

PWR! Moves® Therapist Training and Certification Workshop



Date

July 6-7, 2019

Location

David Braley Athletic
& Recreation Centre
135 Fennell Avenue West
Hamilton, ON L9C 0E5

Eligible Participants

Kinesiotherapists, Physical and
Occupational Therapists, Physical
and Occupational Therapist
Assistants, PT, DPT, PTA, OT,
OTA students

Registration Fees

Get \$100 USD discount using coupon code OCANADA

\$650 USD per person

\$625 USD per person for groups of 2-4

For information about graduate student and other discounts for larger groups, email
workshops@pwr4life.org.

For more information email us at workshops@pwr4life.org, or to register online, visit
www.pwr4life.org.

Implement PD-specific research-based exercise programs now!

Help people with Parkinson disease get better and stay better with exercise!

PWR!Moves® Therapist Workshop Training and Certification Course Description

Recent advances in basic and clinical science research suggest exercise and learning approaches may protect, repair, and optimize function in persons with Parkinson disease (PD).¹⁻¹² To be effective, proactive rehabilitation paradigms are needed that deliver ongoing programming for life, starting at diagnosis, and that are guided by the essential principles of learning and neuroplasticity.¹² Participants will be introduced to a comprehensive research-based framework called Exercise4BrainChange® to guide clinicians in how to implement essential principles of learning and neuroplasticity identified in the literature to real world practice. Techniques will be described that advocate forced use, progressive difficulty, reinforcement, active engagement, empowerment, attention to action, sensory awareness training, and neural readiness (e.g., aerobic conditioning, mental imagery). Each of these principles is rooted in research in exercise science, motor control, and motor learning. This framework will be integrated with an understanding of the pathophysiology of Parkinson's disease for greater specificity of training.

PWR!Moves® are building blocks for everyday movement and involve the performance of whole body large amplitude, "big" movements in multiple postures (e.g., prone, supine, all 4's, sitting, standing). The Basic 4 | **PWR!Moves**, **PWR! Up**, **PWR! Rock**, **PWR! Twist**, and **PWR! Step**, are taught as essential functional exercises which target the primary symptoms of PD, bradykinesia, rigidity, and incoordination. They provide the repetition and specificity of training for people with PD and can be scaled up or down across disease severity, integrated into function/ADL/lifestyle, implemented across disciplines (OT/PT/SPL) and settings (therapy and community), and reinforced in other research exercise programming (e.g., treadmill, cycling, pole walking, yoga, boxing, dance, Tai Chi). Exercise4BrainChange® framework applied to **PWR!Moves®** allows for a comprehensive PD-specific approach that can target the multiple motor, sensory, cognitive, and emotional symptoms of PD.

Participants will have the opportunity to practice **PWR!Moves®** incorporating E4BC® techniques while getting feedback from **PWR!Moves** faculty. They will also watch live demos of **PWR!Moves®** and treatment with volunteers with PD working with **PWR!Moves®** faculty. Video cases and an interactive format will be used to discuss treatment plan essentials, to introduce specific exercises and various progressions, and to illustrate the real-world implementation of this framework across disease severity levels. Participants will be able to develop comprehensive neuroplasticity-principled, PD-specific treatment plans that integrate other evidenced-based approaches and account for disease severity, symptoms, co-morbidities, preferred forms of exercise and activity, capacity for learning, and age.

The clinical translation of neuroplasticity-principled approaches for people with PD is dependent upon overcoming many challenges. Environments for learning are needed that embrace an atmosphere of empowerment, motivation, social enrichment, and function. Regional networks of **PWR!Moves®** exercise experts are needed to advocate for early assessment and intervention, ongoing exercise, enrichment, and coordination with existing community fitness resources and local Parkinson foundations. We will describe how a Model Community NeuroFitness Center for people with Parkinson disease may offer a potential solution through partnerships with healthcare systems, Parkinson Foundations, and through the training of local networks of **PWR!Moves®**-certified PD exercise experts.

