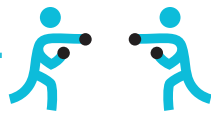




Exercise Convening Summary Report

*The Road to Creating Exercise Guidelines and
Competencies for Exercise Professionals Working with
People with Parkinson's Disease*



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Parkinson's Foundation Exercise Convening Summary Report

The Road to Creating Exercise Guidelines and Competencies for Exercise Professionals Working with People with Parkinson's Disease

Table of Contents:

Executive Summary.....	4
Introduction	5
Convening Objectives	6
Shared Understanding	7
Convening Outcomes	8
Next Steps.....	9
The Road to Competency Timeline	10
Exercise Guidelines for People with Parkinson's	12
Methodology Process towards Competencies	14
Setting a Standard.....	15
Exercise Accessibility Challenges.....	15
Conclusion	17
Appendix A: Attendee List	18
Appendix B: Education Models	20
Appendix C: Defining Key Terms	23
Appendix D: Terminology related to exercise professionals	25
References	29

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EXECUTIVE SUMMARY

This report describes the Parkinson's Foundation Exercise Convening, which took place in March 2020, as well as highlighting key activities since the Convening around the proposed Objectives, Outcomes and Next Steps.

Through the Convening, the Foundation brought together thought leaders in the fields of exercise and education focused on Parkinson's disease (PD) to lay out the steps to develop consensus on exercise guidelines as well as competencies for exercise professionals working with the Parkinson's community. The purpose of the Convening was to develop a collective understanding regarding Parkinson's exercise guidelines as well as best practices for exercise education programming and facilitation for people with Parkinson's disease. The Convening brought together professionals from disciplines who traditionally work independently of one another, creating a forum of conversation, understanding and a commitment to move to a more "team care" approach between qualified professionals.

Our primary goal was to inform the development of *Competencies for Exercise Professionals Working with People with Parkinson's Disease*. As a leader in driving better health outcomes and quality of life for people with Parkinson's disease, the Parkinson's Foundation recognized the importance of **exercise guidelines** and **competencies for exercise professionals** to ensure that when people with Parkinson's participate in exercise programs, they know that their instructor is competent in providing safe and effective exercise. The Convening was the first step in making this a reality.

Exercise Guidelines

Help people understand the types and amounts of physical activity that offer important health benefits.

Competencies

Define the tasks that one must perform at or above acceptable levels in the work environment.

INTRODUCTION

Exercise is increasingly accepted as an adjunct treatment for Parkinson's disease that is associated with slower declines in mobility and improved quality of life. This recognition by clinicians, exercise professionals and people with Parkinson's has led to an expansion of community-based exercise programs nationally.

Despite the important role played by exercise professionals in the care of people with Parkinson's, there are no unified procedures in place to define competence of exercise professionals working with people with Parkinson's. Anyone can teach exercise to people with Parkinson's and the community assumes they are competent. Safety and effectiveness of the exercise program depends on the instructor's skill level and experience. And, it is difficult for exercise professionals to know, based on quality assurance, which Parkinson's specific continuing exercise education programs to attend.

Creating Dialogue and Building Consensus Across Disciplines

Physical therapists and exercise professionals typically provide exercise programs and leadership for people with Parkinson's. Although their education and scope of practice are different, they both play an integral role in care. Exercise professionals can include a wide range of professionals working with people with Parkinson's. For the purposes of this report, the term exercise professional is used to describe both certified personal trainers and group fitness instructors.

Physical therapists and exercise professionals are tightly intertwined in the care for people with Parkinson's, however they typically work in silos. Giving each professional a voice at the Convening helped physical therapists gain a better understanding of the unique areas of expertise and types of programming within the scopes of practice of exercise professionals and helped exercise professionals gain the same understanding about the unique role of physical therapists. Ideally people with Parkinson's will have access to regular exercise led by qualified exercise professionals, and see their physical therapist for ongoing evaluation and therapy that goes beyond their exercise program. Creating a dialogue between these two previously disparate groups, as well as a shared consensus on the road forward toward standardized care, will allow for a greater continuum of support for people with Parkinson's.

Appendix D contains more details on the roles and credentials held by exercise professionals.





CONVENING OBJECTIVES

At the start of the Convening we set out to:

1. Gain a better understanding of the landscape of Parkinson's community-based exercise programs across five exercise education models (see Appendix B).
2. Determine ideal models in which physical therapists and the medical community can optimize engagement with exercise professionals who deliver exercise to people with Parkinson's disease.
3. Review and solidify recommended exercise guidelines for people with Parkinson's.
4. Explore the potential value of writing professional competency standards that support a set level of knowledge, skills, and abilities about Parkinson's for exercise professionals.
5. Examine shared benefits for the development of professional competencies as well as both the drivers and barriers to the creation.
6. Learn from national accrediting organizations that have previously developed/ established exercise competencies as well as guidelines.



