How To Use Functional Exercise To Improve Your Walking Transcript

(Transcripts are generated by AI and may contain errors)

Introduction and PT Background

Welcome. Dr. Gretchen. I am so glad you are here. I'm so glad you agreed to participate. So what I'd like to have you do is to introduce yourself to the audience, explain why you have this expertize, and then we'll get launched into our interview.

Awesome. Sounds good. Thank you so much for having me. I am a doctor of physical therapy and a multiple sclerosis certified specialist, which essentially just means that I've gone through this training where I have specialized and demonstrated an expertize specifically in people with M. S., not just all neuro populations.

So it required a lot of testing, a lot of actual work with people with Ms.. And I did that because I found that when I started working with people who have amassed all of their symptoms were so different and even the same person had different symptoms every single day.

And my favorite part about being a physical therapist is brainstorming and being creative with my treatment plan. But I did realize that there were so many symptoms and so much times that I didn't feel comfortable treating people with and as without having that specialty because orthopedic physical therapy or traditional and physical therapy is very, very different from my specific duties.

So I went that extra step so that I could be educated enough to work with people who have M. S. in the best way. Now, I'm sure the people who follow me understand that I am deeply committed to physical therapy, that in my recovery, I met with my physical therapist 3 to 4 days a week for a year, and then I continued to work closely with him for the next three years, and I still regularly see a physical therapist to evaluate my strength and balance and fine tune what I'm working on.

So absolutely everyone is listening. I want you to have relationship, a very, very close one with the physical therapist. Now, Gretchen, let's talk about functional exercise.

What is it and why is it so important for people with Hamas? Yeah. So functional exercise is one of the main differences.

What Functional Exercise Means

Pairs of traditional or regular orthopedic and more most specialized physical therapy. So functional exercise is the idea that your exercises are geared towards helping you with specific functions or day to day activities.

You'll know if you're not doing functional exercises. If you feel like you're getting stronger but you're walking, it's not any easier or you're getting stronger, but it's still really hard to climb stairs.

You've better balance, but things aren't improving in your day to day life. That's a huge telltale sign that you're not doing functional exercise. So in order to do functional exercise, you pick a goal, for example, walking, and you break that goal down into as many possible steps as possible.

And those steps are the movements required to put that that action into play. And those are your exercises. So for walking, if you break it down, it's actually seven different movements.

Do you want me to. Oh, yeah. Yeah. Okay. So most of my clients are working on improving their walking, which is why I'm focusing on this one right now.

But you can do this with every single exercise or movement throughout the day. So if getting into an out of a car, standing up from a low chair, getting down to the floor, but you take the exercise and break it down.

So in order for me to take one step forward, what that requires is that I shift my weight forward, then I bend my knee, then I swoop my ankles up, then I bring my knee up straight in my knee, put my heel down first and all.

While that was happening, I was standing on one leg. So that's seven different movements required to just take one step forward. And then, of course, you need to do the same thing on the other side.

So a functional exercise would be using those seven movements as your exercises so you could pick one. Let's just use the example of bending your knee.

This was one of the movements that you have to do to move forward so you could hold on to mobility aid if you need to, but just practice bending your knee and down, bend and down.

Or you could pick the weight shifting. The first thing was shifting your weight forward so you could practice shifting your weight. So that's a functional exercise is pick the goal.

Break it down into as many steps as possible. Use those steps as your exercise. And then do I go to my physical therapist, say, Look, I'm having a hard time getting up off the toilet.

I want to get off the toilet more effectively. And then the therapist helps me identify what the exercises that I'll do when I go home or how does that work?

Absolutely. And I would encourage anyone and everyone who goes to physical therapy before you go write down the specific situations that you are having a difficult time with, even if they're not that difficult, if it's something that you want to be easier, write it down so that when you go you can do exactly what you just said.

You can say, I have difficulty standing up for my toilet or standing up from my couch. And what you'll be able to do is break those movements down so that you know what exercises to do.

And I'm a firm believer. You can do all of these exercises from home. It's important that you know exactly what to be doing, how to do it, that you're feeling it in the right spot so that you're doing it correctly.

Because we always want to make sure that we have good quality with our movement. But once you've got those, you can do them at home and you can do them from anywhere.

It's actually even preferred if you do exercise in different rooms versus always in the same spot. Okay. So I don't do I need fancy equipment to have to get the barbells, dumbbells, bands?

What's, what do I need? I it's my opinion that you do not need any equipment at all.

Using Exercise to Drive Neuroplasticity

In fact, most of the time that you do use equipment, if you use it too soon, it can cause stronger muscles to overcompensate instead of strengthening the weaker ones.

We want to strengthen the weaker ones because that's what's causing the issues. So at first, I always suggest not using any equipment I want you to learn to strengthen your muscles without any of that.

