



**Physical Therapy and Parkinson's: The Victory Summit Boise Event Session**  
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Davis Phinney Foundation

Melani Dizon (Director of Education and Research, Davis Phinney Foundation):  
Hannah received her doctorate degree in physical therapy from Northern Arizona University, and she currently works for St. Charles Health System in Bend, Oregon. She's very involved with her local community by leading support groups for individuals with neurodegenerative disease diagnoses; assisting with community-based dance programs for those living with Parkinson's; treating patients; free community clinics; and providing aquatic therapy classes for individuals with neurological conditions. And today she's going to be talking to us about physical therapy and Parkinson's. And I'm going to, while you're getting going, Hannah, I'm going to do a few polls just to see where people are, but I'm going to let you take it away from here. All right. Bear with me, folks. I'm going to share my screen with you so you can see the slides.

Hannah Fugle (PT, DPT, St. Charles Health System):  
Thank you. I just want to say welcome to everyone. It is always a joy to be a part of these Victory Summits, and I'm really glad that you're here. As Mel mentioned, my name is Hannah Fugle, and I'm a doctor of physical therapy practicing in Bend, Oregon. My clinical area of specialty as well as passion is working with individuals with neurologic diagnoses and particularly neurodegenerative diseases. Today, we're going to be talking about the importance of exercise or the idea of moving your body.

Some of you may have recently received your Parkinson's diagnosis while others have been living well with the disease for many years. And I just want to say it's never too early or too late to start exercising to combat the effects of Parkinson's. We know that Parkinson's is a movement disorder and that movement is one of the best things that we can do to kind of alter and change both motor and non-motor symptoms.

So next, we're going to talk through just a little outline of what we'll cover today. I want to start here and give you a little bit of a roadmap of where we're headed. So first we're going to talk about why exercise is important and what are the benefits of it. We'll then talk about how to exercise to optimize neuroplastic and neuroprotective changes. And we'll kind of dive into what those things mean, if those words are new to you. We'll then outline some actionable steps, hopefully empowering you to start moving your body and giving you some tips and strategies you can take into your day, even tomorrow. We'll then discuss the concept of dual-task or split attention. And then we'll just finish up with some ideas on how to stick to and achieve your exercise goals.

So, first off, what are the benefits of exercise? And I want to start with kind of a more overview look. So this is for anybody that moves, individuals with Parkinson's or otherwise. We know that exercise can improve things like strength, balance, and flexibility, as well as improve things like sleep and mood. Exercise can also provide an opportunity for social interaction, which we know maybe an online interface right now, but it's still so valuable. It also gives you the opportunity to try new things and maybe develop new skills. Research has also shown that exercise increases quality of life and can improve your sense of well-being in the world. So my question is kind of why would we not want these things? Why would we not take action in our lives to, to pursue these benefits?

And then we're going to zoom in a little more. So for anyone that has Parkinson's, we know that exercise helps to improve the effectiveness of your medications. It promotes the efficient use of dopamine in your brain. It is neuroprotective. So the idea here is that it slows the rate of loss of dopamine-producing cells in your brain. It can combat the breakdown of movement quality and at times restore some of the automaticity of movement that can be lost, making day-to-day activities more challenging.

Lastly, I mentioned this before, but the concept of neuroplasticity—so exercise has been found to kind of promote an environment where we can see plastic changes in the brain. Meaning if you have some degradation or some change, you're not stuck with that. It's not static or concrete; there's actually some room for adaptive changes within your nerve tissues. So what we know is that individuals who are experiencing motor symptoms of Parkinson's have likely lost up to 80% of the dopamine neurons in their basal ganglia. So really we can't afford to lose any more. So we need to be engaging in activities that are neuroprotective, but then we'd also like to gain back as much lost ground as we can, right? So this is possible with exercise to kind of promote brain changes and improve blood flow and even potentially improve neurocircuitry or connections.

So that all sounds great. But how do we exercise to gain these benefits? How do we promote neuroplastic and neuroprotective changes? There's actually been some great research done in terms of identifying some parameters that can kind of be applied to exercises to make sure that you're getting optimal benefits. So we're going to kind of dive into these a bit more.