SHARED UNDERSTANDING

Based on the discussions set forth by the agenda, Convening attendees established a shared understanding on the following:

1. People with Parkinson's should have ways to participate in regular exercise targeting aerobic fitness, strengthening, flexibility, as well as balance, agility and multi-tasking. Determine ideal models in which physical therapists and the medical community can optimize engagement with exercise professionals who deliver exercise to people with Parkinson's disease.
2. Exercise professionals currently provide programs for people with PD, along with social support and motivation. These highly skilled and knowledgeable professionals have a wide range of backgrounds, from high school diplomas to doctorate degrees.
3. Exercise professionals may have more contact with people with Parkinson's than the traditional interprofessional healthcare team, providing opportunities for positive impact on quality of life.
4. It is essential to develop common language regarding exercise guidelines and competencies to reduce variability in the delivery of exercise.
5. Establishing competencies will provide people with Parkinson's peace of mind knowing their exercise instructor understands their personalized needs, which will lead to better outcomes.
6. People with Parkinson's participate in exercise led by exercise professionals through a variety of means, including grant-supported programs, non-profit organizations, and/or paid programs.



CONVENING OUTCOMES

By the end of the Convening we achieved:

1. Consensus on the benefits and need to develop competencies, which will lead to the creation of *Competencies for Exercise Professionals Working with People with Parkinson's Disease*.
2. Consensus that the recommended exercise guidelines will be used to (1) inform competency development and (2) educate the Parkinson's community.
3. Identified processes, milestones and organizations necessary to create Competencies.
4. Design and deploy a survey to people with Parkinson's with the intention of (a) validating the need for exercise competencies and (b) informing exercise competencies content.
5. Determine the feasibility that the Parkinson's Foundation will recognize exercise education programs that adhere to the recommended exercise guidelines and competencies.



NEXT STEPS

The primary next step from the Convening is the development of competencies for exercise professionals. A Competency Development Committee, Competency Review Committee and a Multi-Stakeholder Task Force of subject matter experts are to be formed, with oversight by a Leadership Committee. These Committees will:

- Develop professional competencies using best practices with the assistance of a psychometrician methodologic expert.³
- Explore potential partnerships with other stakeholders in the exercise and professional Parkinson's communities, including physical therapy, exercise, and neurology.
- Submit poster abstracts and journal articles for publication on the exercise guidelines and professional competencies.
- Further conversations are warranted around the feasibility of creating a Parkinson's Foundation recognition program for exercise education programs adhering to guidelines and competencies.

Leadership Committee:

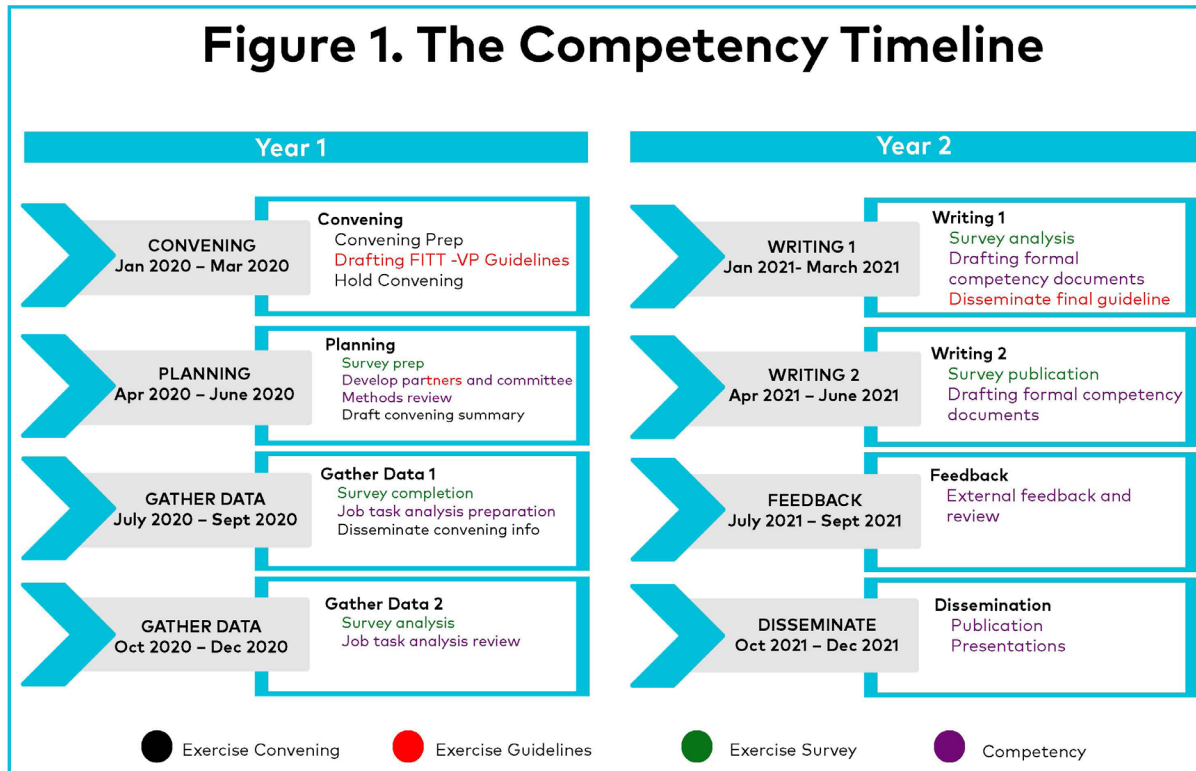
Co-Chairs: Adrian Hutber, PhD, MS; Miriam Rafferty, PT, DPT, PhD, NCS