But as they get stronger, it might be beneficial to add a resistance band or something at that point, but it's definitely not necessary. Okay. Now there's another big word that I'd like to talk about neuroplasticity and what does functional exercise have to do with neuroplasticity?

Yeah. So neuroplasticity is the reason that someone with arms actually can get stronger, improve your balance, walk better. It's the reason that you can improve.

Even though you have a progressive disease of multiple sclerosis. So the way that it works, there's two different

ways. So neuroplasticity is the ability of your brain to either strengthen neural pathways, so pathways from your brain all the way down to each of your muscles, it can strengthen those neural pathways.

Or the other way is it can find brand new neural pathways. So the way that you'll know which needs to happen is if you go to move a muscle and it doesn't move at all or it moves very, very little with that indicates is that your neural pathway starting at your brain and going down to the muscle, that neural pathway is not working, likely due to demyelination.

So in that case, every repetition that you practice, that movement, your brain is trying to find a different way to get from point A to point B, meaning your muscle, so it can do some swirly, some zigzag.

There's probably trillions of different ways to get from here to here. But if you go to move your muscle or in this case, we'll just use the example of lifting your leg and it does lift even if it's a little bit even if it feels heavier, it doesn't lift as high as the other leg.

If it does moves, that is a sign that your neural pathway is there and it's working. It's just weakened potentially due to other muscles overcompensating, potentially due to demyelination.

But if that's the case, every time you repeat the movement, your brain is going to strengthen that neural pathway. So it has the ability to do both strengthen, but also find new pathways.

And how often should I be doing these functional exercises? Every day. Every other day, once a week. What's the best. Routine? Great question. I would say 5 to 6 days a week.

I'm a firm believer that you should take at least one rest day. Our muscles grow during our rest time. So I work with a lot of people similar to myself who have type-A personalities.

They want to go big or go home, like do everything we can to conquer M. S. But that is good to have in some cases. But you don't want to overdo it. Our body needs rest, so research shows that 5 to 6 days a week is best.

I would include functional exercise in daily. So for each of those 5 to 7 days, 5 to 6 days, make sure you are including functional exercise. And the most important thing that you can do to get neuroplasticity to to work is high repetition of good quality movement.

So you want to do as many repetitions as you can with good quality, which does require a lot of rest breaks. So when my clients ask me, you know, how many repetitions should I do or how many sets, I usually just say, Shoot for a 30 good quality repetitions.

Your first set might be ten good ones. Your second set, if you're a little fatigued, it might be seven. Your third set might be five, your fourth and fifth set might be three.

So you work your way up to 30, but it doesn't matter how many you do without taking a rest break. It just is the cumulative amount.

How Often to Train and How Much Repetition

Every repetition is an opportunity that your brain is strengthening or finding a new neural pathway. Okay. And does it matter that, you know, today I really work on my quads, tomorrow I really work on how I pick my toes up.

So tibia entry, Alice Or do I do the quads the hamster tibia and three Alice every day. I think that can be personal preference. I like to activate each muscle group daily because we need to use those muscles daily.

One thing that happens with arms is there is less carry over meaning if you didn't have arms, you would be able to do all of your exercises in the morning and your brain and spinal cord, your neural pathways would understand that if you have that strength in the morning, you also can have it in the afternoon and in the evening.

But when you have arms, there's not that carryover. Meaning if you always do your exercises in the morning, you might notice improvement in your strength and balance in the morning, but not in the afternoon.

We're not in the evening. Or if you do all your exercises lying down, the typical exercises might be lying on a table and you might get full strength lying on a table, but you go to stand up and that strength isn't there because you don't have that carry over.

That strength lying down is the same strength as standing, which is why functional exercises are so important. So personally, when I'm working with my clients, I do like to include an exercise for the hip flexors, the knee flexors, the knee extensions and the ankle every day.

It might be a different exercise, but we're targeting those daily. In addition to just moving notice, walking around your home, making sure you're implementing it into your day as well.

Now, I know we've spoken a whole lot about walking, which is so important, but I also know some people start having difficulties with their hands and fine motor control.

Can we spend a few minutes talking about hands and fine motors and and what we can do to help make make sure I can continue to use my hands? Absolutely.

So one phrase that I like to say for all my clients, when they ask me what's the best exercise for blank, my answer is always do the thing that's hard as an exercise.

So I just happen to have a water bottle right here. So let's say that you are noticing weakness with grabbing on to things. A cup, a carton of yogurt, water bottle.

You want to practice holding on to that thing as an exercise so you would hold it. Now you guys aren't going to see much movement, but you would squeeze and hold and then relax and squeeze and relax.

So you are, you know, talk about carryover. You are training your brain exactly. To squeeze what you want to squeeze. So it could be that water bottle.

