

THE
ESSENTIAL EXERCISE GUIDE
for

PARKINSON'S DISEASE



DR. VALERIE JOHNSON, PT, DPT

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Meet Valerie Johnson, PT, DPT



Dr. Valerie Johnson founded Balance Therapy LLC to best serve those living with Parkinson's disease, imbalance, vertigo, and dizziness. She has a doctorate in physical therapy and is certified in PWR! (Parkinson's Wellness Recovery!) and LSVT BIG therapy for Parkinson's.

She provides physical therapy evaluations and treatments and teaches movement classes for Parkinson's. Valerie is a co-founder of ENDeavor PARKINSONology of Fort Worth, a non-profit program funded by the Parkinson's Foundation offering free exercise classes, education, and community resources for people with Parkinson's. Valerie is the founder of Parkinson's Mind Body Institute, another non-profit devoted to bringing physical therapy, exercise, education, and community engagement to people with PD.

Valerie attended Emory University to earn her Vestibular Rehabilitation Competency Certificate sponsored by the American Physical Therapy Association. She is the team neuro-therapist for the Dallas Mavericks, providing comprehensive concussion evaluations and treatments. Valerie has additional certifications and training in concussion testing and rehab, advanced vestibular rehab, vision retraining and Pilates.

Foreword



By Chrystal Kafka



When I was diagnosed with PD in 2006, I was also a newly-minted Pilates instructor. At that time, I felt very deeply that there was something about exercise that helped to curb my Parkinson's symptoms and something about stress that worsened them. Some exercises seemed good while others, not so much. I really felt I was onto something important and I wanted to decode this for myself and for everyone with Parkinson's. A tiny goal — just the moon.

It might not surprise you to learn that I couldn't solve this conundrum by myself, but I was smart enough to find Dr. Becky Farley who did.

With PWR! I've not only had results, but also the pleasure and the privilege to meet and collaborate with Valerie Johnson. She may look like an adorable sprite, but it's just a ruse. She is, in reality, an adorable sprite who's also brainy and gifted and who possesses a heart for people with Parkinson's (PwP). Both of these outstanding women are part of a network of professionals who have committed their lives to helping PwP. Further, Valerie consults with PwP to incorporate our observations into her work.

Congratulations, you've found them! Your journey to Wellness begins here.

WELCOME!



*There is hope, even when your
brain tells you there isn't.*

- John Green



You don't have to be a physical therapist to be an expert at exercise for Parkinson's disease (PD). All you need are some clear guidelines, a lot of effort, and a little creativity. That's what it takes to stay on top of your symptoms, slow the progression of PD, and enjoy a better life. Believe it or not — you aren't stuck with the brain you have. You can change it! In this guide, you will learn some brain changing tricks of the trade and how and why you should be exercising with PD.

Additionally, you will get some real-life advice from my friends with Parkinson's who collaborated with me on this book. I want you to glean as much insight as I have from PwP over the years. I believe those with PD are the real experts and that we are a team. A solid partnership with your PD therapy team is the key to success.

This book applies PD-specific, research-based exercise principles to help you maximize the benefits of your exercise practice in order to drive back and stave off your PD symptoms. While exercise also reduces non-motor symptoms of Parkinson's including anxiety, depression, sleeplessness, fatigue and constipation, this book will focus on the improvements in motor symptoms.

This book covers many exercise options for managing your PD. Please don't feel overwhelmed, as these are only suggestions and opportunities to choose from. Focus on the forms of exercise that you will most enjoy, then commit and diversify along the way. You've got this!

Lastly, I've put together a list of some of my favorite resources for PwP at the end of the book. So, be sure to stick around for that and keep it handy when you are looking for new ideas.

Pearls from a PwP

"No single exercise program can check all the PD boxes. This is great, because with the amount of exercise people with Parkinson's need, variety and choice is a plus."

- Chrystal Kafka

Find a Therapist

Ideally, you want to start Parkinson's-specific physical therapy, occupational therapy and speech therapy at diagnosis. Then check in with your Parkinson's physical therapist every six to twelve months to keep tabs on the quality of your movements. Consult your therapist sooner if you have a decline or a fall. Learning to monitor self-movement is not easily done alone. Exercise should be considered a maintenance program between stints of physical therapy boosters. PD exercise professionals are essential team members in your fight against PD.



Find a Parkinson's physical therapist in your area [here](#)

It's Always a Good Time to Start Exercising (But the Sooner the Better)

Maybe you are new to exercise or out of practice. Perhaps you are exercising, but not specifically for your PD. Studies show that people with Parkinson's are already withdrawn from sports, leisure and recreational activities at the time of diagnosis.

A generally more sedentary lifestyle, combined with the gradual loss of spatial and body awareness that accompanies PD, results in difficulty self-monitoring, which makes it harder to correct small, slow movements and stooped posture.

Exercise is a great tool for re-wiring the neural connections in your brain to make movement easier. Maintaining good PD-specific principles is the key.

Technically, the sooner you start to exercise after diagnosis, the better. Earlier exercisers protect the dopamine neurons that are still there and preserve them. Not only that, but exercise makes the damaged dopamine circuits work more efficiently. Early exercise also produces more dopamine receptors in the brain. Simply put, your brain drinks up any available dopamine better and faster. All of these benefits result in fewer symptoms.

Not to worry, it's never too late to start exercising. Later exercisers also significantly benefit from their program of physical activity, but it takes longer to get results. So if you start later in your Parkinson's progression, be patient as you embrace this lifestyle change.

Also, the overall brain health of those who start exercise later compared to those who don't exercise at all is better due to less inflammation, more blood circulation to the brain, and more efficient brain circuitry. Keep in mind that healthier brains are better equipped to combat PD, and exercise promotes a healthy brain at any age.





No matter where you are in your fight against PD, the most important thing is that you get started right now while you are thinking about it. If you don't know where to start, choose a movement or a form of exercise that you will actually do — and make it harder.

Finally, once you start exercising, don't stop! This is a lifelong commitment that will keep your brain and body functioning at the next level for as long as possible.



Pearls from a PwP on preparing for exercise

“Remember that our hunger and thirst recognition, autonomic functions, are fouled by PD. Much of the time, we PwP feel so terrible because of dehydration stress on an already over-taxed neural system. We are affected much more significantly by even slight dehydration. Therefore, prepare your body for exercise with proper hydration, electrolytes and nourishment from healthy foods.”

– Chrystal Kafka

Challenging Yourself to Change Yourself

Ever heard the expression, “If it isn't challenging you, it isn't changing you”? The goal of your exercise program should be to change your brain because that is how you reduce your PD symptoms.

In fact, animal studies suggest that exercise is the only thing currently know that can slow the progression of PD. If you want to improve your PD health, a good PD-specific exercise program that is short- and long-term goal-oriented is recommended. It takes planning, structure, and repetition, but you can do it.

A challenging exercise program is a means of literally changing the wiring in your brain to make movement easier. The key is to push beyond your self-selected pace, intensity, and range of motion. It's basically a fake it 'til you make it approach.

This is where the magic happens for people with Parkinson's disease. If the movements feel unnatural at first, you are probably doing something right. The goal is to use exercise to get your brain's attention, and then rewire it by practicing over and over.