So the first concept is that the activity or exercise that you would participate in would be of high intensity. So we know that moderate intensity exercises maintain your level of mobility, but it's really these high intensity bouts that are needed to improve your function, to slow that neurodegeneration or provide that neuro-protective benefit to improve the efficiency of dopamine use in your brain. And then also it can help to make your real-world experiences feel more achievable. So if you're practicing or challenging yourself at a very high level, then when you step into sort of the real world, hopefully those feel a bit less overwhelming. So that may be complexity of the environment or navigating up your steep driveway or something like that, but feeling truly prepared and potentially less anxious in the real world as you navigate it.

So high intensity. People think HIT training or, you know, you're breathless and keeled over, and that's not exactly what we're looking at. There's lots of ways to change the intensity of a task. So it may be kind of the frequency or repetitions at something. It could be your effort level or your heart rate response. It could be maybe the force or resistance of an exercise if you're using weights or bands. But we can also increase the intensity of an activity if we're asking you to improve the accuracy or kind of the movement quality when you perform that task. So we'll continue to discuss that a bit more in future slides.

Next, we want it to be challenging and cognitively engaging. The idea here is that we want the brain to be attending to your body's movement. So it should require your kind of sustained attention in order to perform that task or to perform it well.

Next, repetitious. So unfortunately, once a week movement or you know, practicing playing the violin one time, isn't going to make you proficient or improve your abilities. So we need volume of exercise to see change.

Next, progress. Yeah, you improve as you progress. We also need to increase the demands of the exercise to improve. So, as I mentioned before, that can be, you know, weights, repetitions, speed, or duration of performance. There's lots of ways to kind of ramp things up. And again, we'll talk about it in future slides.

And then lastly, specific or meaningful. So we really want to choose activities that are meaningful and specific for you, for your body and for your environment. This means they need to matter, or they need to consist of movements and realistic environmental settings that you encounter. For some people, it may be that they find meaning or purpose in riding bikes with their family. Others, it may be really meaningful to work on specific training, to how to get out of bed on your own and to stay independent with that task. All of these things matter and all of these are great goals.

The last component is that we want to find something that we enjoy. So we've found that if we can engage in something that's fun, that is rewarding that you're successful at, we can promote dopamine release in the brain through a reward-based network. So finding activities you like is great from a physiological level. And then you'll also hear me say several times through this talk that with a new diagnosis, or if you've been living with Parkinson's for a long time, you know, this is really a marathon. It's not a sprint, you know. Getting exercise kind of figured out and dialed in for a month is not really the skill. What we're looking for is kind of sustained and long-term participation. So finding ways that you enjoy moving your body will make it so much easier to stay with it.

So we'll transition now into some action steps. And this is really, I think the heart or meat of my talk today is, I just want to empower and equip you with some strategies to be moving, especially as we're in this time of kind of locked down and less ways to access movement in your community. I

want you to feel like you have the available tools to be moving in your home environment.

So again, little outline during this portion, we're going to talk about four main categories of movement that are vital for moving and living well with Parkinson's. And then at the end, we're going to touch on that this concept of dual-task training. It really, this is a skill, but overlays very much with our mobility.

So the first one, balance. So balance is a skill of “use it or lose it.” It's really a task that requires that volume of exercise performance and sort of regular engagement. The goal of a balance exercise is to improve your body's ability to gather sensory information, to keep you steady on your feet, or if you're seated, then on your bum. Balance is really just your body's ability to keep your bodyweight over your base of support. If your weight passes outside of this space, then you're going to feel off balance. And many of you may have experienced that, where you're like, “Whoa, that was a close call.” I call that a “near fall.” But what you're experiencing is, again, that weight passing outside of your base.

So our balance system is comprised of three parts. We gather information from sort of three main systems. The first is proprioception. So this is gathered internally from our body when our joints and our muscles move. So mostly we're going to be getting awareness of where we are in space from that information coming from, you know, feet, ankles, legs, but also your trunk and your neck. So all the way up that chain.

The next is vision, and this allows you to orient to the world around you by the other static objects in your visual field.

And then the last is the vestibular system or inner ear. And this system provides us information about both the orientation of our head, as well as acceleration and deceleration of the head and therefore the body, because our head of course is attached to our body.

So lastly, practicing a balance. A task or engaging in a regular balanced routine is to reduce your risk for falls, right? And I highlighted in our previous slide—I can hop back there—that in order to improve the balance, we also want to reduce our risk or our reliance on vision. So as we age, as well as you know, as we see changes maybe in your body from Parkinson's, we find that vision becomes more and more sort of our main source of information. But we want to combat that with balance tasks. We want to make sure that we're keeping, you know, all three information systems providing you adequate feedback. Otherwise you're going to just be using a third of that resource. And although you may do great on a well lit kind of flat surface, when you get into maybe a dark environment where your vision is compromised or walking across in an even surface, you might feel inadequately prepared.

