



Translating Research

into **Exercise4BrainChange**[®] approaches for individuals with Parkinson disease.

Real World Rehabilitation and Community Implications

Workshop Information:

Presbyterian Healthplex
6301 Forest Hills Drive NE
Albuquerque, NM 87109
October 24-25th, 2015

Registration Deadline:

October 17th, 2015

Audience:

Physical/Occupational Therapists, Physical/Occupational Therapist Assistants
(Limited spots available for students enrolled in a Master or Doctoral Program)

Approved for 14 contact hours/1.4 CEU's:

Arizona Physical Therapy Association (14-0703)
California Physical Therapy Association (CPTA #14-123)
Florida Physical Therapy Association (20-459054)
Kentucky Physical therapy Association (#94-IPKTA-14)
Maryland Board of Physical Therapy Examiners
Montana Chapter of the American Physical Therapy Association
Nevada State Board of Physical Therapy Examiners (NAC 640.450)
Ohio Physical Therapy Association (14S0480)
Oklahoma State Board of Physical Therapy (201501507)
Texas Physical Therapy Association (56626TX)
Wisconsin Physical Therapy Association (#15808)

Approved for 15 contact hours/1.5 CEU's:

Kentucky Physical therapy Association (#94-IPKTA-14)

Tuition

\$550

\$300 Graduate Student Fee (CANNOT be combined with any group discounts)

Group Discounts: \$500 for 2-4; \$475 for 5+ (students cannot be part of group discounts)

\$50 Late Fee (if registering after registration deadline – check availability)

Implementing **Exercise4BrainChange**[®] NOW

Join the **PARKINSON EXERCISE REVOLUTION!**

Give People **PWR!** over their Parkinson disease!

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For more information, or to register, visit www.pwr4life.org

PWR!Therapist 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 NOW. For each construct, techniques will be described that advocate forced use, progressive difficulty, reinforcement, active engagement, empowerment, attention to action, sensory awareness training, and neural readiness (aerobic conditioning/mental imagery). Each of these constructs is founded upon research in the fields of 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 (prone/supine/all 4's/sitting/standing). The Basic 4 | PWR!Moves™ (UP/ROCK/TWIST/STEP) are taught as essential FUNctional exercises to target the primary symptoms of PD (bradykinesia/rigidity/incoordination). They provide the repetition and specificity of training for people with PD and can be scaled up/down across disease severity, integrated into function/ADL/lifestyle, implemented across disciplines (OT/PT/SPL) and settings (therapy/community), and reinforced in other research exercise programming (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/emotional symptoms of PD.

Participants will have the opportunity to practice PWR!Moves™ incorporating E4BC® techniques while getting feedback from PWR! Faculty. They will also watch live demos of PWR!Moves™ progressions and treatment with volunteers with PD working with PWR! 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. Participants will be able to develop comprehensive neuroplasticity-principled PD-specific treatment plans that take into account other evidenced-based approaches, 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! 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! PD exercise experts.

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Objectives/Goals:

1. Summarize recent advances in basic and clinical neuroscience that have brought exercise to the forefront in PD as it relates to optimal brain function and skill acquisition.
2. Identify the PD-specific motor/sensory/cognitive/emotional deficits that interfere with exercise, learning, and function.
3. Provide a novel clinical framework (Exercise4BrainChange®) to guide clinicians in how to implement treatment plans to optimize plasticity and learning.
4. Describe how the Exercise4BrainChange® constructs target PD-specific motor/sensory/cognitive/emotional deficits, and allow for the integration of multiple evidenced-based approaches.
5. Define PWR!Moves™ and how they can be used to target the primary symptoms of PD bradykinesia, rigidity, coordination.
6. Perform the Basic 4 | PWR!Moves™ Routines in different positions (prone/supine/all4's/sitting/standing) and then create a PWR!Moves™ progression around a common functional or ADL goal for people of different disease severity.
7. Discuss how PWR!Boosts can be used to enhance performance and learning during a PWR!Moves™ progression.
8. Create a treatment plan that adheres to the PD-specific application of the Exercise4BrainChange® framework for people of different disease severity and that incorporates PWR!Moves™ as a foundation with other evidenced-based approaches.
9. Identify assessment tools that are PD-specific and appropriate for different levels of severity or for characterizing different impairments.
10. Discuss solutions to the translation of neuroplasticity-principled programming into rehabilitation and community, including PD-specific community neurofitness centers (PWR!Gym®).