Members-at-Large: Terry Ellis, PT, PhD, NCS; Todd Galati, MA; Lisa Hoffman, MA; and Francis Neric MS, MBA





THE ROAD TO COMPETENCY TIMELINE



I'm thrilled that the Parkinson's Foundation is taking critical steps to ensure standards of care for exercise professionals working with people with PD. It's a disease that requires specialized learning of the exercise professional to provide safe and effective programming. As a Physical Therapist referring patients to exercise programs outside our clinic, knowing which programs or exercise professionals adhere to a recognized competency in exercise for PD would give physical therapists greater confidence when referring our patients to classes in the community."



Terry Ellis, PT, PhD, NCS

Associate Professor and Chair, Department of Physical Therapy & Athletic Training
Director: Center for Neurorehabilitation
Boston University



Exercise Convening Participants

Top Row (L to R) L.Kahn, L.Karlisch, M.Hackney, T.Galati, J.Goldman, F.Lobelo, N.Yarab, S.Palmer, A.Hutber, K.Follmar, C.Timberlake, D.Zid, B.Rossi, G.Winters, K.Jaffe, F.Neric, S.Rosenfeld, G.Kasman, B.Farley, J.Lehr. **Bottom Row: (L to R)** A.Long, E.Kahn, T.Ellis, P.Trotter, L.Hoffman, J.Russell, M.Rafferty, E.Pollard, K. Kahl, D. Perret

Participating organizations working with the Parkinson’s Foundation to develop and establish guidelines included:

American College of Sports Medicine (ACSM)
 American Council on Exercise (ACE)
 Brian Grant Foundation
 Boston University Center for Neurorehabilitation
 Emory University
 InMotion
 MDT Education Solutions

OhioHealth Delay the Disease
 Parkinson Wellness Recovery (PWR!)
 Rock Steady Boxing
 Shirley Ryan AbilityLab
 theLAB
 YMCA of the Pikes Peak Region

The thought leaders brought together by the Convening discussed the broad literature of exercise for Parkinson’s, appropriate exercise guidelines that take into account the specific needs of people with Parkinson’s, and the processes for developing competencies for exercise professionals. The participants in the Convening are listed in Appendix A and the Parkinson’s specific exercise education providers are listed in Appendix B. When the process is complete, these competencies will provide curricula guidance for education and training of exercise professionals.



EXERCISE GUIDELINES FOR PEOPLE WITH PARKINSON'S


Taking an evidence-informed approach, a core objective of the Convening was to review the research on exercise prescription for people with Parkinson's from several sources where knowledge had previously been synthesized.⁴⁻¹² The exercise guidelines included in this document are designed to inform exercise professionals on the components of a comprehensive exercise program for people with Parkinson's. The guidelines include recommended frequency, intensity, time, type, volume, and progression (FITT-VP) of exercises that are safe and effective for people with Parkinson's across four domains: aerobic, strength, flexibility, and balance.¹³ Because most controlled trials of exercise study a single domain of exercises, the volumes recommended across all domains may exceed reasonable levels. Thus, knowledgeable exercise professionals should design exercise programs that combine domains of exercise.

The exercise guideline table contains information synthesized in previous versions of the American College of Sports Medicine's Guidelines for Exercise Testing and Prescription and Exercise Management for Persons with Chronic Diseases and Disabilities.^{10,11} The subject matter experts at the Convening contributed to this information based on a literature review and discussion.¹⁴⁻²⁰

Specifically, experts highlighted:

- The importance of cognitive and behavioral considerations given the non-motor symptoms of Parkinson's.
- How exercise instruction and facilitation can adapt as Parkinson's progresses.
- Addressing the safety and success of clients with more advanced Parkinson's is an area of professional growth for exercise professionals.¹⁸
- The critical nature of partnership between exercise professionals and the medical community, particularly with Parkinson's progression.
- One key addition was the inclusion of an additional column to highlight the importance of balance and agility exercises, including multi-tasking.