So we're going to jump into an actionable step here. What we'll do in this portion is, I'm going to highlight an activity that hopefully you can practice in your own home. And then I'll give you some strategies on how to adapt to that specific exercise to sort of meet your needs or your skill level.

So what you see here is called the four-stage balance test. The diagram shows a stage or a progression of stages that increase in difficulty from left to right. Research has shown that in older adults, someone's ability to maintain position number three, or that's what I call that full tandem position, for 10 seconds can predict your risk for falls. So it's a great way to sort of self-assess, but an also also a great framework for starting a balanced practice and progressing it on your own independently. So what I'd say is start with stage number one tomorrow, which would be standing with your feet together. Are you able to do that? The progression would then be feet together, but staggered just slightly so still touching at the in step. And then that's that full tandem position, trying to get heel to toe touching. And that final stage you're seeing on the right is one foot, because it's a single leg balance.

So now we'll jump into some ways to modify that previous slide or that task to provide kind of focused or specific exercise for you—and again, based on your skill level or your needs as it relates to balance. So our options would be to change the base of support. In other words, if you stand with your feet apart, it's going to be easier versus with your feet narrow. And as I mentioned before, that's just a great way to sort of overall scale that task to your skill level.

The next would be to change the surface that you're standing on. So practicing on a firm surface, such as maybe tile or hardwood in your house versus a compliant or squishy surface like carpet or folded towel even making a foam pillow. This one would reduce your reliance or the information that you're getting proprioceptively. So that's from the feet, ankles and legs.

And then lastly, we can practice with eyes open versus eyes closed to reduce that visual reliance. If you combine eyes closed with compliance surface, then you're really going to call upon that vestibular or inner ear structure as you make these changes.

I just want to encourage you just change one thing at a time. And you might ask someone to just guard you or sort of be there to provide assistance if you need to, if you need them, excuse me, as you sort of explore these options. I want to make sure that you're challenging yourself adequately, but I don't want you to kind of fall in all over the place either.

So we talked about kind of parameters to optimize neuroplasticity, and I'd like to discuss that in the context of this exercise we just talked about. So first we mentioned high intensity, and as I just said, I want that balance task to be effortful. I do want you to feel like you're swaying and wobbling a little bit. If you're steady and, you know, firm as a tree, totally solid and concrete on your feet, there's really no demand for your body to adapt. We do want your body to recognize, "Ah, I'm not doing this task optimally sort of, how do I change? What needs to happen internally for me to

improve my performance?”

Next is that it would be cognitively engaging. So we want it to require your attention or your focus. So, you know, balance is a great scenario where your brain has to be engaged, right? If you get a little bit distracted, you might lose your stability.

Next, repetitious. So again, daily performance would be best with a “use it or lose it” type skill. But maybe setting aside just a little bit of time each day, or, you know, five to six times a week, and it can be two minutes of balanced practice. It doesn't have to be a lot, but just getting those repetitions in.

Next, progressive. So I provided some options, right, to take that stage one or stage two, and then overlay some changes or elements of that task.

I want to use the 30 seconds' hold as a cutoff. So if you're holding a position well and you're feeling steady on your feet, then maybe try progressing on to the next stage or change an element.

And then lastly we want it to be specific and we want it to be meaningful. So it's really helpful to recognize before you practice balance, “Why am I doing this?” Largely the motivator is going to be to reduce your falls or reduce your risk for falls. Hopefully now it's a little bit of that desire to, you know, promote neuroplasticity within your body. And then just to continue moving well in your environment or to kind of keep up with your family or whatever those, those focus assets aspects are for you.

And then, specific. So really considering real-world scenarios can be helpful here. Where do you struggle with your balance? Where have you experienced those near fall experiences? You know, is it getting up to go to the bathroom during the night? Maybe that's when your vision is a little bit compromised. Again, I mentioned that idea of, you know, a grassy surface or something uneven. And then how about, is it when you're distracted? Are you more likely to lose your balance when you're paying attention to something else or engaging in a conversation?

I'd like to suggest possibly seeing a physical therapist to help you kind of safely and specifically meet your goals to address imbalance. A PT office or working with a physical therapist can be a great way to explore these and to sort of scale them. It's a safe environment—someone's there to guard you or the appropriate equipment to really, really push into to that imbalance.