It may seem like you are going to extreme measures, but moving with intention and vigor is important for your brain to learn new skills and maintain functional mobility. More specifically, if you want to change the circuitry of your brain for better movement, aim to challenge yourself in two distinct areas: cardiovascular exercise and functional movement training.

Speaking of function, what can you do when you aren't “exercising” per se? Putter around with zest, that's what. Puttering around is good for people with Parkinson's. Let's hear it from a seasoned PwP, Chrystal Kafka.

Pearls from a PwP

“It's so important to keep moving, not just one hour of hard exercise then lie down the rest of the day or, if you're like me, the rest of the week! As if preparing to become a concert pianist, we have to practice moving quickly and with purpose as many hours in our day as possible. In other words, putter around with zest when you aren't exercising. Try to find daily tasks that you can safely do faster and with more effort. For example, as soon as my meds kick in in the morning, I vigorously fluff the pillows and make the bed in double-time speeds.”

– Chrystal Kafka



Changing Your Brain With Cardio

Simply put, increasing your heart rate through cardiovascular exercise increases blood flow to your brain. By increasing circulation to your brain you are lighting up the attention and working memory centers that are responsible for learning or re-learning what normal movement feels like.

Every functional movement has a designated pathway of neurons in the brain. With PD, the old neural pathways for movement are burning out. It's time to protect what's left of the old neural circuits and establish new ones for movement. This can be accomplished by priming the brain with aerobic exercise followed by practicing movements with effort and intensity.

How hard should you be working at cardio, you ask?

A simple way to monitor how hard you are working is by assessing your ability to talk while exercising. You know you are in a good working zone if you can only speak in short sentences.

More specifically, ask your physical therapist or trainer to help you calculate your target heart rate and invest in a heart rate monitor.



Pearls from a PWP

"In my PD experience, I've had trouble with automaticity or unconscious coordination. Exercise helps nerves and muscles to reorganize and communicate more effectively for all movement.

– Chrystal Kafka

Exercise Rx: Research conducted at the Cleveland Clinic showed a 35% reduction in symptoms by the simple act of pedaling a bicycle at a rapid pace, optimally 80-90 revolutions per minute for 45-60 minutes.

Pearls from a PWP

"Exercise at the peak of your PD medication or when your meds are "ON" to get more brain changes. It also improves movement accuracy and freedom of movement."



Go BIG and Fast to Keep Your Skills Up

Still with me? Good, because it's about to get really interesting.

Skill exercises enable you to perform meaningful movements with more ease, such as changing positions in bed, getting in and out of chairs, initiating walking, and changing directions while walking.

These functional movements are skills that become more challenging with the progression of PD. You want to relearn what normal movement feels like in all aspects of your life.

It comes down to having a flexible body, being able to shift weight properly, knowing which way is up, and practicing with maximum effort!

The exercises that improve skills are really just glorified versions of everyday, functional movements. Again, with Parkinson's disease, you have to practice the movements that you want to keep. This may require another set of eyes on you and a demonstration from a skilled professional such as a Parkinson's-specific trainer or a physical therapist.

Let's use "BIG walking" as an example. Many of you may have heard of Lee Silverman Voice Treatment (LSVT) BIG® and LSVT LOUD® therapy. More recently, a spin off of BIG therapy has come along called PWR!Moves®. Both were developed by the same researcher, Becky Farley, PT, PhD.

"BIG walking" is an exaggerated form of, you guessed it, walking. With enough exaggerated walking practice, your PD walking symptoms decrease and carry over into daily life. This is true for other BIG and PWR!Moves exercises that emulate standing up from the couch or toilet, and getting in and out of your car, to name a few.



Exercise Rx: Once you get a handle on the quality of your movements, you have to work hard at practicing them. When practicing Parkinson's specific movement, aim for very distinct beginnings and endings and move from one extreme to the other. The movement sequences will feel ballistic, yet clearly defined.



Pearls from a PwP

“Did you ever hear of River Dance? The lead dancer seemed to be able to tap at unbelievable speeds and to fly to inhuman heights. He earned international fame for this achievement. When asked what his secret was, he said that during rehearsals he danced in extremely heavy, heavy shoes. Then, when he took them off at performance time, it was as though gravity disappeared. You get it. PD Functional exercises are like your River Dance shoes for every-day function”

So we can now all agree that combining skill training with aerobic conditioning is ideal for brain change. The more you practice cardio and skills with intent and finesse, the more established and sensitized these new brain pathways become. The result is easier daily movements and functionality and fewer PD symptoms for as long as possible.

Exercise Rx: Invest in a pair of walking sticks, otherwise known as trekking poles and go for a brisk walk.

You can find them on amazon or a local sporting goods store. Keep in mind that you don't have to spend a lot of money on them, as the prices can vary greatly. For example, my walking sticks were about \$20, and I've had them for over seven years.

Walking sticks are brilliant for people with PD for several reasons. First, they provide feedback about your arm swings. If you are dragging a stick, you will know it and start swinging those arms with more purpose.

Secondly, the sticks provide more information about what the ground is like underneath your feet. This can result in increased confidence. You may even find the courage to venture into more rugged terrain or even to go on community outings. The more frequently you use them, the more interested your brain is in remembering to use your arms without you having to think about it.

Thirdly, walking with trekking poles saves a ton of energy and improves posture, allowing you to walk further and faster. You could even bring a friend or some headphones along. Lastly, walking sticks are athletic equipment, not assistive devices. Some of the best athletes in the world use them. Therefore, enjoy your walking sticks and newfound freedom with no stigma attached.

Target and Reduce Your Symptoms With Specific Exercises

One of the most motivating things about exercise is that it reduces symptoms. You want to choose and use exercises that target your specific symptoms. All of these symptoms can be well-addressed with an informed PD-specific exercise practice.

Common motor symptoms include:

- Spine and trunk stiffness
- Difficulty shifting weight
- Small movements
- Slow movements
- Stooped posture
- Difficulty changing positions
- Difficulty changing directions when walking
- Freezing
- Impaired body and spatial awareness
- Impaired movement timing
- Difficulty doing two things at once

Easing Stiffness

A rigid spine makes it difficult to move.



Exercise Rx: Focus on movements that stretch your spine in and out of twists, side bends, and forward flexion and backward extension. Yoga, BIG therapy, PD Warrior and PWR!Moves are good examples of exercises that help with spine flexibility. Stretch from one extreme to the other and repeat 20 repetitions daily. Stretch beyond your self selected range of motion. You should feel the stretch!

Exercise Rx: Yoga is a good outlet for rigidity. Focus on “flow,” i.e. transitioning between poses regularly, rather than holding stretches most of the time. Focus on moving fully though the end of the range of motion in each pose before moving onto the next one.



Exercise Rx: Research also suggests that vigorous cycling reduces rigidity and tremor in PwP. Even though it isn't "stretching," it still helps. I say go for it at 80-90 revolutions per minute for 45 minutes.

Improving Weight Shifting and Small Movements

Difficulty shifting weight is another symptom that can sneak up on people with Parkinson's. Movement does not happen without shifting weight. Simple movements such as walking are dependent on weight shifting.

It makes sense that walking can be a difficult chore if you aren't unloading one leg enough to swing the other leg through. During walking, we are meant to essentially hop from one foot to the other. With PD, weight shifting decreases and results in too much time spent with both feet on the ground during walking. And these small, shuffled, or labored steps drain a lot of energy in the process.