It could be a pen practice squeezing, relaxed squeeze. So it's more of an isometric strengthening exercise because you're not going to see that movement like you would.

Daily Muscle Targeting and Carryover

A bicep curl. Sure, but. Practice squeezing the things. If it's buttons, practice buttoning. So get a button down, shirt out of your closet and practice buttoning as an exercise.

It's important to strengthen, but it's also important to do the thing so that you get that carryover. Now, one of the exercises that I that I like doing have adult coloring books and all these beautiful designs that you can color in.

And a color one set of things with my dominant hand, then I color with my non-dominant hand and I go back and forth and I'll do that as sort of a a meditative exercise.

Is there any utility in doing stuff like that or is that just sort of, you know, strange stuff that I like doing? No, absolutely. And it's funny you say that, because that's also one strategy to get neuroplasticity working, which is doing new things and really challenging your mind.

The more you can challenge it and the more you try something new, the more likely neuroplasticity will kick in. And so there's lots of ways you can do that.

It could be via a game or it could be writing with your left hand instead, or dominant versus non-dominant, I'm right handed, but you know, writing with your non-dominant hand.

So that not only is a good exercise for the actual strength dynamics, fine motor skills for both hands, but also neuroplasticity. Okay, so if we're learning new things, I'm sort of thinking like going to a dance class could be fun partner dancing with your your romantic partner or imagined class groups probably have spare partners for people who are single.

Is that a useful thing that you would endorse as well or. Yeah, absolutely. And it's funny that you mentioned dance as this example because there's new research showing that seated and standing ballroom dancing and ballet have been found to be an effective form of therapy and rehab for people with most, it improved their time to 25 foot walk test the nine hole peg test fatigue measures memory and there was something else balanced.

So the stepping strategy so all those things just from participating in dance. One reason potentially being it promotes neuroplasticity. It was new, it was fun.

Enjoying what you're doing also plays a huge role. So yeah, it could be different for everyone. But dance is a great idea, even if it's something as simple as practicing a balance exercise at home, but putting a consequence to it.

Like maybe you put you're playing a game instead of just balancing for as long as you can. You want to balance without touching the table in front of you.

And if you do, there's a consequence. You know, maybe you need to do five squats and you really don't want to do five squats. So making gains out of your exercises is a simple way that you could do it at home.

Juggling. Yeah, yeah.

Hand Function and Fine Motor Practice

I have seen people juggle scarves, juggle socks that they've rolled up. Is juggling something that that you do with your groups? Yeah, juggling. We haven't juggled with small things like socks or scarves, but bigger things know with with what are they called like the butt, like basketballs, but they're much smaller.

Oh, so. Can you throw and catch one with one hand, same thing with the other. And that that requires so much coordination, dexterity, vision, vestibular system.

So can you throw and catch own catch? If that is too challenging, just use one ball in one hand. Just throw and catch advance would be can you just have one ball, throw it to the other side and catch it here.

Throw it to the other side. So you're making it a challenge. The challenge is you don't want the ball to fall. You're making it fun. And it's for most people a new skill.

You know, something that you can do with a family member. I love playing catch with my family member and then we've gotten complicated enough. So do this in the pool.

We'll throw a pool dumbbells at each other one at a time. Then we start throwing two at a time. So we have to going back and forth and that requires a lot of concentration.

And since it's in the pool, it's we can end up laughing and having a really good time with that. Yeah. Focused attention or concentration is another thing that can promote neuroplasticity.

So the more focus, the more intention you have on the activity that you're doing, whether it's something fun or something boring, the more focused you are, the more likely your brain is to either find or strengthen those neural pathways.

No. What are strategies? As I'm preparing for my physical therapy consults. Well, let me let me back up. So suppose my neurologist and my specialist hasn't sent me to a physical therapist, which of course I have after, but I have strong opinions about.

I think everybody should be having a physical therapy person. How do I ask? How do I ask for that kind of referral? Yeah. Or could I just call a therapist up myself and refer myself for physical therapy?

Yeah. So I'm with you. Of course I'm biased because I am a physical therapist, but I feel like everyone with Ms. should see physical therapist. Really, regardless of your physical status, your mobility levels, you should see a physical therapist as soon as you're diagnosed and if you actually so what they'll do on that evaluation visit is determine if you actually need to or not.

And if not, if you're doing well right now, you have these tasks that we can go back to. So if in a year, two years, five years from now, you feel a little weaker or you just want a retest to see how you're doing, you now have comparative numbers, whereas if you don't go to p t until you need it, your baseline is going to be very different than what you were when you were first diagnosed or a few years ago.

Creative Challenges: Dance, Games, and Juggling

So p t is beneficial for everyone and I run into that situation a lot where they my clients are not referred to p t and so the easiest thing would be to do is ask your neurologist for a referral to a physical therapist.