And then I want to give you kind of a sneaky way to get your balance in, if you'd like. These are really fun ways. And research has shown that these elements of exercise can be used to improve balance. So dancing is a great way. Tai Chi, which is a lot slower movements, but has you sort of shifting your weight over your feet and maintaining control yoga. And then boxing. Of course, that

Rock Steady Boxing, I think it's excellent. A form of non-contact boxing.

Okay. Balance. Onto the next skill. So we're going to talk about strength. Are you ready? So the goal of a strength or resistance exercise is to improve muscle performance. There's three main categories that make for good muscle performance.

The first is power. So think about kind of the speed at which you can turn your muscles on. This may be a quick spurt. You need to stand from a chair or a quick step. You need to recover your balance if you were to start to sort of tip or lose that stability.

Next would be endurance. How long can you continuously use or turn on your muscles? So think about, you know, walking to your grandkid's birthday party across the park versus a short distance of getting up to cross the living room to get to the bathroom.

And then the last one is force production, which is just kind of the amount of oomph that you can get from your muscles.

At a maximum effort, we know that Parkinson's can lead to bradykinetic, slowed, or hypokinetic, which are small movements. This means that we kind of lose that oomph and we lose some of the speed at which we can engage our muscles. And that's very much coming from sort of an internal set. So we want to counter that. We want to choose to engage in strength exercises with sort of a maximal effort. We don't want your body and your brain to create these weak and small movements because over time we can actually see a conversion in muscle fiber type from fast twitch to slow twitch. So it kind of just, as it sounds, you can become anatomically as well as physiologically disadvantaged to create effective and quick movements in your daily life. So again, trying to engage with sort of that maximum go-power is going to help to combat that adaptive change.

So to explore strength a bit more, we're going to use a sit to stand or a squat. Before we jump in, I want to give everyone just a little tip on a sit-to-stand or a squat. The key to a good sit-to-stand is your ability to shift your weight forward or anteriorly over your feet before you rise.

When we talked about maintaining your body weight over your base of support in the balance slide—it really translates well to this activity. If you don't move your body weight over your base of support, then when you attempt to stand, you're likely to fall backwards. Or maybe you don't even get to stand. You just feel like gravity is simply gluing you to your chair. Try instead kind of getting your feet underneath you, shifting yourself forward to the front of that seat. And then out and up once you're well set up. Think about power, think about that maximal effort. Don't let your body practice it just kind of 50% go power, turn on the jets and really ramp up that strength. Try to promote that fast-twitch fiber engagement.

So again, I'm going to give you some options on how to scale or modify this activity to highlight different parts of movement or muscle.

First, we can change the height of the chair, and this would be with the purpose of increasing that force production or kind of threshold, trying to encourage strength gains. Next would be to complete a number of repetitions without a rest break. So working on endurance. And then lastly, completing a number of reps in a set amount of time. So this is kind of, you're on the clock. How many times can you squat or stand up and sit down? And here we're promoting that speed and power of performance. Remember that we want progressive loading, so play with these elements to continue to challenge yourself and your body.

What's great is that we know studies have shown progressive resistance training can lead to a reduction in motor signs in Parkinson's at a two-year follow-up. So really engaging regularly here and keeping it progressive is a great way to gain those benefits.

We're going to transition to the third action step or third category of movement that's vital for Parkinson's or living well with Parkinson's. We're going to talk about stretching and posture. So the goal of exercises in this category is to promote flexibility, to reduce rigidity, and to optimize strength to maintain a functional and a strong posture.

We want to promote flexibility of muscles to reduce a typical kind of forward head or flexed posture that can develop over time. We want to utilize rotation as a strategy to reduce rigidity that's sort of axial in nature, meaning along your spine. This can commonly lead to pain and stiff trunk movements, reduced arm swing, and feeling like it's difficult to do activities that require some rotation through your spine. So maybe that's rolling. Maybe that's a more high-speed walking or something like that. And then we want to be intentional about strengthening extensor muscles or muscles sort of on the backside of our body in order to keep us in an upright and strong.