In actuality, weight shifting is required for all position changes in our daily life. For example, standing up from a chair requires a big weight shift from your hips onto your feet. A physical therapist can help you identify what opportunities and techniques you have to shift weight more effectively.

Exercise Rx: Practice large, exaggerated movements. You will feel like you are leaning or rocking back and forth and side to side from one extreme to the other in a rhythmic fashion to accomplish big weight shifts. I would add arm reaches toward a target in every direction to keep you on track. You can do this either sitting or standing.

Yoga, PWR!Moves, LSVT BIG therapy are good example of this.

Improving Slow Movements

Slow movements can be a real drag for people with PD. The very nature of Parkinson's disease robs you of your ability to accurately perceive quality of your movements and interferes with your ability to know if you are moving adequately. Larger and faster movements are more.



more challenging but great for people with Parkinson's disease. Using resistance, targets, and effort will speed up movement. Building body awareness is the key for people with PD; establishing a feedback mechanism will do wonders.

Exercise Rx: Practice higher-effort movements. Small and fast movements are not challenging enough for PwP. Do whatever it takes to elicit larger and faster movements and establish a feedback mechanism to keep your movements in check.



Exercise Rx: Practice higher-effort movements on a treadmill. Treadmills are fantastic for PwP in that they prevent you from self-selecting a slower pace along the way. Choose a speed or incline that is harder and faster than you would prefer, and go to town on it for 45 minutes. When you're done, you have completed your skills and cardio training for the day.

Interval training is another excellent way to practice while you are building up your endurance. You can simply walk on the treadmill for an interval of 30 seconds to 3 minutes at a time. It's a great way to get in the repetitions and intensity that you need.

Using Feedback Mechanisms to Improve Body and Spatial Awareness

Body and spatial awareness slips away so slowly in people with PD, that it can go unnoticed until it becomes a problem. In this section, you will learn how to establish feedback mechanisms that keep you tuned into the quality of your movements.

Honestly, if you want to keep your independence for as long as possible, seek guidance and feedback from a PD professional in the beginning and continue to do so along the way. This will help you identify what opportunities you have to improve and maintain your abilities. If you don't have an extra set of eyes handy, one strategy is to establish environmental cues for targeted movement.



Exercise Rx: Mark a target on the floor or wall with tape to reach for every time. It may be necessary to elicit more effort by hitting, slapping, stomping or kicking targets to normalize the size and speed of your movements. Boxing classes for PD are a good example of this. Adding resistance and jumps is another way to elicit effort.

Video is another excellent source of feedback.

Exercise Rx: Record a video of yourself moving, and you'll see what I mean right away. Your movements may feel "normal," but watching them on replay will expose the reality of your small, slow or slumped tendencies.

Please note, mirrors are not a great source of visual feedback. Your brain will only see what it wants to see if you rely solely on a mirror for feedback. Watching a replay of yourself moving is much more effective.

Exercise Rx: Smovey Vibroswings are hand-held rings with ball bearings inside that have helped many people with Parkinson's in their workouts. The vibrations that result from the ball bearings rotating as the rings are moved can contribute to a feeling of relaxation, revitalization and body awareness. As you swing them around, friction creates a sound and a vibrating sensation that serves as a wonderful source of auditory and tactile feedback. You can walk with them or learn Smovey exercises with YouTube videos or DVDs. I encourage you to look into them to see if they're right for you.





Keeping It Snappy

Movement timing is important but degenerates with the progression of PD. Everyday movements such as walking and swinging your arms require an internal sense of rhythm. Therefore, adding rhythmic cues such as music or a metronome could keep your body in tune.



Your brain will respond better if you can tap into its reward centers during rhythmic movement. Preferred music is an excellent choice because it will engage a positive emotional response and release more dopamine in the brain. This makes movement feel more natural and enjoyable.

Remember to stay mindful of the size of your movements when using rhythmic cues. You don't want to sacrifice size of your movements in order to keep up with the beat.

Exercise Rx: Your brain will be more willing to change if you feel successful and rewarded while moving, so choose a rhythm or some music that you enjoy. Research shows that music has important implications in improving learning and modulating attention. Optimizing these functions is necessary if you want to change your brain.

You want your exercises to be challenging and doable. Try starting with a slower yet challenging beat and speeding up as you get better over time with practice. Think “big and timely,” not “small and timely,” even if you need to start at a slower pace.

If you have a smart phone, try using the Metronome Pro app and a set of ear buds — then you'll have a metronome with you everywhere you go. There are also metronome bracelets and other wearable devices that vibrate rhythmically. This way, you can march synced into the rhythm of a more reliable drum than the one in your own head

Improving Posture

Maintaining tall versus small posture is easier said than done for PwP. Upright posture can slowly but surely fall by the wayside if you aren't mindful and diligent.

This is because, with PD, the muscles in the back of your body that hold you upright against gravity grow progressively weak and inactive. Additionally, the muscles in the front of the body become too active and tight resulting in, you guessed it, more stooped posture. Posture impaired in this way affects many aspects of movement.



Pearls from a PWP

“We lose a sense of where “up” is in space. Practice squeezing your gluts and core when you happen to be standing around.”

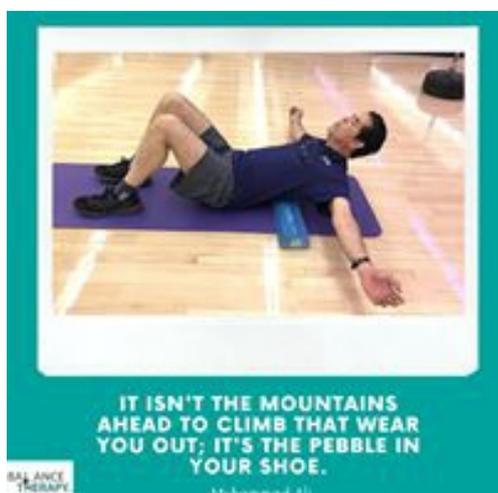
– Chrystal Kafka



Tight muscles in the front and weak muscles in the back of your body pull your shoulders, head, chest, and trunk forward into a hunched position. Functionally, this is significant because this bent posture shifts your weight forward onto the front of your feet when standing and walking. It's difficult to take big enough steps when your hips are... way back there. Overtime, your brain begins to think slumped posture is truly upright. Also, it increases the risk for falling and freezing in PwP.

Exercise Rx: To improve and maintain upright posture, stretch and open up the muscles in the front of the body and strengthen and fire up the muscles in the back of the body. Lifting and reaching your arms and legs while flat on your belly or propped up on your elbows is a good way to accomplish this. Think straight leg raises or bent leg raises, snow angel, swimmer, or superman motions from your belly or propped up on your elbows.

Also beneficial is to lie flat on your back or stand with your back and head supported by a wall, lengthening your neck while stretching your arm overhead or to the side. The tactile support from these surfaces reinforces proper alignment and engages your postural muscles while you move.



In physical therapy, for example, I put a 15-pound sandbag in a backpack and have my clients strap it onto the front of their bodies. This cues their upright postural muscles to fire during standing and walking activities. It serves as a good reminder of how inactive those muscles would rather be when you aren't paying attention. Please note, this may not be appropriate for everyone with PD, therefore please consult your doctor, PT, or trainer before trying this.