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SCHEDULE SUBJECT TO CHANGE

Translating Research into Exercise4BrainChange™ Approaches for Individuals with Parkinson Disease: Real World Rehabilitation and Community Implications

PWR! WORKSHOP SCHEDULE - DAY 1

7:30 am	Registration
8:00 am	Introduction to Parkinson Wellness Recovery (PWR!)
8:30 am	Overview of Parkinson disease (PD)
9:15 am	Evidence for Exercise in Parkinson disease
10:15 am	Break
10:30 am	Specificity of Training in PD (Symptoms)
11:00 am	Introduction/Rationale of PWR! Moves
12:30 pm	Lunch (on your own)
1:30 pm	Basic4 PWR! Moves Demo with 1 PWP brief prepare/activate/flow
2:30 pm	Basic4 PWR! MOVES PRACTICUM 1 - Skill Acquisition (Group Participation)
4:00 pm	Break
4:15 pm	Basic4PWR! MOVES PRACTICUM 2A (Group/partner Participation)
4:45 pm	Basic4PWR! MOVES PRACTICUM 2B - Teach group your exercise progression
5:15 pm	Discussion of Practicum Summary/Questions/Highlights
5:30 pm	End of Day 1

PWR! WORKSHOP SCHEDULE - DAY 2

8:00 am	Optimizing learning in PD? Evidence? Exercise4BrainChange™ Rationale in PD
9:30 am	Break
9:45 am	Exercise4BrainChange™ Demo with 2 PWP Progressive Aerobic Training & PWR!Moves
11:30 am	Lunch (on your own)
12:30 pm	Basic4PWR! MOVES PRACTICUM 3 (Group Participation with equipment stations)
1:30 pm	Developing Exercise4BrainChange Treatment Plans
2:30 pm	Test/Discussion
3:00 pm	Exercise4BrainChange - Implications for our healthcare delivery paradigm
3:45 pm	End of Day 2 – THE END!
	Course Feedback Forms/Certificates of completion and Database forms

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Course: Translating Research into Exercise4BrainChange® Approaches for Individuals with Parkinson disease.

REGISTRATION INFORMATION

Registration will not be processed without FULL payment. **You are not officially registered until receipt of confirmation letter for the course.** One week prior to the course, only internet registrations and faxed registration forms will be accepted. Late fee will apply at that time. Slots are granted on a first come, first serve basis, if registering late, please check availability.

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CANCELLATION POLICY

If PARTICIPANT CANCELS:
With written or phone notification of cancellation, tuition will be refunded minus the following cancellation fees:
 4 weeks prior to workshop date: \$75.00
 2 weeks prior to workshop date: \$150.00
 < 2 weeks of workshop date: \$300.00

If PARKINSON WELLNESS RECOVERY CANCELS:
Full tuition will be refunded. PWR! is not responsible for the refund of travel or hotel expenses under any circumstances.

 Cancellation Policy Accepted
(Must be checked to complete processing)

Registration Fees	
First Name: _____	
Last Name: _____	<input type="checkbox"/>
Home/Billing Address: _____	<input type="checkbox"/>
Home Phone: _____	
Cell Phone: _____	<input type="checkbox"/>
Email: _____	
Credit Card#: _____	<input type="checkbox"/>
Exp.: _____	
Signature: _____	
PLEASE LIST OR EMAIL US THE NAMES OF OTHER GROUP PARTICIPANTS	

Thank you for your registration!

If paying by check, please fax, or mail this form to PWR! at: 3849 E. Broadway Blvd., STE#163; Tucson, AZ 85716 or send it via email to: lynne@pwr4life.org
 Registration and payment also available online at: www.pwr4life.org

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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! 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.

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References:

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2. 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.
3. 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.
4. Fisher BE, Auanzheng L, Nacca A, Salem GJ, Song J, Yip J, Hui JS, Jakowec MW, Petzinger GM. Treadmill exercise elevates striatal dopamine D2 receptor binding potential in patients with early Parkinson's disease. *Neuroreport* 2013;24:509-514.
5. 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.
6. Hirsch MA, Farley BG. Exercise and Neuroplasticity in Persons Living with Parkinson's Disease. *Eur J Phys Rehabil Med* 2009;45:215-229.
7. Kleim, JA, Jones TA. Principles of experience-dependent neural plasticity: implications for rehabilitation after brain damage. *J Speech Lang Hear Res* 2008;51(1):S225-S239.
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9. 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.
10. Petzinger GM, Fisher BE, Van Leeuwen JE, Vukovic M, Akopian G, Meshul CK, Holschneider DP, Nacca A, Walsh JP, Jakowec MW. Enhancing neuroplasticity in the basal ganglia. The role of exercise in Parkinson's disease. *Mov Disord* 2010;26(Suppl 1):S141-S145.
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12. Rochester L, Baker K, Hetherington V, Jones D, Willems A, Kwakkel G, Van Wegen E, Lim I, Nieuwboer. Evidence for motor learning in Parkinson's disease: Acquisition, automaticity and retention of cued gait performance after training with external rhythmical cues. *Brain Res* 2010;1319:103-111.
13. Tabak R, Aquije G, Fisher B. Aerobic exercise to improve executive function in Parkinson disease: A case series. *JNPT* 2013;37:58-64.
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15. Zigmond MJ, Cameron JL, Hoffer BJ, Smeyne RJ. Neurorestoration by physical exercise: moving forward. *Parkinsonism Relat Disord* 2012 Jan;18 Suppl 1:S147-50.