Figure 2: Parkinson's Foundation Exercise Guidelines for People with Parkinson's ^{10,11}

F.I.T.T.-V.P.	Aerobic	Strength	Balance, Agility, & Multi-Tasking	Flexibility
Frequency	At least 3 days per week.	2-3 days per week, challenging all major muscle groups on nonconsecutive days.	2-3 days per week focused workout, with daily integration as possible.	≥ 2-3 days/week, with daily being most effective.
Intensity & Progression	Moderate Intensity: 40% - 60% HRR (or VO ₂ R), RPE of 12-13/20 or 3-4/10. Progress to vigorous intensity: 60-85% HRR; RPE 14-17/20 or 5-7/10), when physiologically appropriate and safe. Teach client to self-assess.	40-50% of 1-RM for beginners. 60-70% 1-RM for more advanced exercisers. Progress number of repetitions and resistance, working muscles to fatigue.	Appropriate challenge delivered in a safe manner given the setting (individual vs group). Progress motor and cognitive challenges as patient improves and can tolerate.	Full extension, flexion, or rotation stretch to the point of slight discomfort. Progress as patient can tolerate
Time & Volume	≥30 min of continuous or intermittent exercise per session. Build to at least 150 minutes/week.	10-15 repetitions when starting an exercise program. ≥1 set of 8-12 repetitions (~60% 1-RM) and progress to 3 sets of 8 -10 to fatigue. Build to 2-3 hours/ week.	30-60 minutes per workout. Build to 2-3 hours/week.	Static stretching: 15-60 seconds per muscle; 2-4 repetitions of each stretch. Dynamic stretching: 8-10 movements in each direction.
Type	Prolonged, rhythmic activities using large muscle groups.	Major muscle groups of the upper and lower body using weight machines, resistance bands, or body weight. Focus on extensors. Could use resistance training with instability.	Multi-directional stepping, weight shifting, reaching, large amplitude movements, functional agility (steps, turning, obstacles, backwards, floor activities, sit-to-stand). Multi-task training (motor, cognitive, distractions). Static and dynamic balance with varied surfaces, limb support, perturbations.	Static Stretching: All major muscle groups after exercise, first thing in the morning or before bed. Dynamic Stretching/active range of motion: Prior to intense aerobic and strengthening exercise. Include diaphragmatic breathing and meditation.
Disease -Related Considerations	Prioritize safety (ambulatory status, physical assistance, equipment). Risk of freezing of gait. Consider comorbidities (e.g. musculoskeletal, cardio-respiratory). Risk of autonomic dysfunction, including orthostatic hypotension, blunted heart rate response to exercise, arrhythmias associated with PD or medications.	Posture and body mechanics. Estimate 1-RM safely. Progressive with high repetitions. Timed for ON periods of optimal functioning. For safety, avoid heavy free weights. Consider comorbidities (e.g. spinal stenosis, osteoporosis, osteopenia).	Consider varied ability levels related to cognitive engagement and attention. Allow upper extremity support when needed. Consider comorbidities (e.g. peripheral neuropathy, cognitive decline). Risk of freezing of gait. Use of gait belt for safety.	Consider dystonia (tonic or activity-induced) and general worsening of flexed posture with disease progression. Consider comorbidities (e.g. osteoporosis, pain, dystonia).
	Consider collaborating with a licensed physical therapist specializing in Parkinson's disease to assist with full functional evaluation and individually-tailored exercise recommendations taking into account complex medical history.			

The Exercise Guidelines can be found on the Parkinson's Foundation website at: [Parkinson.org/ExercisePros](https://www.parkinson.org/ExercisePros).





METHODOLOGY PROCESS TOWARDS COMPETENCIES

Exercise guidelines present recommendations for exercise prescription specific to Parkinson's. However, competency in the delivery of exercise programs using these guidelines requires exercise professionals and other practitioners to apply this knowledge safely and effectively.

The competency development process began following the Convening in Fall 2020 by defining the target audience (see appendix D) and scope of the competency, determining eligibility requirements and the minimally qualified candidate, identifying the critical job tasks, and synthesizing this information into a competency guidance document for education and training purposes.^{2,21,22} Examples of the methodologies used to collect data to support competency development include panels of subject matter experts, surveys, consensus building, observation, development of competency profiles, and formal job task analysis.³

The Parkinson's Foundation will partner with subject matter experts to determine the best competency methodology given the goal of developing accreditation standards for exercise education providers targeting exercise professionals working with people with Parkinson's. The subject matter experts will include people present at the Convening, psychometrician methodologists, as well as additional key stakeholders. Potential stakeholders include exercise professional certification organizations, employers, interprofessional health professionals, education programs, people with Parkinson's and care partners and advocacy organizations supporting people with Parkinson's.