Exercise Rx: Avoid abdominal crunching activities, as these strengthen the flexor muscles in the front of the body. People with Parkinson's already have a tendency to be too tight and strong in these muscle groups. While core strength is key for upright posture, focus on plank activities rather than crunches.



Use Your Buddies, Space and Activities to Stay Motivated

Your new exercise regimen is meant to keep you active, alert and capable far into the future. But to do so, you must keep at it consistently and with intent far into that same future. To do that, you need to stay engaged in your activities and motivated to keep at it. In the words of Sarah King, PT, DPT, “Make it fun, social, and accountable.”

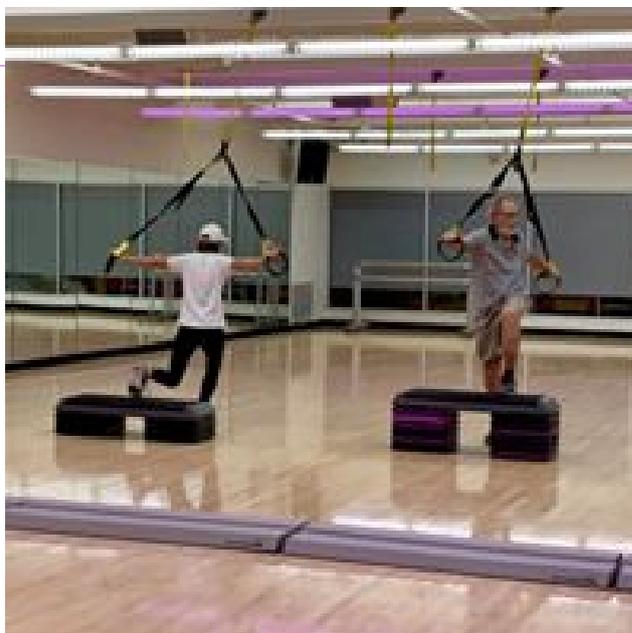
Besides staying mindful of the improvements in your brain and motor skills that exercise brings, here are some other highly effective ways to keep yourself motivated to stick to your routine.

Bring a Friend Along

Your brain gets a jump when the activity is emotionally agreeable. Consider your exercise program as a great opportunity to partner up with others.

Loneliness has been found to expedite the progression of Parkinson's. Other factors include poverty, lack of sleep, and not exercising. Of those factors, you can immediately tackle the sedentary lifestyle head-on by increasing your exercise and participation in other hobbies.

If you do so in a social, communal setting, you can enrich your social life, build friendships and make a difference in the community. The added benefit will be to decrease the rate of your PD progression.





Pearls from a PwP

“Exercising alone is lonely. You don't have to be alone in your fight against Parkinson's. Plus, your brain gets a boost when the activity is fun, fabulous, and social. Not just that, but workout buddies compel and encourage you. It's an amazing phenomenon that I'm sure you've witnessed and is too important to disregard.

Exercising with your peeps makes for less pride swallowing and more support and camaraderie. We're all dealing with limitations of one sort or another.”

– Chrystal Kafka

You may even try setting up sessions with a certified PD-specific instructor as part of your overall fitness program. Taking exercise classes is another great way to work out in the company of friends and mentors. Your exercise program should feel more like a dance party and less like an individual sport.

With this in mind, solo at-home fitness videos may not be the best choice for people with PD. If you have to, or just like to work out alone, there are some wonderful online programs, online communities, and smart phone apps geared toward people with PD.

Bring A Furry Friend Along

Your brain gets a jump when the activity is emotionally agreeable. Consider your exercise program as a great opportunity to partner up with others.

Loneliness has been found to expedite the progression of Parkinson's. Other factors include poverty, lack of sleep, and not exercising. Of those factors, you can immediately tackle the sedentary lifestyle head-on by increasing your exercise and participation in other hobbies.

If you do so in a social, communal setting, you can enrich your social life, build friendships and make a difference in the community. The added benefit will be to decrease the rate of your PD progression.





Create Your Perfect Space

In addition to adding camaraderie to your exercise experience, try including an enriched environment. Consider, where you are and who you are with when exercising, as the right environment is known to promote positive brain changes. You want it to feel like a memorable, interactive experience. For example, exercising outdoors is a wonderful way to engage the reward centers of your brain.

Other ways to enhance your environment is to add pleasant lighting, music or sounds. In other words, treat yourself! You deserve it and your brain will thank you for it.

Engage in Creative, Meaningful and Motivating Movements

Your brain will make more positive changes if the activity is creative, meaningful, and adventurous. This is where novel activities can play a big role.

Activities like sports, recreation, planned exercise and community-based exercise classes should also be incorporated into your daily routine. And “exergaming” is a fun substitute to try and love. (See resource list)

Setting goals or adding a little fun competition can spice things up for your brain too. Think and move outside the box if you want to keep your brain and body functioning at a higher level. Try to keep a sense of humor and swallow any pride when venturing outside of your comfort zone. Open-mindedness is a must if you want to live a full life with PD.