Objectives and Goals

1. Discuss recent advances in Parkinson disease etiology, pathophysiology, and diagnostic criteria.
2. Recognize motor and non-motor symptoms and how they interfere with function and present barriers to participation.
3. Summarize recent advances in basic and clinical neuroscience that have brought exercise (aerobics and skill acquisition) to the forefront in PD as it relates to *optimal brain function and skill acquisition*.
4. Explain the significance of targeting the training of amplitude into function (**PWR!Moves®**) as the foundation for a comprehensive PD-specific program.
5. Perform the Basic 4 | **PWR!Moves®** in 5 positions: prone, supine, all 4's, sitting, standing, and explain how they target foundational skills that become impaired in people with PD and how that interferes with function.
6. Vary the goal of how the Basic 4 | **PWR!Moves®** are instructed and explain how that may differentially target multiple symptoms of PD (e.g., rigidity, bradykinesia, incoordination, automaticity).
7. Describe how working on each of the Basic 4 | **PWR!Moves®** provides a PD-specific approach to targeting general fitness problems related to flexibility, strength, coordination, balance, and posture.
8. Demonstrate how **PWR!** Boosts can be a stand-alone program or integrated into **PWR!Moves®** exercises and discuss why they are important for PWP.
9. Demonstrate effective use of modeling, mental imagery, attentional focus, external cues, instruction, and reward-based and task-specific feedback to achieve optimal engagement for optimal performance and learning.
10. Explain the significance of implementing **PWR!Moves®** as a foundation for PD-specific exercise across settings (therapy and community) that can be a stand-alone program, or that can be integrated into task-specific training or other research-based community exercise programming (e.g., treadmill, cycling, pole walking, yoga, boxing, dance, Tai Chi).
11. Develop a comprehensive treatment plan for individuals with different disease severity using video case studies that is consistent with **PWR!4Life™** essentials and the European Guidelines.
12. Implement **PWR!Moves®** exercise progressions using video cases to illustrate real world implementation of Exercises4BrainChange® framework across disease severity.
13. Discuss the unmet needs in PD rehabilitation and possible solutions to their resolution through novel paradigms and community partnerships.

PWR!Moves® THERAPIST WORKSHOP SCHEDULE - DAY 1

YELLOW = Practicum sessions with PwP

7:30 am	Registration
8:00 am	Introduction PWR! vision for healthcare for PwP (people with Parkinson disease)
8:40 am	Exercise as medicine in Parkinson disease – The why, what, and how
10:00 am	BREAK
10:15 am	Basic 4 PWR!Moves® - GROUP PRACTICUM <ul style="list-style-type: none"> • Basic 4 PWR!Moves prone / supine / all 4's / sitting / standing • PREPARE / ACTIVATE / FLOW (positional flow) • Connect to symptoms (e.g., rigidity, bradykinesia, incoordination) • Connect to function application • BOOSTS integrated • Adaptations / simple equipment for cues / targets
12:30 pm	LUNCH (on your own)
1:30 pm	Basic 4 PWR!Moves GROUP PRACTICUM with PwP (n = 2-3) <ul style="list-style-type: none"> • Demo what they will do in the small group practicum with a PwP • Demo simple equipment, feedback, and adaptations for high quality practice
2:30 pm	Basic 4 PWR!Moves GROUP PRACTICUM <ul style="list-style-type: none"> • Practice how you will teach one of the Basic 4 PWR!Moves to a PwP
3:00 pm	Basic 4 PWR!Moves – Small GROUP PRACTICUM with PwP (n = 2-3) <ul style="list-style-type: none"> • Teach one of the PWR!Moves to a PwP
4:00 pm	BREAK
4:15 pm	Basic 4 PWR!Moves – Cognitive / Motor Challenges GROUP PRACTICUM <ul style="list-style-type: none"> • Debrief Practicum • Basic 4 PWR!Moves walking (plus variations; pole walking) • Basic 4 PWR!Moves transitions (evolutions and other variations) • Introduce Basic 4 PWR!Moves functional flows
6:00 pm	End of Day 1

(schedule subject to change)