Exercise Convening Participants

The Competencies for Exercise Professionals Working with People with Parkinson's will consider all the steps required for job performance, from business development, client recruitment, pre-assessment screenings, assessment, first session, promoting regular participation, and retention. These competencies will form the basis for exercise education program accreditation standards.

SETTING A STANDARD

To date, there are no unified guidelines to define criteria informing exercise programs educating exercise professionals who wish to become competent in working with people with Parkinson's. The gap in knowledge of what constitutes standard competencies leads to variability in skills among exercise professionals and uncertainty for people with Parkinson's and healthcare providers when evaluating the safety and effectiveness of programs. Closing this gap in knowledge would be accelerated through establishing a mechanism for recognizing, or accrediting exercise professional education programs. The Parkinson's Foundation is moving forward with examining the feasibility of launching a Foundation accreditation program that adheres to the **Competency Framework for Exercise Professionals & Exercise Guidelines**.

EXERCISE ACCESSIBILITY CHALLENGES

In order to make such programs more widely available and accessible to the Parkinson's community, models that allow for the provision of free or low-cost exercise facilitation through third-party reimbursement and as well as programs that are grant supported and offered through non-profit organizations are essential. Some communities have subsidized community organizations that are Parkinson's-specific and some health plans cover gym memberships and services that are less likely to have specific programs. Regardless, it will be important for interprofessional care teams working with people with Parkinson's to cultivate a culture of commitment to exercise programs in their communities.

As the largest employer of exercise professionals serving diverse communities in the country, we invited a representative from the YMCA to participate. The YMCA community brings together people of all abilities, ages, ethnicities, financial circumstances, genders, races, religions and sexual orientations. The YMCA also provides Parkinson's-specific exercise classes in a subset of communities around the country, and other exercise and wellness programs in the broader community. The participation of the YMCA, as well as input from other community fitness organizations, provide avenues for considering the scalability of any education program for exercise professionals.





As a health and fitness organization reaching 80% of communities within the United States, we're thrilled to contribute to the work the Parkinson's Foundation is doing to standardize competencies for exercise professionals working with people with Parkinson's. Determining the necessary knowledge and skill of exercise professionals will support our standards of hiring qualified staff to deliver safe and effective Parkinson's exercise programming to our members.



Gloria Winters, DPT

Chief Medical Officer

YMCA of the Pikes Peak Region

Consultant to YMCA of the USA

Convening participants also discussed the business challenges related to exercise professional access and affordability of exercise programs, such as:

- * Costs of education opportunities relative to potential income generation by the exercise professional.
- * Policy implications due to the lack of reimbursement for the services provided by exercise professionals.
- * The scalability of an educated workforce.

CONCLUSION

Our aspiration is for the *Exercise Guidelines and Competencies for Exercise Professionals Working with People with Parkinson's*, be used as an education model for exercise programs that aligns research and practice to improve health outcomes and quality of life for people with Parkinson's. This model should be applied by exercise education programs that train exercise professionals to reduce unwanted variation in exercise delivery. The Parkinson's Foundation is committed to ensure that all members of the interprofessional care team, including exercise professionals, are prepared to facilitate exercise as an essential part of Parkinson's care.

EXERCISE CONVENING PARTICIPANTS





APPENDIX A: ATTENDEE LIST

Attendees:

- **Jay Alberts, PhD.** The Edward and Barbara Bell Endowed Chair in the Lerner Research Institute and Center for Neurological Restoration at the Cleveland Clinic
- **Terry Ellis, PT, PhD, NCS.** Associate Professor and Chair of the Department of Physical Therapy & Athletic Training at Boston University
- **Becky Farley, PhD, MS, PT.** Chief Scientific Officer and Founder of Parkinson Wellness Recovery|PWR!
- **Kristina Follmar, CPT.** Program Director and Head Coach at Rock Steady Boxing.
- **Todd Galati, MA.** Senior Director, Standards and Practice Advancement for the American Council on Exercise (ACE)
- **Jennifer Goldman, MD, MS, FAAN, FANA,** Section Chief, Parkinson's Disease and Movement Disorders at the Shirley Ryan AbilityLab
Professor, Physical Medicine and Rehabilitation and Neurology, Northwestern University Feinberg School of Medicine
- **Madeleine Hackney, PhD.** Research Health Scientist at the Atlanta VA Center for Visual and Neurocognitive Rehabilitation and Associate Professor of Medicine at Emory School of Medicine, Founder, MDT Education Solutions
- **Lisa Hoffman, MA.** Director of Professional Education at the Parkinson's Foundation
- **Adrian Hutber, PhD, MS.** Chief Executive Officer at Parkinson Wellness Recovery|PWR!
- **Karen Jaffe, MD.** Vice President, InMotion
- **Katrina Kahl, MPH.** Executive Director, Brian Grant Foundation
- **Larry & Ellie Kahn,** Founders, PD Gladiators, Inc
- **Lisa Karlisch, PhD,** Principal, Sparkfire Strategy
- **Glenn Kasman, MS, PT.** Member: Parkinson's Foundation People with Parkinson's Council
- **Felipe Lobelo, MD, PhD, FAHA.** Associate Professor, Hubert Department of Global Health at Emory's Rollins School of Public Health and Senior Physician Consultant for Population Health Research, Department of Quality and Patient Safety, The Southeast Permanente Medical Group
- **Francis Neric, MS, MBA.** National Director of Certification for the American College of Sports Medicine (ACSM)