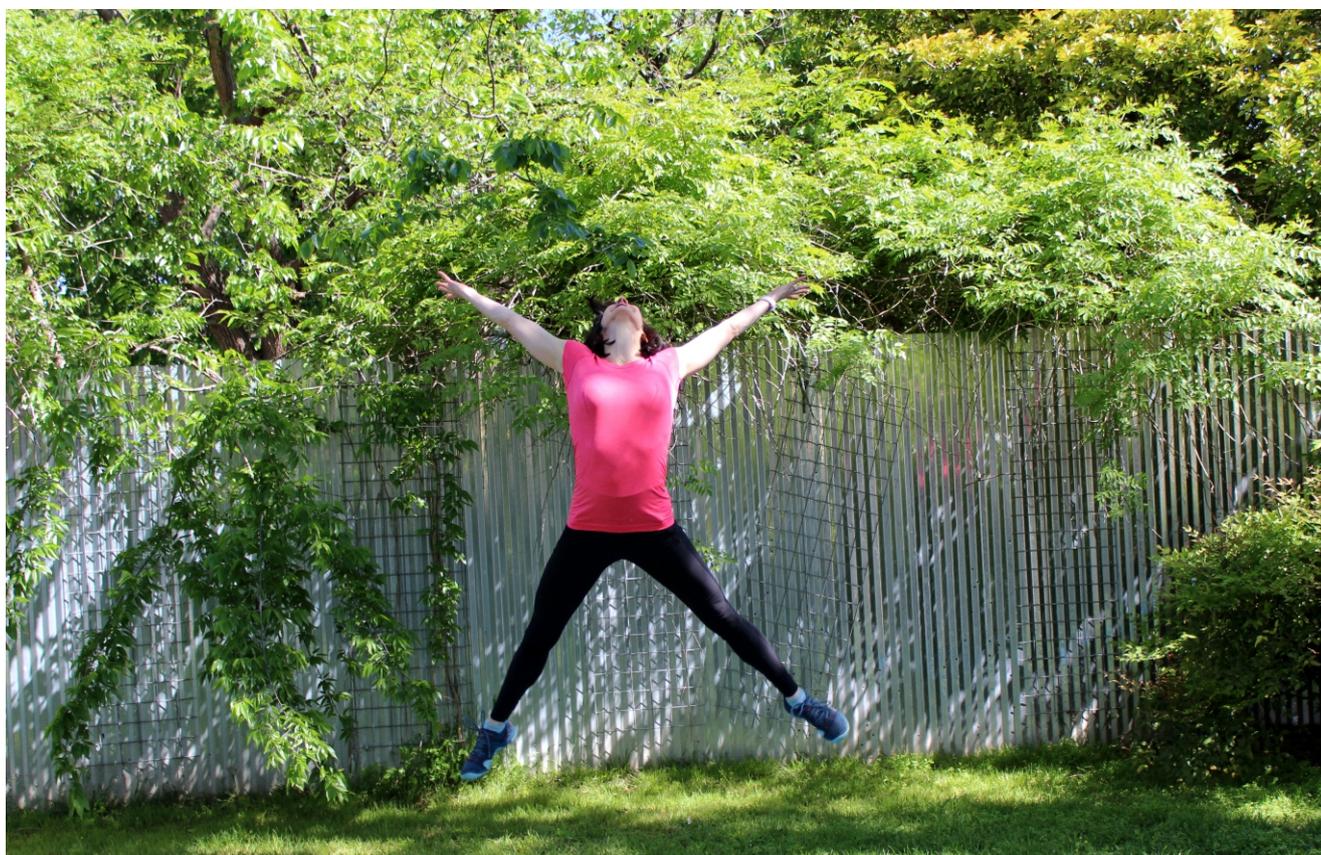


Pearls from a PwP

"I keep going because I still find it interesting."

-Paul Nitze

See how one person with Parkinson's keeps it [life and PD] interesting through a wide variety of mental and physical activities including continuous learning, challenging work, serving others, social engagement, diverse exercise, and a healthy lifestyle. This PwP has worked to preserve cognitive, motor and social function through consistent use of Wii balance games, musical chairs [homemade vibro-acoustic therapy], recumbent bicycles, boxing workouts, multiple forms of exercise, physical therapy, audio-visual entrainment (AVE), neuro-feedback, demanding work, wearable tracking devices, PD education, standard PD medications, and old-fashioned piddling around. These activities and behaviors have a positive effect on autonomic functions, fatigue, sleep, mood, apathy, and social interaction."



Exercising Your Mind is as Important as Exercising Your Body

In previous chapters, we've discussed the ways to challenge yourself physically in order to change your brain, as well as ways to stay motivated to stick with your routine for maximum benefit. Now it's time to discuss the ways that you can challenge and exercise your brain itself in order to multitask, maintain balance and move with confidence.

Thinking and Moving Simultaneously

Being able to do two things at once is a meaningful skill that can start to slip in the beginning stages of PD. Many of the things we enjoy most about life require dual-tasking or doing multiple things at once.

Dual-tasking is especially challenging for PwP because in doing so they have to think about background movements that used to be automatic such as walking with arm swings, for example. When PwP begin a seemingly simple walking activity with a thoughtful task such as talking or listening, their posture, balance, safety and quality of movement can take a hit.



Perhaps you can still talk while walking, but your steps begin to shuffle or your arms swing less as a result. Thinking tasks can interfere with your movements. Additionally, strained movement like this drains energy, contributes to fatigue, and increases the risk of falling.

Dual-tasking can be improved upon with practice and exercise. Exercising your mind is just as important as exercising your body and since you're going to be exercising anyway (because you're awesome!) load it up simultaneously with mental games, activities that build environmental awareness, and other tasks.

Ever-evolving technology is proving to be a fabulous outlet for cognitive and physical exercise in PwP. I cover several in my resource list, so be sure to check it out. But for now, I give you my next exercise prescription.



Examples of dual-tasking exercises include counting backwards from 100 by threes, saying as many words as you can in one minute, choosing a category such as items found on the beach or in the refrigerator and alphabetize them.

As long as you are safe and aren't texting while driving, you can't lose. By increasing the mental and physical effort during your designated PD exercise regime, you will waste less time and energy during your daily life.

If you are having trouble with your balance or safety, it's important to work with a PD exercise professional in the beginning to monitor your movements and guide your thinking tasks appropriately.

When adding thinking tasks, safety, quality of movement and posture take priority. Therefore, if any of these are in jeopardy, simplify the thinking task until you're ready to progress to more challenging cognitive activities.

Exercise Rx: If you have a smart phone, download the Clock Yourself app. This is a wonderful app for practicing literally thinking on your feet. This app combines physical and cognitive exercises that are great for practicing reactive stepping. It also meets you where you are at by offering many progressive levels of intensity.

Exercise Rx: If you are concerned about imbalance or falling, start on a stationary bicycle and load up the mental tasks from there. If you or your partner notice your dominant side taking over, for example, simplify or remove the thinking task for now. Since being able to carry on a meaningful conversation during functional movement is a quality of life issue for PwP, another option, if appropriate, is walking with a buddy. Difficulty moving and talking is a common symptom among PwP. Therefore, just by walking and talking with a partner you are setting your PD brain up for success by accomplishing the following:

- Keeping it fun and engaging
- Keeping it social
- Driving your breathing system and practicing using your voice
- Receiving feedback from your partner about the quality of your movements, voice, posture and safety
- Organizing your thoughts and communication flow

If the additional task sounds so boring or hard that you avoid exercising altogether, choose something more fun such as tossing a ball or scanning the environment for specific items or colors or themes.



Pearls from a PwP

"It took me years to realize it, but my diaphragm was one of the first muscles to lose connection. I was even diagnosed with central sleep apnea and been told that I was a "shallow breather" before being diagnosed with PD. I constantly have to work to retrain my brain for better breathing habits."

-Chrystal Kafka

Just Breathe

Sounds simple enough, right? Actually, diaphragmatic breathing is a complex subject and is invaluable to people with Parkinson's disease.

Utilizing breath is a wonderful way for anyone to stay present and add intent during exercise or during rest. While shallow breathing can promote body tension, deliberate and deep breathing can promote relaxation and make movement feel more automatic. All in all, intentional breathing is a surefire way to connect your mind and your body.

Additionally, strategic breathing such as taking deep inhales and prolonged exhales are an effective way to calm the nervous system and help you relax. Calming breath work primes the brain to make positive changes by taking you out of "fight or flight" mode.

Exercise Rx 01: Diaphragmatic Breathing – You may wonder how to know if you are breathing from your diaphragm. A simple way to know is by placing your hands on your lower ribs. You want the lower ribs to expand into your hands as you inhale and fall inward as you exhale. Additionally, notice your belly rise during inhales and fall during exhales. If you can breathe without tensing your neck and shoulders, you are doing something right.

Exercise Rx 02: Repeat exercise #1, but prolong the exhale. For example, inhale for a count of 4 and exhale for a count of 8. Repeat 12 times and start over if you want to continue. At this point it is becoming more of a breathing meditation.

Exercise Rx 03: Follow along with a breathing App. Breathe2Relax is one of my favorites. You can set the duration, sounds, and other settings for guided visual cues as you breathe. It's very relaxing indeed.



You see, the diaphragm is a skeletal muscle creating a dome inside of your ribcage above the contents of your abdomen. Conversely, the pelvic floor is a network of muscles that form a hammock-like structure at the base of your pelvis. Like other skeletal muscles in PwP, these could use some exercise and attention to stay healthy and functional.