So the first step in this action step is really a kind of a look at where are you sitting at rest and what do you have available to you in terms of posture? So what I love to have people do is just observe their posture. Remember that Parkinson's can lead to a reduction in sort of internal cues within your body or your system about where you are or about how you are performing an activity. So external cues are a great way for you to gain some feedback for your brain. So maybe just having a friend or a family member take your picture while you're not paying any attention to your posture. And then again, when you are, can you pull your head back over your shoulders? Can you squeeze your shoulder blades together, maybe to draw you back into that strong posture? If you are alone, a mirror can be a great place for this as well. Look kind of straight on, and then maybe glance at yourself from the side as well and see where you are.

So on this next slide, I have highlighted some areas where we want to focus on flexibility. So typically if we're kind of moving our body weight forward over time and becoming more flexed, we



want to stretch things in the front of that body to allow you to come back to a full, upright. Not addressing these can be part of why it feels harder and harder to get to upright. So if you're early in your disease progression, I encourage you to sort of get into the habit or the routine of stretching these muscles. And if you're farther along and you're feel like you're already predisposed to that posture, don't lose ground, right? Start to work on stretching. It's not "no pain, no gain" when it comes to stretching. We want to try to relax into the position, but to feel tension in the muscle groups. Ideally we would hold that stretch for one to two minutes and we would engage regularly—daily would be best. So stretching routines can be a great way to start your day. You can wake up mindfully, wait for your medications to kind of kick in, and just start your day moving well.

Okay. So here, I've highlighted some focus stretches for the upper body, as well as some rotational activities designed to reduce that rigidity or sort of trunk stiffness experience. So think about opening up through your chest and reaching your body out long. There's some great guided stretching videos on YouTube. Again, there's lots more exercise classes that are coming out that are Parkinson's specific, where they're going to be focusing in on these aspects or these muscle groups. And then again, reach out to the Davis Phinney site and their supportive links. Cause they've got some wonderful content in this area.

This slide looks at a bit more, just that lower body flexibility. So we often think of posture from the upper body or upper trunk portion, right? Those rounded shoulders or forward head, but it also is going to be driven by flexibility in your lower body and in your hips. So think about stretching the backs of the hips and the fronts of the hips to allow you to get up right as well.

So once we've got the available range to be in an upright posture, we want to strengthen muscles to keep you in that. I always say, you know, flexibility gives you potential, but strength keeps you there. A physical therapist or a movement specialist should be able to help you identify and practice specific strengthening exercises to target these muscle groups. You can even print out and take the slide to your provider, or if you work with a personal trainer. And then again, engaging in a Parkinson's specific exercise class is a great idea as well because these muscle groups are very commonly targeted.

So our fourth aspect of exercise or approach to exercise that's vital for living well with Parkinson's is aerobic exercise. This is kind of a fancy lingo for getting your heart rate up. The goal is to improve cardio or heart and respiratory, which is your lung health, and to gain that neuroprotective benefit that we talked about earlier. Aerobic exercise is one of the keys to slowing down the disease and slowing that rate of degradation of dopamine producing cells in the brain.

The parameters that have been highlighted here—we want to engage in moderate to high intensity exercise for total of 150 minutes per week. So you don't have to worry about being exact down to that exact minute but do the best you can to reach that 150-minute cutoff. Aerobic

exercise increases blood flow. It changes the brain environment. It may promote neuroplasticity, motor learning, and brain synapse health, and the synapses where that dopamine is being utilized. It's a neuro-transmitter between synapse connections.

So let's talk a little bit more about how to achieve this goal. The way to monitor the effort level of an exercise is to use what we call a modified board scale or rate of perceived exertion. Likely you have not been exposed to this unless you've worked with a movement specialist or a physical therapist, but it is a great tool for you to sort of self monitor how hard you are working. And it's been documented as a correlation with your heart rate, which is very commonly used as a physical activity intensity marker, or sort of indicator.

So the target range for that moderate to high intensity would be to be in that rate of perceived exertion—six to seven out of ten. So the arrow there is kind of indicating that threshold. You should feel like you're breathing heavily and that you're working.

The “talk test” is a simple way to sort of measure your relative intensity. If you're doing moderate intensity work, you can talk but not sing during an activity. During vigorous intensity, so a little bit higher workload, you'll be able to say more than maybe a sentence at a time where you have to pause to catch your breath in between those sentences. If you have underlying cardiac or lung conditions, please, please, please consult with your physician or a physical therapist when you're sort of pushing that limit. We want to make sure that we keep you safe as a whole human being, keep you well and not set you up for any detrimental effects of really elevating that heart rate.

