predicting Falls in Parkinson Disease: Is the Brief-BESTest as Good as the Mini-BESTest? APTA Combined Sections Meeting, San Diego, CA. 2013.
- 8. **Duncan RP,** Leddy A, Cavanaugh J, Dibble L, Ellis T, Ford M, Foreman KB, Earhart GM. Prospective Measurement of Balance Decline in People with Parkinson Disease. Movement Disorder Society International Congress Sydney, Australia. 2013.
- 9. **Duncan RP,** Leddy A, Cavanaugh J, Dibble L, Ellis T, Ford M, Foreman KB, Earhart GM. Predictors of Change in Balance Over 6 and 12 Months in Parkinson Disease. Movement Disorder Society International Congress Sydney, Australia. 2013.
- 10. **Duncan RP,** Leddy A, Cavanaugh J, Dibble L, Ellis T, Ford M, Foreman KB, Earhart GM. Balance Differences Between People with and without Freezing of Gait in Parkinson Disease. World Parkinson Congress Montreal, Canada. 2013.
- 11. **Duncan RP,** Earhart GM, Pickett KA, Weiss R, Campbell MC. Do Measures of Balance, Motor Severity, or Executive Function Accurately Identify Fall History in Parkinson Disease? APTA Combined Sections Meeting. Indianapolis, IN. 2015.
- 12. Paul SS, **Duncan RP**, Cavanaugh JT, Earhart GM, Ellis TD, Ford MP, Foreman KB, Leddy AL, Canning CG, Thackeray A, Dibble LE. External Validation of a Simple Clinical Tool Used to Predict Falls in People with Parkinson Disease. International Congress of Parkinson's Disease and Movement Disorders San Diego, CA. 2015.
- 13. **Duncan RP**, McNeely ME, Earhart GM. Non-Motor Symptoms in Parkinson Disease: Relationships with Motor Performance. APTA Combined Sections Meeting Anaheim, CA. 2016.

- 14. McNeely ME, **Duncan RP**, Earhart GM. Differential Effects of Tango, Treadmill, and Stretching Interventions on Gait in People with Parkinson Disease. Rehabilitation Research at NIH: Moving the Field Forward Bethesda, MD. 2016.
- 15. **Duncan RP**, McNeely ME, Earhart GM. Does Distance Walked after Two Minutes Predict Total 6 Minute Walk Test Distance in People with Parkinson Disease? International Congress of Parkinson's Disease and Movement Disorders Berlin, Germany. 2016.
- 16. **Duncan RP,** McNeely ME, Cavanaugh J, Dibble L, Ellis T, Ford M, Foreman KB, Earhart GM. Tracking Progression of Motor Signs and Quality of Life Based on Motor Phenotype in Parkinson Disease. IV STEP. Columbus, OH. 2016.
- 17. **Duncan RP,** McNeely ME, Earhart GM. Characterizing Maximum Step Length Test Performance in People with Parkinson Disease. World Parkinson Congress Portland, OR. 2016.
- 18. Seidler KJ, **Duncan RP**, McNeely ME, Earhart GM. Relationship Between Gait and Reactive Postural Control in Fallers and Non-Fallers in Parkinson Disease. APTA Combined Sections Meeting San Antonio, TX. 2017.
- 19. **Duncan RP,** Van Dillen LR, Garbutt JM, Earhart GM, McNeely ME, Perlmutter JS. Low Back Pain in Parkinson Disease: Impact on Motor Severity, Physical Activity, and Quality of Life. APTA Combined Sections Meeting –Platform Presentation New Orleans, LA. 2018.
- 20. **Duncan RP,** Van Dillen LR, Rawson KS, Earhart GM, Perlmutter JS. Physical Therapy and Deep Brain Stimulation in Parkinson Disease: a Pilot Randomized Controlled Trial. International Parkinson and Movement Disorder Society International Congress Philadelphia, PA (virtual). 2020.
- 21. Zajac JA, Cavanaugh JT, Colón-Semenza C, DeAngelis TR, **Duncan RP**, Hessler M, Nordahl T, Rawson KS, Shumate S, Earhart GM, Ellis TD. Life-space as an indicator of active mobility in persons with Parkinson disease. Platform Presentation. APTA Combined Sections Meeting (Virtual). February 2021.
- 22. Crumley M, Notestine T, Crowner BE, **Duncan RP**, Holleran CL, Bland M. Barriers to and Percentage of Vital Sign Assessment in an Outpatient Neurologic Physical Therapy Setting. American Physical Therapy Association Combined Sections Meeting (Virtual). February 2021.
- 23. **Duncan RP**, Rawson KS, Cavanaugh JT, Colon-Semenza C, Deangelis T, Fulford D, LaValley MP, Mazzoni P, Nordahl T, Quintiliani LM, Saint-Hillaire M, Thomas CA, Earhart GM, Ellis TD. Relationship between low back pain-related disability and physical performance in people with Parkinson disease. International Parkinson and Movement Disorder Society International Congress Virtual. 2021.
- 24. **Duncan RP**, Nordahl T, Baker T, Cavanaugh JT, Deangelis T, Fulford D, Girnis J, Hessler MJ, LaValley MP, Saint-Hillaire M, Thomas CA, Ellis TD, Earhart GM, Rawson KS. Relationships Between Low Back Pain-Related Disability, Motor Capacity, and Executive Function in Parkinson Disease. American Physical Therapy Association Combined Sections Meeting (San Diego, CA). February 2023.

- 25. Salerno EA, Saint-Maurice PF, Wan F, Peterson LL, Park Y, Cao, Y, **Duncan RP**, Troiano R, Matthews CE. Associations Between Accelerometry-Derived Physical Activity, Sedentary Behavior, and Mortality in NHANES Cancer Survivors. Society for Behavioral Medicine. Phoenix, AZ. April 2023.
- 26. **Duncan RP**, Nordahl T, Baker T, Cavanaugh JT, Deangelis T, Fulford D, Girnis J, Hessler MJ, LaValley MP, Saint-Hillaire M, Thomas CA, Ellis TD, Earhart GM, Rawson KS. Does Musculoskeletal Pain Impact Physical Activity in Parkinson Disease? World Parkinson Congress. Barcelona, Spain. July 2023.