In a healthy person, the diaphragm and the pelvic floor muscles work together synergistically like an accordion. Their muscle contractions follow one another in an ebb and flow-like fashion. And, like any muscle group in PwP, these can become dysfunctional, uncoordinated, strong, weak or tight in the wrong places.

Pelvic floor dysfunction can result in pain and even constipation. Regular deep breathing exercises along with pelvic floor activations help the diaphragm and the pelvic floor stay functional and help to ward off some of the adverse affects of Parkinson's.

Exercise Rx 04: Diaphragmatic + pelvic floor synergistic breathing- If you want to get fancy, you can add pelvic floor contractions to your diaphragmatic breathing exercises.

Once you ace your diaphragmatic breathing technique (because you're awesome), you can add a pelvic floor contraction with every exhale. Pelvic floor contractions feel like a "stopping the urine flow" contraction. Then, relax your pelvic floor as you inhale and repeat.

If you are having trouble with back pain and/or constipation, it may be advantageous for you to seek out a physical therapist specializing in the pelvic floor. They are the experts when it comes to pelvic and diaphragmatic muscle function.

You can find a pelvic floor specialist in your area by following this link.
<https://ptl.womenshealthapta.org/#s=1>

Exercise Rx 05: Combine breath with movement – Consider trying mind/body exercises that focus on combining breath with movement. Pilates, yoga, and even dance are examples of mind/body exercises that prioritize intentional breathing along with movement.

The goal is to use your breath as a guide for movement. For example, you inhale as you expand your body and get bigger and exhale as you contract your body and get smaller. Another strategy is to vocalize your exhales with a sustained vowel sound. Perhaps an easier way for people with Parkinson's disease to promote relaxation and diaphragmatic engagement is by vocalizing sustained "SSSSSSSSSS" sounds with every exhale.



Exercise Rx 06: Use breath to help you change positions. Having trouble getting up from a chair? Prepare by taking a deep breath and then stand up with a deliberate, forceful “Sssshhhhhh!” sound and see what happens.

Mental Rehearsal

I can't stress this enough, but rehearsing movements mentally improves body and spatial awareness in PwP. Mental rehearsal is a brilliant way to preserve movement quality and function in the brains and bodies of PwP. All you have to do is focus your mind on any full body movement patterns you like.

If it were my PD brain, I would picture myself doing yoga or dance in its fullest expression. Others might prefer to imagine themselves playing a round of golf. It requires as much intention and discipline as physical exercise, and it can be a simple solution to practice and preserve your movements if you're in a crunch or just plain bored. With enough practice, you may find that your movements and activities are markedly improved. I think you'll also find it quite soothing for the soul as well.

Pearls from a PWP

“If you're trying a new type of exercise, get videos or have someone demonstrate the movement for you. We do very well with visual cues over verbal cues.”

Exercise Rx: A little imagination can go a long way. Be as vivid as possible and really feel the movements with your mind. Add music if that helps. Repetition is very useful for your brain, so keep it up..



Meditation

While we're on the subject of mental exercise, another way to improve your Parkinson's brain function is through stillness. That's right: Meditation primes the brain to change by calming the nervous system. Many studies emphasize the benefits of a type of meditation known as mindfulness meditation. It's easier to learn movement skills and change your brain circuitry if you are in a parasympathetic or calm state.



Exercise Rx 06: Take a break from physical exercise and break out some headphones and your favorite guided meditation app, CD, podcast or YouTube video. Then, follow the prompts and do your best to stay present. I recommend using mindfulness meditation as your go-to form of meditation. My favorite is a free meditation app called Insight Timer. It has endless archives of guided meditations, sounds, music, and bi-aural beats of various durations and themes. You can also feel like part of a community by seeing how many others have meditated that day.

When trying to understand mindfulness, I like to use the “Drunken Money” analogy. Your mind is filled with billions of drunken moneys that jump around and make all kinds of noise. Practicing mindfulness meditation quiets these monkeys and improves your ability to respond to stress and stay present and intentional.

Meditation is a skill that gets easier with practice. You will begin to notice when your mind wanders. Try not to beat yourself up when this happens. One of the best things about mindfulness is learning to notice your thoughts and feelings without judgment. Sounds liberating, right?

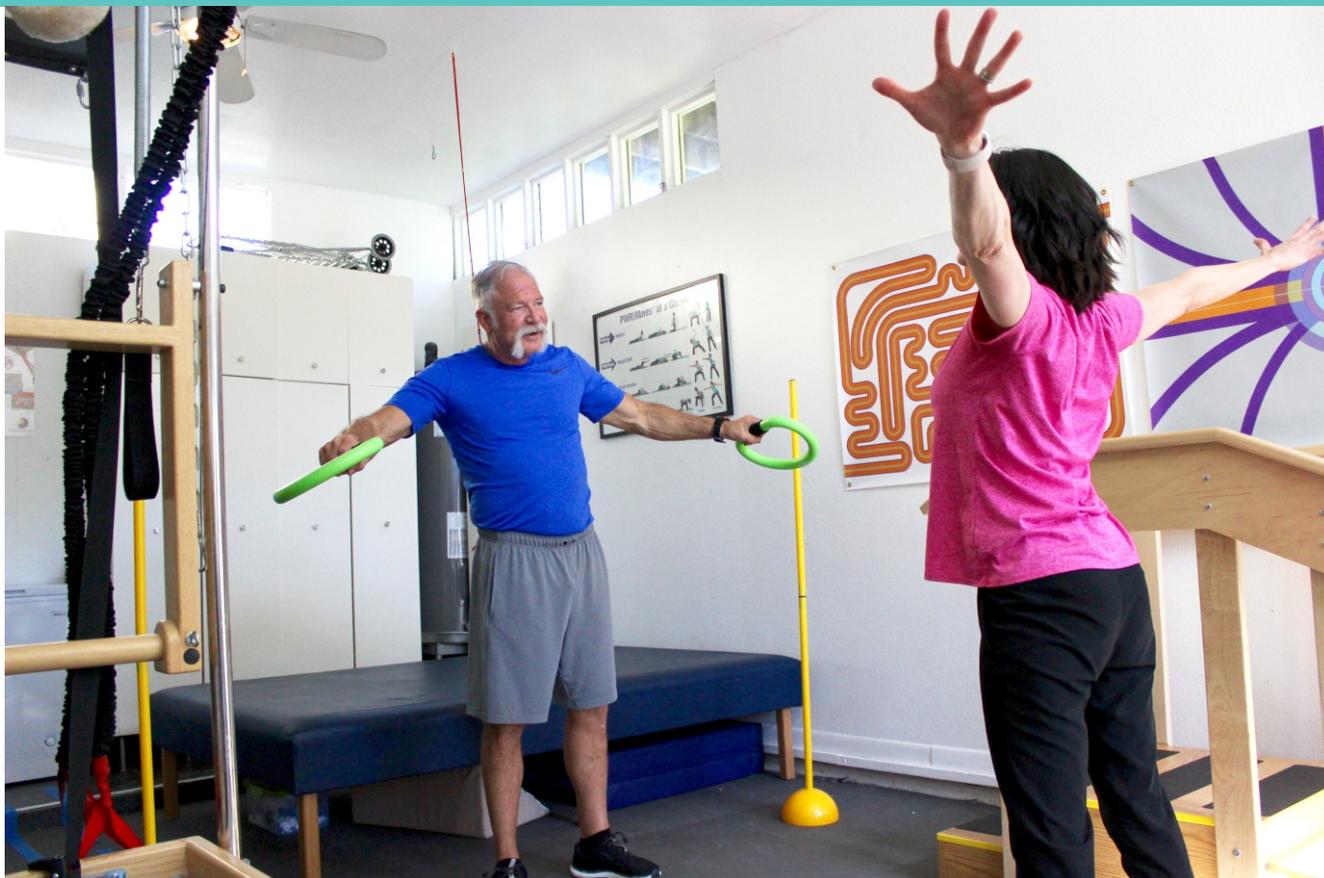
Simply being aware and noticing that your mind has wandered is “mindfulness”. By practicing bringing your mind back to the present moment, you are making new neural connections in your brain and training it to stay present in your daily life.