So how in the world do we get 150 minutes in a week? If it were me and someone said you have to get on a treadmill and run for 150 minutes, it would be dreadful. That'd be a dreadful sentence. But that's really not what I'm asking you to do. So remember, we don't have to be exact with our minutes, but we want to get as close to 150 minutes in a week as we can. So it's going to be split up in a lot of ways. It could be 10 minutes of exercise per day for seven days of the week. And maybe you do a morning session and an afternoon session. It could be 30 minutes per day for five days of the week, or maybe for you it's an hour-long group exercise class three to four times out of the week.

And then I've also listed some really fun ways to engage in exercise on this slide. So walking is a great one. You can try using hiking poles or trekking poles. You can consider walking outside. If the weather is like it is in Bend, Oregon, right now, it's quite snowy and icy, so you may opt for continuous lapse in your house. It doesn't really matter; just trying to get that heart rate up. Cycling is a great way. Remember it can be outdoors. There's also options for recumbent bikes, or if you have a bike putting it on a trainer. Aquatic exercise is wonderful, especially low impact. If you find that you are kind of slowed down by arthritis or joint pain, this low-impact option can be a wonderful way to kind of push yourself without dealing then with more and more joint pain following. So swimming or there's lots of water aerobics classes that are available typically at

senior centers or aquatic centers as well. Other things I've mentioned—dancing again, boxing; if you do like the treadmill, it's a wonderful place to kind of progressively challenge yourself to those sustained efforts. Maybe it's, cross-country skiing. Maybe it's an exercise class online that's being offered. Get creative here. Anything works as long as you're getting your heart rate up.

In fact, that sit-to-stand exercise that we did earlier. It might be a nice way for you to be working on this at home right now. One useful tool to that I mentioned previously is this idea of engaging in activities that we enjoy or that we can gain skill at and become successful at. So it taps into this positive reward or, or success loop in your brain, which helps to increase dopamine release. So that means if you it's fun, you get more bang for buck. So find a way to enjoy yourself. Maybe it's trying something new, maybe it's doing it with friends or loved ones. Maybe putting on some motivating music. All of these are great ways to sort of inch your way towards that 150 minutes.

So we're really going to change gears here a bit. We're going to start talking about a concept called dual task, and this is really a skill, but it relays very closely with movement.

We engage in dual-task scenarios every day. Some real world examples would be maybe keeping your grocery lists in your working memory while you walk down the aisle at the store. Talking to a friend or a spouse while you're walking, or carrying a cup of coffee from the kitchen over to the living room. All of these are requiring you to simultaneously engage in tasks.

And many people think that we multitask, meaning that we simultaneously perform or attend to two things at once. What we're learning, though, is that on a brain level, we're actually quickly switching our attention between the performances. And one of the things that we can see happen in people with Parkinson's is a slowing down of that switching of ability. So what was previously seamless has now become more difficult, and this may show up as maybe a loss of balance when you're distracted or a tendency to sort of lose your train of thought or have difficulty with word finding if you're walking at the same time.

And then it might be an episode of freezing or festination, which is going to be more common for most folks in a busy or distracting environment. The good news is that if we can practice the skill, we can improve dual task ability or dual task tolerance in individuals with Parkinson's. So the goal of a dual task exercise or games, if you will, is to increase your tolerance to complex environments and to promote safe mobility.

Okay. Cognitive, which is having you think about something. Motor, which would have you do something. Auditory, which has you listen. And then visual, which would have you identify something.

A way to self-assess your dual task ability and whether this may be part of what's contributing to movement or movement breakdown would be a walking while talking. This test has you walk at a

selected pace. You then walk while talking and then you walk again while reciting alternating letters of the alphabet out loud. So think about, you know, A C E G and so on, and you likely can anticipate how you would perform here. If you slow down or lose your balance in this scenario while you're simultaneously completing a cognitive task in walking, it may indicate you would benefit from some dual task practice.

I'm going to present action steps in two parts. The first we're going to talk about is ways to practice dual tasks, to create scenarios where you can safely challenge yourself. But then we'll review some compensatory strategies as well to utilize in environments where maybe dual task low tolerance has interfered with your safety or the way that you're moving into functioning.

So from a practice standpoint, I just want to recognize that complex environments can be correlated with movement breakdown, impairments in walking, and in an elevated risk for falls. So be careful again, maybe have someone with you, and if you answered to that walking while talking tests, yes, I would definitely be compromised maybe kind of hold off and work with a physical therapist to do that safely.