And if they ask if they don't think it's necessary for you, I would say exactly what I just mentioned of you'd like to do some of these tasks just so you can get that baseline information if you do have any forms of weakness.

So like maybe they do notice your time's 25 foot walk test is a little bit slower than it was or your balance is a little bit off. Those are sure signs of getting to p t so that you can learn exercises to at the very least maintain where you're at currently, if not improve.

I have this radical idea, Gretchen. Like you should be at diagnosis for any neuro immune condition. Set the physical therapy with the instruction of help you design an exercise program that will keep me strong.

Yeah. No. So it's easier to maintain than to recover. So it would make sense that you want a physical therapist to help you identify what are the things you like doing and how we can keep you strong forever.

Absolutely. You know, for those clients that would come to me on the first day and, you know, sometimes they would say, I'm only here because my neurologist told me to.

I'm actually doing fine. I would ask them, you know, what things do you love doing? And I would give them exercises. Even though they had fine strength that day, I would still give them exercises to do to keep those neural pathways strong.

There is a phrase in the physical therapy world called pre hab, and it's usually used for people who are about to get surgery. So you'll do pre high, you'll do rehab or therapy before you get your knee replacement or your hip replacement, whatever it is to get as strong as you can.

Then you get surgery and then you do rehab after. But I feel like that should be that same concept should be used for neuromuscular neurological conditions as well.

Do pre have now do these exercises now so that if you have a relapse, hopefully you're strong enough where you might not even notice or if you do, it won't affect you nearly as much.

There is ample evidence that in Ms. we have accelerated aging that is happening and so we're at risk of becoming frail at a younger age than otherwise healthy adult.

So everyone who's listening, I would I hope you are taking in that exercise is a great way to have healthy aging. I have secondary progressive M. S. now.

I spent four years total decline, wheelchair, unable to sit up in a regular desk chair. But I now jog in the

neighborhood because I worked so hard with physical therapy for so many years.

I still do my physical therapy. You know, I'm still jogging in the neighborhood, but I periodically go in for a checkup. And because I want to continue to jog in my neighborhood when I'm 80, when I'm 90, when I'm 100, and I'm wanting to still be doing these interview, still teaching post-docs when I'm 120.

Getting a Physical Therapy Referral

So and one thing that we don't know about neuroplasticity is how long it takes. It's different for everyone and this but we do know this sooner you get started with these exercises, the sooner you will reap the benefits from them.

And as hopefully we all know with M. S., it's not just about strengthening the muscle. Of course, we want our muscles strong, but with arms. Before your muscles can get strong, you have to strengthen that neural pathway.

And so for some of my clients, they'll start doing some of these functional exercises. And truly, within just a few days they will start to notice an improvement of more movement with lifting whatever it is.

We're working on their ankle, their need, their help. For other people, it might take a year, two years, much longer. And to me, what that indicates is if you notice quicker improvement, which quick to me is anywhere from a few days really till a few months, if you're noticing improvements within that time.

To me that means your neuroplasticity, it's strengthening pathways that you already have. But for those people where those neural pathways are just too demyelinating, they're just not working well or at all, it takes longer.

So if you're in that second group where it's taking a year, nine months, a year and a half, that's your brain trying to find brand new neural pathways.

But the only way to get either is to stay consistent at it. Okay, this has been just an amazing interview. I could talk to you for forever because I so believe in what you're doing now.

I know you've created a special free gift about functional exercise. You talk a little bit about that and what I hope everyone who's listening will go get that free gift.

Gretchen Yeah, absolutely. So one thing that I have found, I've been a physical therapist for ten years now and in my specialist for eight years. And one thing that I have found is that people with M. S.

have a hard time understanding how to build a functional exercise into the day, into their day, so much so that they're actually noticing improvements in their walking, their stair climbing, getting in and out of their car.

Prehab, Healthy Aging, and the Free Challenge

So in my free five day challenge, I have one video per day where I break down a really important element of my specific physical therapy and exercise.

So we do touch on neuroplasticity and functional exercise. So hopefully that will be a recap for you guys since you just had this talk today. But I'll also share specific exercises that you can do to strengthen functionally, to improve those day to day movements.

And then we also talk about different parameters, like how many reps and sets, how many days a week, how many minutes should you be exercising for? And then we also touch on how to stay consistent for the long run so that you don't stay consistent for a few weeks, but then you fall off track.

So it's been really great so far as a resource to get you on track or to switch things up if you're already consistent with your exercises, but not seeing the results you want to see.

This will be an amazing resource. We'll have access to that. Again, I encourage everyone who has a mass or if you have a neuro immune condition that a people with systemic autoimmune disease that have a neurologic dysfunction, you would benefit as well.

Gretchen this has just been so fabulous. Thank you so much for all that you were doing of course. Thank you so much for having me.