Ideally, you would incorporate meditation into your daily routine. Research says that only 10 minutes a day of meditation is enough to significantly reduce pain, anxiety, depression, and stress while increasing happiness and helping to improve relationships.

CONCLUSION:



The Benefits Are for Life — But Only if You Commit



There you have it. It's never too late, but go ahead and start exercising and then keep it up... for the rest of your life!

- Challenge yourself by getting your heart rate up and practicing the movement skills that you want to maintain — with effort!
- Swallow your pride and push beyond your self-selected pace, intensity, and range of motion.
- Practice glorified, functional movement skills.
- Use music to help with movement timing.
- Seek out enriched environments and social engagement when exercising.
- Exercise your mind in addition to your body though dual tasking, mental rehearsal, meditation, and exergaming.
- Choose exercises that you enjoy.
- Hydrate

Pearls from a PWP

“Check out the amazing resource list at the end of this book!”

-Crystal Kafka

Find A PD Professional

Balance Therapy LLC with Valerie Johnson, PT, DPT www.balancetherapytoday.com
LSVT BIG Physical and Occupational Therapy- LSVT BIG trains people with Parkinson disease (PD) to use their body and move more normally.
<https://www.lsvtglobal.com/LSVTFindClinicians>

LSVT LOUD Speech and Swallowing Therapy- LSVT LOUD trains people with PD to use their voice at a more normal loudness level while speaking at home, work, or in the community. Key to the treatment is helping people "recalibrate" their perceptions so they know how loud or soft they sound to other people and can feel comfortable using a stronger voice at a normal loudness level. <https://www.lsvtglobal.com/LSVTFindClinicians>

Parkinson's Wellness Recovery- physical therapy and exercise professionals.
PWR!4Life is a proactive program that allows you to optimize your brain change (neuroplasticity), brain repair, and increase your desire to participate in everyday LIFE. Therefore, it should start at diagnosis and continue "4 Life"! With early intervention and ongoing programming, you can GET BETTER and STAY BETTER. But better yet, your efforts may trigger positive brain changes (neuroplasticity) that are disease modifying and thereby, contribute to slowing the disease progression. <https://www.pwr4life.org/professional-directory/>

Pelvic Floor Physical Therapy Specialist- If you are having trouble with low back pain and/or constipation it may be worth getting an evaluation from a women's and men's health physical therapist. They are the experts in the structure and function of the pelvis. Provider directory: <https://ptl.womenshealthapta.org/#s=1>

Parkinson's Voice Project- PVP and it's affiliates offer therapy, community voice and singing classes, events, and education. 90% of people with Parkinson's are at risk of developing a weak voice that can lead to serious speech and swallowing difficulties. Parkinson Voice Project's speech therapy program addresses these issues. PVP also has online educational webinars covering various PD topics from experts around the globe.
www.parkinsonsvoiceproject.org

Seattle Integrative Health with Laurie Mischley, ND, PhD
Seattle Integrative Medicine is a private integrated health clinic located just west of Northgate in Seattle, Washington. We offer whole person care and consultations for people with acute and chronic illnesses as well as help individuals take an active role in prevention.
www.seattleintegrativemedicine.com

Books:

[Bent: How Yoga Saved my Ass](#) by Anne Clendening

[Every Victory Counts](#) by the Davis Phinney Foundation- Essential Information and inspiration for a Lifetime of Wellness with Parkinson's Disease

[Make time to Heal](#) by Bianca Molle' M.E.d

[No Excuses: My Life with Parkinson's Disease](#) by Dusty Berry

[Optimal Health with Parkinson's Disease-](#) A guide to Integrating Lifestyle, Alternative and Conventional Medicine

[The Ribbon of Road Ahead: One Woman's Remarkable Journey with Parkinson's Disease](#) by Carol Clupny

Facebook Groups:

[Balance Crowd](#) with Valerie Johnson, PT, DPT from Balance Therapy LLC

[Invigorated Community](#) with Sarah King, PT, DPT from Invigorate Physical Therapy and Wellness

[Mark Burek FB page](#) and founder of Hope Soars Non-profit

[Parkinson's Women](#): Offers moral support, encouragement and camaraderie for women who are Parkinson's Disease patients.

The intent of the site and facebook page is not to prescribe medical advice about the diagnosis, treatment, or other medical aspects of PD but to provide support and encouragement for women living with this condition. I hope that the research and information noted in this blog will help you with your understanding and management of the disease.

[Facebook](#): <https://m.facebook.com/parkinsonswomensupport/>

[Website](#): www.Parkinsonswomen.com

[Start Living Today PD](#) with Heidi Reynolds

[Strongher Together](#): Women fighting Parkinson's

[YOPD Forums](#)-Parkinson's Support Group

Online Exercise Programs (Cognitive and Physical)

Theracycle- by Anne Clendening Motor-Assisted **Theracycle**® Forced-Exercise Bike for Parkinson's Sufferers. Reduces Rigidity, Tremors & Falls. Improves Balance, Rigidity, Tremor, Strength, Mood & Sleep. www.theracycle.com

Peloton- Live and on-demand Stream Cycling, Running, Bootcamp & Other Workouts Daily. www.onepeloton.com

PD Warrior- Youtube and online membership coaching and exercises. Finding PD Warrior may be your chance to improve your situation, to move better, think better, look better, build your confidence. <https://pdwarrior.com/>

Dance for PD- In Dance for PD® classes, participants are empowered to explore movement and music in ways that are refreshing, enjoyable, stimulating and creative. There is an online memberships available for streaming classes. <https://danceforparkinsons.org/>

Dance Dance Revolution- The premise of Dance Dance Revolution is to move one's feet to a set pattern. The song selection interface of Dance Dance Revolution is a jukebox-like menu of CDs. Players must step to the beat, matching their beat to the arrows presented to them on screen by stepping on arrows on a dance stage. You may need to search and watch a youtube video to understand how to do this.

Invigorate Physical Therapy and Wellness- 5 week online PD booster program to restore balance, strength, stamina, and self-confidence. <https://www.invigoratept.com/>

Neurotracker- a cognitive training program that is designed to improve mental performance. Brain scans reveal that NeuroTracker training sustainably increases brainwave speeds, associated with heightened alertness and learning capacity. Peer reviewed research shows that NeuroTracker training significantly enhances attention, executive function, working memory and processing speed.