- **Sarah Palmer, MS.** Owner, foreverfitness
- **Miriam Rafferty, PT, DPT, PhD, NCS.** Research Scientist and Physical Therapist at the Shirley Ryan AbilityLab and Assistant Professor at Northwestern University's Feinberg School of Medicine
- **Ben Rossi.** Chief Program Officer, Founding Member, Lead Instructor at InMotion
- **Jackie Russell, RN, BSN, CNOR.** Co-founder and Program Development Coordinator for OhioHealth Delay the Disease
- **Angela Santoni, PhD.** Owner and Principal at the LAB
- **Christine Timberlake, ACSM CPT.** Head Coach and Program Manager at Rock Steady Boxing
- **Phil Trotter.** Consultant for the Diabetes Coalition of Mississippi/ Mississippi Diabetes Prevention Program (MSDPP)
- **Gloria Winters, DPT.** Chief Medical Officer of the YMCA of the Pikes Peak Region and consultant to the YMCA of the USA
- **David Zid, BA, ACE, APG.** Co-founder and director of Movement Disorder Wellness for OhioHealth Delay the Disease

Parkinson's Foundation Staff

John Lehr, President and Chief Executive Officer

Annie Long, Associate Director, Community Programs

Dianne Perret, Professional Education Coordinator

Eli Pollard, MA, Vice President, Chief Education and Training Officer

Kristy Pomes, Associate Director, Content Strategy

Sheera Rosenfeld, MHS, Vice President, Strategic Initiatives

Ronnie Todaro, MPH, Executive Vice President and Chief Operating Officer

Nicole Yarab, RN, Vice President, Clinical Affairs



APPENDIX B:

Invited Exercise Education Programs for Exercise Professionals

The development of competencies and accreditation standards will be guided by learning from existing PD-specific education models for exercise professionals. Prior to the meeting a survey was shared with the attendees about education programs and found that exercise professionals most often receive information from online courses, with blended online/in-person certificate programs coming in second. Most subject matter experts agree that people with Parkinson's should work with experienced exercise professionals with additional education and training specific to the population.

A sampling of existing exercise education programs were invited to attend and present at the Convening. These models were discussed with a focus on whether programs offered certificates of completion, continuing education units, or credentials requiring continuing competence. Leaders from the following exercise program presented their core program style and philosophy and then answered questions from participants. While the Parkinson's Foundation does not endorse specific exercise education programs, the following participants from the Convening are representative of the types of programs available.

Brian Grant Foundation: Katrina Kahl, MPH



**BRIAN GRANT
FOUNDATION**

The Brian Grant Foundation was started by Brian Grant, a former NBA player who was diagnosed with PD. The Foundation provides tools to improve the well-being of people with PD. Their training program for exercise instructors is based on research from Oregon Health and Science University's Balance Disorders Laboratory and the trainings are led by a Doctor of Physical Therapy who specializes in PD.

OhioHealth Delay the Disease: Jackie Russell, RN, BSN, CNOR and David Zid, BA, ACE, APG

OHIOHEALTH

DELAY THE DISEASE™

Launched in 2005 when Jackie Russell, a critical care and surgical nurse, joined forces with David Zid, an exercise professional focused on the older adult client. In 2013 they joined the Ohio Health system with support from Movement Disorder neurologists. Their mission is to help more people with Parkinson's fight the disease using group exercise and training professionals to start community-based exercise programs nationally.

MDT Education Solutions: Madeleine Hackney, PhD, MDT



MDT Education Solutions
Preparing you to make a difference

Education Solutions was founded in 2014 by a movement science researcher and two physical therapists. The program equips health and exercise professionals with the knowledge and resources to form and lead

community-based exercise programs for people with Parkinson's. The program has an academic foundation and was developed in response to the need for fitness instructor training in Atlanta.

Parkinson Wellness Recovery | PWR!: Becky Farley, PhD, MS, PT



In 2010 Becky Farley, founder of Parkinson Wellness Recovery, started a nonprofit and began training exercise and rehabilitation therapists to become more specialized in working with people with Parkinson's. The PWR! Moves program encourages trainees who are working within the Parkinson community to work together to create

back and forth referral networks for implementing ongoing proactive care and to share common goals.