Dual task challenges can be practiced in the context of several of the four exercise categories we've previously discussed in the slides. A great place is that four-stage balance test that we talked about. So maybe you're in stage one with your feet together. Then can you add a simultaneous task to that activity, reciting the alphabet backwards identifying as many words as you can that start with the letter D or C. Turning your head right to left. Singing along to a song in the background, and so on. I've got quite a few options there on the slide, but really it's anything that you can think of that distracts you a bit, takes your attention away from balancing.

So next we'll talk compensation. So those who are already struggle in complex or distracting environments, I recommend that you, instead, as I mentioned before, work with a PT, and in the meantime, maybe use some of these strategies to help you engage more smoothly or effectively in the real world.

So reducing distractions. In this case, using an assisted device, maybe using visual or auditory cues to reinitiate movement or to improve in movement. This is that idea of identifying and utilizing external cues outside of your body. So if you find that you festinate while turning, think about counting your steps while you turn. If you're freezing and you get stuck, think of counting one, two, three, and take a big step on that third on that count of three. Maybe find the target on the floor step towards that target. And then using a metronome or some sort of outside beat can also be really helpful.

We're kind of coming in for landing here. We're going to talk about tracking and sticking with your exercise and achieving those movement goals. So to track progress, we can track between sessions. We can track within a session. I've listed some ideas here. So within a session, maybe

time on a treadmill. Number of sit-to-stands. Resistance on the bike. You know, the band you're using for a strengthening or posture exercise, and so on. Between sessions, maybe it's documenting it on a paper chart, or there's phone apps. Maybe it's having a partner that you work with directly who kind of keeps you accountable to stick with it.

And that really leads into this next one. I encourage you to find that support system. Davis and Connie highlighted the need for social, and exercise in the context of a support system can be a great way to stay involved, to stay present to your community. So building a team or a tribe around you is so vital.

You've heard me say it before that this is a marathon and not a sprint. So as anyone who's engaged in a high level athletic pursuit or a long race knows that it takes a team around that athlete in order to be successful. In this case, you are that athlete. So you need to find your support team. You need to find that crew that can help you to win the race.

My last action step or my final call to action is to see a physical therapist who works with individuals with Parkinson's. Being proactive and specific with training can be vital for keeping you moving well. Fitness classes and home workouts are wonderful ways to move, and I'm so grateful for them during this time, but they don't negate the value of seeing a physical therapist. As your disease progresses, it's very common to have challenges and fluctuations, and these can be helped, too, navigated by a movement specialist or a physical therapist. As access is low, reaching out to a PT in this time can be a critical step and a great way to stay moving and encouraged to stay moving.

So what specifically can a physical therapists do? We can provide focused stretching and strengthening programs for your body. We take into consideration things like your Parkinson's sub-type, maybe co-morbidities or other health conditions. You have orthopedic injuries, aches, and pains—we can address pain so that you can get back to living your life and moving. We can identify and create dual task environments, as I mentioned, that are specific for you. We can provide caregiver education or training, help to problem-solve your home environment. Maybe it's coming up with compensation strategies, maybe it's getting the right equipment. We are skilled in timely inappropriate acquisition of assistive devices. If you're in that transition point and you're needing a little bit more help or a little bit more kind of tool.

And then we can help set realistic goals and have you achieved them. If that's walking better, great. If that's running a 5k, I'm in. So as with any marathon, a PT is a great member of that support staff. Building that relationship early on and having a connection there is really helpful. Then they can assist you throughout your disease progression and they know you.

So in review, exercise is beneficial in the management of both motor and non-motor signs. It improves symptoms. It improves your medication effectiveness, promotes neuroprotective



changes. Exercise should be cognitively engaging, high intensity, repetitious, progressive, meaningful, and specific—setting measurable goals. Tracking your progress is so helpful. Finding that support team. And then most importantly, find a way to enjoy moving

I hope this session has encouraged you or empowered you to start moving your body and to keep moving your body through your lifetime. Just a reminder, all the purple slides in this presentation are actionable steps for you to take. Maybe pull those aside or print them off and use them for continued resource.

## **Want to Watch a Recording of this Victory Summit Event - Boise Session?**

[You can access the recording here.](#)

## **Want More Parkinson's Advice?**

Much more can be found in the Every Victory Counts® manual. It's packed with up-to-date information about everything Parkinson's, plus an expanded worksheets and resources section to help you put what you've learned into action.

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