Nintendo Wii Fit- Contains more than 40 activities designed to engage the player in physical exercise, which consist of yoga poses, strength training, aerobics, and balance games. Most activities generally focus on maintaining COB and improving posture.

Smovey Vibroswing System- "Smovey Rings" are a general health and wellness tool that combine exercise and vibration, which have particular beneficial applications for Parkinson's disease. <https://www.smoveynorthamerica.com/>

Yoga Anytime- An online membership of unlimited yoga classes to start, inspire, & support your home practice. Discover the benefits of a regular yoga practice with the help of our yoga shows and guided meditations. New classes are added weekly. Streaming available on all devices. www.yogaanytime.com

Community Exercise Programs

Dance for PD- Find onsite affiliate classes near you. Dance for PD offers internationally-acclaimed dance classes for people with Parkinson's disease in Brooklyn, New York and, through their network of partners and associates, in more than 250 other communities in 25 countries. <http://danceforparkinsons.org/find-a-class/class-locations>

Peddling for Parkinson's- Participants will ride on a solo stationary bike three times a week. Each one-hour exercise session consists of a 10-minute warm-up, up to a 40-minute main exercise set, and a 10-minute cooldown. Rest breaks will be taken as needed. Check with your local YMCA. <https://www.pedalingforparkinsons.org/>

Rock Steady Boxing- Non-contact boxing to lessen their symptoms and lead a healthier and happier life. Find a class near you. www.rocksteadyboxing.org

Smart Phone APPS for Cognition, Exercise Classes, and Exergaming

Brain HQ- brain exercises to build your cognitive resilience. 15+ years scientific proof. 40+ Research studies. 100+ peer-reviewed papers. Real-world benefits. Independently validated. Courses: Memory, Attention, Brain Speed, Intelligence, People Skills, Navigation.

PD Warrior- The PD Warrior App is your personal Parkinson's coach! Challenge your body and mind with this Parkinson's specific exercise program.

Clock Yourself- Can you think on your feet? CLOCK YOURSELF = Physical Exercise + Cognitive Exercise is great for practicing reactive steps, weight shifts and direction changes.

Peloton- Feel the rush of instructor-led studio classes anytime, anywhere on the Peloton app. You can expect a mix of running, bootcamp, yoga, strength, cycling, and outdoor workouts available at a tap.

Insight Timer- Guided meditations

Calm- guided meditations

Headspace- guided meditations

Wordscapes- cognitive training and practice

Soundbrenner Metronome App- may be used as auditory rhythmic cues for movement and speech

Soundbrenner Pulse Wearable Metronome- Wearable, smart, and powered by vibrations to help develop an inner sense of rhythm speed and accuracy.

Mindbody App- Find and book the best fitness and wellness in your community, and around the world. Yoga, massage, group fitness, barre and more. Find the experiences that you love, and book them instantly on the MINDBODY app.

Zombies, Run!

Zombies, Run! is an immersive running game app in which gamers are tasked with surviving a zombie apocalypse. As gamers jog in real life, they can listen to scary story lines and sound effects of zombies chasing them. In fact, gamers have to speed up whenever a zombie is on their heels. The farther you run, the more supplies you collect to survive.

"It's perfect for interval training," said Johnson, who is currently studying how wearable devices and telemedicine technology influence health outcomes and collaborating with Alencar on research.

Geocoaching- is an outdoor game app in which people use an app or a GPS device to discover hidden containers around the world. Yes, real containers, and some of them even contain small trinkets for trade.

"It's like a real-life treasure hunt," Johnson said.

SpecTrek is an augmented reality ghost-hunting game in which users must walk or run to various locations to find virtual ghosts and "catch" them on their phone's camera.

BallStrike- users have to punch or kick a series of balls that appear all around them in their phones' or tablets' rear-facing cameras. The idea is for the user to twist and turn to hit each ball, making the ball explode.

The Walk- which was developed by the same team that created *Zombies, Run!*, the gamer must carry a package that could save the world to a mysterious destination. As the player walks during the day, they get closer and get closer to the destination, while also unlocking immersive audio story clips along the way. The game takes three months to complete, which might be long enough to develop a new fitness habit.

Superhero Workout- was developed by the same creators of *Zombies, Run!* and *The Walk*. In the game, the user becomes the pilot of a battle suit tasked with defending the world against alien forces. The game requires the user to complete real-world exercises, from abdominal crunches to arm punches, to defeat the aliens. The app uses motion detection to track the user's progress.

Jump, Jump Froggy- The game app requires users to physically jump around to help a frog collect flies buzzing around its head to eat.

Foundations:

Michael J. Fox Foundation: Help find a Parkinson's cure. Give to Parkinson's research to speed critical breakthroughs. www.michaeljfox.org

Parkinson's Voice Project: <https://www.parkinsonvoiceproject.org>

Parkinson's Foundation- <https://www.parkinson.org>

Specialties for a complementary healthcare team

Movement Disorder Specialist- Neurologist specializing in movement disorders
Neuro-psychiatrist- A psychiatrist specializing in the diagnosis and treatment of disorders affecting the brain which cause behavioral, psychological and psychiatric symptoms. The neuropsychiatrist generally completes a 4-year residency in psychiatry and then a one-year fellowship in neuropsychiatry.

Neuro-psychologist- a psychologist who specializes in understanding the relationship between the physical brain and behavior. The brain is complex. Disorders within the brain and nervous system can alter behavior and cognitive function.

Neuro-ophthomologist- Specialty dealing with portions of the nervous system that pertain to the eye and/ or visual system.

Neuro-optometrist- Neuro-optometric services are provided to individuals who have vision related problems associated with neurological disease, trauma, metabolic or congenital conditions. When the visual system is disturbed neurologically, it can adversely affect activities of daily living for both children and adults.

Physical Therapist- Big Therapy and PWR!Moves Therapy for PD

Occupational Therapist- Big Therapy and PWR!Moves Therapy for PD

Speech Therapist- LSVT LOUD and Speak Out

Chiropractic care- Performed by a practitioner of the system of integrative medicine based on the diagnosis and manipulative treatment of misalignments of the joints.

Sexologist- A sexologist is a person who studies sexual relationships and gives advice or makes reports. You can find a practitioner near you at www.psychologytoday.com

Marriage and Family Therapy- Couples therapy is a type of psychotherapy in which a therapist with clinical experience working with couples, most often a Licensed Marriage and Family Therapist (LMFT), helps two people involved in a romantic relationship gain insight into their relationship, resolve conflict and improve relationship satisfaction

Nutritionist- A person who studies or is an expert in nutrition.

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This book applies PD-specific, research-based exercise principles to help you maximize the benefits of your exercise practice in order to drive back and stave off your PD symptoms. Believe it or not - you aren't stuck with the brain you have. You can change it! In this guide, you will learn some brain changing tricks of the trade and how and why you should be exercising with PD.

You don't have to be a physical therapist to be an expert at exercise for Parkinson's disease (PD). All you need are some clear guidelines, a lot of effort, and a little creativity. That's what it takes to stay on top of your symptoms, slow the progression of PD, and enjoy a better life.

Additionally, you will get some real-life advice from my friends with Parkinson's who collaborated with me on this book. I've also put together a list of some of my favorite resources for PwP at the end of the book. So, be sure to stick around for that and keep it handy when you are looking for new Ideas.