Rock Steady Boxing: Kristina Follmar, CPT and Christine Timberlake, ACSM, CPT



Founded in 2006, Rock Steady Boxing is a 501(c)(3) dedicated to the Parkinson's community and their families. The mission of Rock Steady Boxing is to empower people with Parkinson's to FIGHT BACK using a non-contact boxing-inspired fitness regimen. The Rock Steady Boxing program has been developed by a unique combination of professional athletes, certified exercise professionals, physical and occupational therapists, researchers and neurologists.



APPENDIX C:

Defining Key Terms

Establishing a shared understanding of professional roles, training and defining key terms in the exercise field will allow professionals and organizations to be on the same page. Using key terms and agreeing on their definition is essential to establishing competencies for exercise professionals.

Terminology related to physical activity and exercise:¹

- **Exercise:** Physical activity that is planned, structured, generally repetitive and performed with the goal of improving health or fitness.
- **Sedentary:** Any waking behavior categorized by a low level of energy expenditure (less than or equal to 1.5 Metabolic Equivalent of Task (METs)) while sitting, reclining, or lying.
- **Light Intensity Physical Activity:** An activity that is classified as less than 3 METs, such as walking at a slow or leisurely pace (2 mph or less) or light household chores. In general terms, you could sing without needing to pause your breath. This would be categorized as 8 – 11 on the 6 – 20 Borg Rate of Perceived Exertion Scale (2 – 3 on the 1 – 10 scale).
- **Moderate Intensity Physical Activity:** On an absolute scale, PA that is done at 3.0 – 5.9 METs. Examples include walking briskly (2.5 to 4 mph) or raking the yard. In general terms, you can talk but not sing during the activity. May be done for exercise (see definition above), or may be done through daily activities without a fitness goal. This would be categorized as 12 – 13 on the 6 – 20 Borg Rate of Perceived Exertion Scale (4 – 5 on the 1 – 10 scale).
- **Vigorous Intensity Physical Activity:** On an absolute scale, PA that is done at 6.0 or more METs. Examples include jogging, running, carrying heavy loads upstairs, shoveling snow, or participating in a strenuous fitness class. In general terms, you will not be able to say more than a few words without pausing for a breath. May be done for exercise (see definition above), or may be done through daily activities without a fitness goal. This would be categorized as 14 – 17 on the 6 – 20 Borg Rate of Perceived Exertion Scale (6 – 7 on the 1 – 10 scale).
- **Exercise Frequency:** The numbers of days per week that a person participates in exercise.
- **Exercise Intensity:** How much work is being performed or the magnitude of the



effort required to perform an activity or exercise.

- **Exercise Time:** The duration of time (e.g. minutes per day) that one spends doing exercise (or physical activity).
- **Exercise Type:** Exercise types include four major types: aerobic, strengthening, flexibility, and balance. Balance exercise in the context of Parkinson's disease includes balance, agility, and complex dual tasking activities. Within each type of exercise there are different modes. For example brisk walking, jogging, running, cycling, and aerobic dance classes are all modes of aerobic exercise.

APPENDIX D:

Terminology related to professionals

Establishing a shared understanding of professional roles, training and defining key terms in the exercise field will allow professionals and organizations to be on the same page. Using key terms and agreeing on their definition is essential to establishing competencies for non-licensed exercise professionals.

Terminology related to physical activity and exercise¹

- **Exercise Professionals** include but are not limited to certified personal trainers and group exercise instructors that hold a current certification from a program accredited by a third-party accreditor of certification programs (National Commission for Certifying Agencies: NCCA, ISO/IEC 17024). They can conduct fitness and health screenings and assessments to design and facilitate individually tailored exercise programs and regular exercise participation. They frequently work with their clients on a weekly basis and are in regular contact. To maintain their certification, they must complete a certain amount of continuing education courses every few years. However, they should recommend that their patient have regular check-ins with their neurologist and physical therapist. Exercise professionals typically work with individuals who are apparently healthy or have medical clearance to exercise. While a bachelor's degree is not required to earn a foundational certification as a personal trainer or group fitness instructor, many exercise professionals hold a degree in exercise science or a related discipline. Advanced and clinical exercise professional certifications (e.g., medical exercise specialist, clinical exercise physiologist, strength and conditioning coach) require at least a bachelor's degree in exercise science or a related field, and typically require documented hours of experience¹¹. The U.S. Department of Labor refers to exercise professionals as "fitness trainers and instructors," with personal trainers referred to as "personal fitness trainers," and notes that it is a growing profession. These professionals have a median pay of \$39,820 per year or \$19.50 per hour in 2018. (Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Fitness Trainers and Instructors, 2020).