PWR!Moves® THERAPIST WORKSHOP SCHEDULE - DAY 2

YELLOW = Practicum sessions with PwP

8:00 am	PWR! Pearls Evidence for learning in PD: How to optimize learning in PD
9:30 am	Basic 4 PWR!Moves Motor / Cognitive Challenges GROUP PRACTICUM <ul style="list-style-type: none"> • Review Basic 4 PWR!Moves (flows with boosts) • Add variation ideas in each position • Review Basic 4 PWR!Moves transitions (evolutions) • Introduce stand alone or advanced boosts (for attention vs. cognition) • Create task-specific / functional progressions • Overview practicum equipment stations to enhance learning
10:45 am	BREAK
11:00 am	Task-Specific GROUP PRACTICUM - Faculty Demo with PwP (n=2) <ul style="list-style-type: none"> • Integrate PWR!Moves into rehab through exercise / task-specific progressions (e.g., gait / agility, balance, stepping, turning, fall prevention, bed mobility, posture, strength, function, dexterity, sports / lifestyle, eye boosts) • Apply Exercise4BrainChange® principles • Use equipment to enhance learning (assist / guide / challenge / empower)
12:30 pm	LUNCH (on your own)
1:30 pm	PWR!Moves Rehab Program Implementation - Discussion <ul style="list-style-type: none"> • Discuss volunteer practicum cases and propose a plan of care • Additional advanced cases • Refer to symptoms / principles table
2:45 pm	Barriers to Exercise as Medicine and Implications for Healthcare
3:10 pm	PWR! Professionals and you! Building your local PWR! networks, from rehab to community and back!
3:30 pm	End of Day 2 – THE END!

(schedule subject to change)

WELCOME TO THE PARKINSON EXERCISE REVOLUTION!

Faculty

Becky G. Farley, PhD, MS, PT

Dr. Farley received a PhD in Neuroscience from the University of Arizona, a Master of Science in Physical Therapy from the University of North Carolina, and a Bachelor of Physical Therapy from the University of Oklahoma. She has over 30 years of experience in neurological rehabilitation, and is currently the CEO/Founder of the nonprofit Parkinson Wellness Recovery | **PWR!**[®] and a Physiology Associate at the University of Arizona. During her post-doc, Dr. Farley studied bradykinesia, developed the LSVT[®] BIG exercise program, and completed an NIH funded randomized clinical trial documenting its' short-term efficacy (3-months).

Dr. Farley is now training clinicians and fitness professionals to be PD-exercise experts to ensure the foundations of large amplitude functional training and other essential research-components are implemented into a comprehensive PD-specific exercise and integrated throughout the Parkinson's community. She is advocating that local PD-exercise experts join forces to allow people with PD to have access to comprehensive neuroplasticity-principled exercise programming for life, beginning at diagnosis. This is the type of paradigm shift that is necessary to truly slow disease progression. On February 2012, the doors to the first **PWR!Gym**[®], a Model Community Neuro Fitness Center for people with Parkinson disease, were opened in Tucson, AZ to truly implement **Exercise AS Medicine**.

Jennifer Bazan-Wigle, PT, DPT

Dr. Jennifer Bazan-Wigle began her first career with a Bachelor's of Science in Education from Northern Arizona University teaching science for the Department of Defense Schools in the Netherlands, South Korea, Japan, and Germany and for the Miami-Dade School District in Miami, FL. In 2010, Jennifer graduated with a Doctor of Physical Therapy from Nova Southeastern University in Ft. Lauderdale, FL. Her primary area of physical therapy practice has focused on neurological rehabilitation. She is currently the Lead **PWR!Gym**[®] Physical Therapist and participates in research, community presentations and continuing education courses as part of the **PWR!Moves**[®] Faculty.

Claire McLean, DPT, NCS

Dr. Claire McLean is a Board Certified Neurologic Clinical Specialist. She graduated with a doctorate in physical therapy from the University of Southern California and has specialty training through the University of Southern California/Rancho Los Amigos Neurologic Physical Therapy Residency program.

At Hoag Hospital, an NPF Care Center, Dr. McLean works in the outpatient rehabilitation clinic primarily with clients with neurologic dysfunction with an emphasis on Parkinson's disease and other movement disorders. She is on an interdisciplinary assessment and intervention team for patients prior to, and after receiving DBS surgery. Dr. McLean also coordinates and instructs multiple community exercise classes for individuals with PD following physical therapy.

Dr. McLean also is an Adjunct Faculty member instructing in USC's entry-level doctorate program. She has instructed in continuing education courses on the topics of self-efficacy and executive function training for patients with neurologic dysfunction as well as for the LSVT[®]BIG program. Dr. McLean has research experience working as an intervention therapist on the LEAPS (Locomotor Experience Applied Post-Stroke) trial, and on multiple studies investigating the effect of exercise in people with Parkinson disease. She was the primary blinded evaluator for the California sites of the ICARE (Interdisciplinary Comprehensive Arm Rehabilitation Evaluation) trial.