- **Exercise Professional Certifications Without Degree Requirements**
 - **Certified Personal Trainer:** Exercise professionals that hold a current personal trainer certification from a program accredited by a third-party accreditor of certification programs (NCCA, ISO/IEC 17024). Exercise professionals who have demonstrated professional competence to design and implement exercise programs in one-on-one and small group settings with individuals who are apparently healthy or have medical clearance to exercise. To maintain their certification, personal trainers must complete a certain amount of continuing education courses every few years.
 - **Certified Group Fitness/Exercise Instructor:** Exercise professionals that hold a current group fitness/exercise instructor certification from a program accredited by a third-party accreditor of certification programs (NCCA, ISO/IEC 17024). Exercise professionals who have demonstrated professional competence to design group fitness classes, and teach, lead and motivate groups of individuals who are apparently healthy or have medical clearance to exercise through intentionally designed exercise classes. To maintain their certification, group fitness/exercise instructors must complete a certain amount of continuing education courses every few years.

- **Exercise Professional Certifications With Degree Requirements**
 - **Certified Strength Coach/Certified Strength and Conditioning Coach:** Exercise professionals that hold a current certification as a strength coach, or strength and conditioning coach from a program accredited by a third-party accreditor of certification programs (NCCA, ISO/IEC 17024). Advanced exercise professionals who have demonstrated professional competence to design and implement exercise programs for athletes with the specific goal of improving athletic performance. Strength coach certifications typically require a bachelor's degree in exercise science or a related field. To maintain their certification, strength coaches must complete a certain amount of continuing education courses every few years.
 - **Certified Clinical Exercise Physiologist/Certified Medical Exercise Specialist:** Exercise professionals that hold a current certification as a clinical exercise physiologist or medical exercise specialist from a program accredited by a third-party accreditor of certification programs (NCCA, ISO/IEC 17024). Advanced exercise professionals who have demonstrated the professional competence to design and implement exercise prescriptions and basic fitness-related health behavior change strategies for individuals who have chronic diseases or

conditions, and for individuals who are at risk for, or recovering following medical treatment and rehabilitation from a variety of cardio-respiratory, metabolic and musculoskeletal diseases and disorders. These advanced certifications require a bachelor's degree or higher in exercise science or a related field and minimum requirements for specified hours of practice (500 to 1,200 hours). To maintain their certification, clinical exercise physiologists and medical exercise specialists must complete a certain amount of continuing education courses every few years.

- **Other Healthcare Providers**

- **Physical Therapists:** Licensed healthcare professionals who diagnose and treat individuals with medical problems or other health-related conditions that limit their abilities to move and perform functional activities. They aim to optimize movement and quality of life through prescribed therapeutic exercise, hands-on care, and education. They are required to hold a license in the state in which they practice, which requires them to have successfully completed a degree program (currently an entry-level doctorate degree), a licensure exam, and in most states a certain amount of continuing education courses every few years. There are optional board certifications, such as a neurologic physical therapy clinical specialty (but not specific to PD). They may participate in treatment-specific courses on particular exercise approaches for people with Parkinson's. In addition to providing therapeutic exercise and hands-on care, some physical therapists may provide one-on-one or group exercise leadership to people with Parkinson's. Similar to certified exercise professionals, it is important for physical therapists providing these exercise experiences to complete training specific to the exercise they lead for people with Parkinson's.

- **Other Health Professionals:** Other health professionals who have an interest in exercise for people with Parkinson's may want to participate in PD-specific exercise education programs. These may include physicians, advanced practice nurses, physician assistants, nurses, occupational therapists, speech language pathologists, and dance instructors. In addition, health professional students or other exercise science students may also participate in exercise education programs. Programs that accept the responsibility of training these professionals should ensure they meet the same competency requirements of those with backgrounds.



Terminology related to training programs

- **Accreditation:** A program (not a person) can be accredited if it meets defined criteria. The National Commission for Certifying Agencies (NCCA) accreditation is the gold standard for certification in many fields, including certification programs for exercise professionals¹³, and NCCA-accredited certification programs serve as the licensure exam in many health professions (e.g., registered dietitians, occupational therapists, athletic trainers, physician assistants). The NCCA is a third-party accrediting body, overseen by the Institute for Credentialing Excellence (ICE), a professional membership association that provides education, networking, and other resources for organizations and individuals who work in and serve the credentialing industry. Multiple organizations offer certifications for individual exercise professionals. The American College of Sports Medicine (ACSM) and American Council on Exercise (ACE) are two of the largest certifying organizations, both attended the Convening in 2020, award certifications to exercise professionals who have met established criteria, knowledge, skills and competencies. Certification exams have rigorous design, validation, delivery, and documentation. A list of currently certified exercise professionals who are in good standing with their certifying organizations can be found at The United States Registry of Exercise Professionals (<http://usreps.org/>) *There are currently no Parkinson's disease specific exercise professional certifications.*

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