References

1. Ahlskog JE. Does vigorous exercise have a neuroprotective effect in Parkinson disease? *Neurology* 2011;77:288-294.
2. Bouca-Machado R, Maetzler W, Ferreira JJ. What is functional mobility applied to Parkinson's disease. *J Parkinson Disease* 2018;8:121-130.
3. Cascaes da Silva F, Iop Rda R, Domingos dos Santos P, Aguiar Bezerra de Melo LM, Barbosa Gutierrez Filho PJ, da Silva R. Effects of Physical-exercise-based rehabilitation programs on the quality of life of patients with Parkinson's disease: A systematic review of randomized controlled trials. *J Aging Physical Activity* 2016;24(3):484-496.
4. Duchesne C, Gheysen F, Bore A, Albouy G, Nadeau A, et al. Influence of aerobic exercise training on the neural correlates of motor learning in Parkinson's disease individuals. *NeuroImage Clin* 2016;12:559-569.
5. Duchesne C, Lungu O, Nadeau A, Robillard ME, Bore A, et al. Enhancing both motor and cognitive functioning in Parkinson's disease: Aerobic exercise as a rehabilitative intervention. *Brain Cognition* 2015;99:68-77.
6. Farley BG, Koshland GF. Training BIG to move faster: The application of the speed-amplitude relation as a rehabilitation strategy for people with Parkinson's disease. *Exp Brain Res* 2005;167(3):462-467.
7. Farley BG, Fox CM, Ramig LO, McFarland, D. Intensive amplitude-specific therapeutic approaches for Parkinson disease: Toward a neuroplasticity-principled rehabilitation model. *Top Geriatr Rehabil* 2008;24(2):99-114.
8. Frazzitta G, Bertotti G, Riboldazzi G, Turla M, Uccellini D, Boveri N, et al. Effectiveness of intensive inpatient rehabilitation treatment on disease progression in parkinsonian patients: A randomized controlled trial with 1-year follow-up. *Neurorehab Neural Repair* 2012;26:144-150.
9. Frazzitta G, Maestri R, Bertotti G, Riboldazzi G, Boveri N, Perini M, Uccellini D, Turla M, Comi C, Pezzoli G, Ghilardi MF. Intensive rehabilitation treatment in early Parkinson's disease: A randomized pilot study with a 2-year follow-up. *Neurorehab Neural Repair* 2015;29(2):123-131.
10. Hirsch MA, Farley BG. Exercise and Neuroplasticity in Persons Living with Parkinson's Disease. *Eur J Phys Rehabil Med* 2009;45:215-229.
11. Abbruzzese G, Marchese R, Avanzino L, Pelosin E. Rehabilitation for Parkinson's disease: Current outlook and future challenges. *Parkinsonism Related Disord* 2016;22:S60-S64.
12. Gretchen O, Reynolds MA, Otto MW, Ellis TD, Cronin-Golomb A. The therapeutic potential of exercise to improve mood, cognition, and sleep in Parkinson's disease. *Mov Disord* 2016;31(1):23-38.
13. Lauze M, Daneault JF, Duval C. The effects of physical activity in Parkinson's disease: A review. *J Parkinson's Disease* 2016;6:685-698.
14. Marinelli L, Quartarone A, Hallett M, Frazzitta G, Ghilardi MF. The many facets of motor learning and their relevance for Parkinson's disease. *Clin Neurophysiol* 2017;128:1127-1141.
15. Petzinger GM, Fisher BE, McEwen S, Beeler JA, Walsh JP, Jakowec M. Exercise-enhanced neuroplasticity targeting motor and cognitive circuitry in Parkinson's disease. *Lancet* 2013;12:716-726.
16. Schenkman M, Moor CG, Kohrt WM, Hall DA, Delitto A, Comella CL, et al. Effect of high-intensity treadmill exercise on motor symptoms in patients with De Novo Parkinson disease. A phase 2 randomized clinical trial. *JAMA Neurology* 2018 Feb 1;75(2):219-226.
17. Lee YY, Fisher BE. Use of low-frequency repetitive transcranial magnetic stimulation to reduce context-dependent learning in people with Parkinson's disease. *Eur J Phys Rehabil Med* 2018 Aug;54(4):560-567.