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Speaker 1: Welcome to a recap of our latest Ask the MD video. Tune in as a movement disorder specialist at The Michael J. Fox Foundation answers your questions about Parkinson's research and care. Learn more about living well with Parkinson's disease. Free resources like this podcast are always available at michaeljfox.org.

Dr. Rachel Dolhun: Hi. I'm Dr. Rachel Dolhun. I'm a movement disorder specialist and lifestyle medicine physician at The Michael J. Fox Foundation for Parkinson's Research.

Exercise is something that comes up all the time when I'm talking with people who have Parkinson's. Many people want to know what's the best exercise for Parkinson's. Others, how much am I supposed to exercise, especially when I don't have enough time, or I can't get to the gym, or I have symptoms that seem to get in the way. Some people just wonder if it's really such a big deal.

Yes, exercise is such a big deal. It's one of the best things all of us can do for ourselves. Now I know that you hear this all the time, but there's a reason for that. Exercise is a really powerful tool, one we all have at our fingertips. It's especially powerful for boosting brain health or living life with Parkinson's. Exercise can decrease your symptoms, help your medication work better. And this is the big one, maybe even slow disease progression or how it changes over time.

Exercise doesn't have to take a ton of time. It doesn't require fancy, expensive equipment. The most important equipment is a little planning, creativity, and commitment. We're going to answer your top questions about exercise. We're taking those questions directly from our community, and we're speaking with Cristina Colon-Semenza, a physical therapist, rehab scientist, and assistant professor of kinesiology at the University of Connecticut. Cristina's research focuses on behavior change related to exercise for people with neurodegenerative disease like Parkinson's, especially those that are part of underserved communities.

Cristina, thank you so much for being here with us today.

Cristina Colon-Semenza: Thanks so much for having me, Rachel.

Dr. Rachel Dolhun: Let's get right to it. Let's start with the question we probably hear most. And that's what is the best exercise for Parkinson's? People have different questions. Is cardio better than strength? What should I do if I have tremor? What about when balance problems come into my life? Not a simple question to answer, but what is the best exercise for Parkinson's?

Cristina Colon-Semenza: I too hear this question all of the time. I was a clinician before I was a researcher. So both in my clinical role and now in my research role, I hear this question all of

the time. There really is no simple answer to this really complex question because what research continues to tell us is there's not just one best exercise. That really, it depends on what your goals are, what your needs are, and how you present. We have to look at the individual, where there are in the disease stage, what motivates them, what resources do they have available to them. There really is not one answer when we're looking at an individual.

But then, even within studies that we're looking at, we're finding that when studies go head-to-head, there doesn't seem to be one intervention that really exceeds the other. It's that they meet different needs. Let's say an individual really is having difficulty, let's say with their walking. Then we would likely lean more towards exercise on a treadmill or going for a walk. But let's say someone's having a lot of difficulty with getting up from a chair. Well then, likely that person really needs strength training or resistance training exercise. It really isn't what is the best exercise, it's we need to look at you, and understand what your needs are, what you have available to you so that we can tailor the exercise to you, your needs, your goals, and your disease stage.

Dr. Rachel Dolhun: A different best exercise for every individual who's living Parkinson's?

Cristina Colon-Semenza: Exactly.

Dr. Rachel Dolhun: You mentioned things like walking on a treadmill, boxing, strength training. I think a lot of times, we default to thinking about exercise as cardio or that aerobic exercise, running or cycling. But it's much more than that, when we think about exercise for Parkinson's.

Cristina Colon-Semenza: Absolutely. Really, a comprehensive exercise program will include ... Cardio will be a large component of it, or aerobic exercise is a large component of it because there really is a strong base of evidence for the effectiveness of aerobic exercise. But yes, a comprehensive program is going to be cardiovascular or aerobic exercise, resistance training or strength training, balance exercises, and flexibility and stretching.

Dr. Rachel Dolhun: Just like we talked about at the beginning, it's different for different people. I might enjoy running, whereas you might enjoy rowing. Another person might enjoy boxing. It's just about finding the right type of cardio for you, what you enjoy, what works for your symptoms. For a lot of people, the best exercise can change over time, too. Not just as we get older and our bodies change, but the longer we live with Parkinson's and as different symptoms develop.

We have a question from Hadley Ferguson, who lives with multiple system atrophy, a disease that's similar to Parkinson's. She shared her question on the topic. Here's Hadley.

Hadley Ferguson: I am in the later stages of my disease. Right now, any form of exercise actually fatigues my muscles to the point where I am at risk of falling or losing the use of an arm or leg by over-exercising. A lot of my exercise consists of stretching,

manual manipulation, as well as doing what I can to stand with a walker and doing some light walking.

My question is, for someone who is bed-bound, what exercise could I add into my routine from bed that would extend my mobility even further?

Dr. Rachel Dolhun: Hadley is so inspiring. I love that she wants to keep moving, continue extending her mobility. A lot of people have these similar challenges, whether it's limited mobility, using a walker, balance problems, dizziness. How do we think about that? What can people do to extend their mobility in these situations?

Cristina Colon-Semenza: Right. That's a great question that, yes, any level of exercise of physical activity can be beneficial, can help to maintain the strength in your muscles and mobility, potentially decrease pain, and maximize the functional ability that she currently does have.

I would highly recommend that Hadley works with a physical therapist to get a specific program for her. But in general, there are definitely exercises that ... Exercise doesn't have to be done only in a standing position. Or even in an upright position, for that matter. We actually work with individuals who are in the hospital and were still doing exercise.

Some exercises that can be done from the bed are things like isometric exercises that are just tightening up the muscle to maintain the blood flow, the contraction, the circulation to that area, and can maintain strength. In Hadley's case, where it sounds like she fatigues very easily, it would be targeting those muscles that are potentially the weakest and that are the most important for standing, like she said that she still does. Or transferring from one surface to another. Strengthening her quadricep muscles, a key muscle in our leg, would be one that would be important to target. Or the gluteal muscles, the muscles in your buttocks. There are very simple isometric activities and exercises that she can do from bed, or anyone can do from bed, to maintain those key core muscles that are important for mobility.

Dr. Rachel Dolhun: Fatigue is a big one for so many people. I learned this concept about exercise snacks. I was like, "Who doesn't love a snack?" Tell people how they can incorporate exercise throughout their day in little bursts that are still beneficial.

Cristina Colon-Semenza: Sure. Since we talked about how there is aerobic, strengthening, stretching, and balance, potentially while you're brushing your teeth, you can work on stretching your Achilles tendon or your calf muscles. I do that one while I'm brushing my teeth. I focus on stretching out my calf muscles. It's a quick way, I know it's a two-minute time period where my electric toothbrush is going. I can stand and stretch out my calf.

Similarly, even in line at the grocery store is another way that I, or I recommend to my patients to get in some exercise. It's those little moments of time where you're not doing anything else, might as well make good use of that. I'll do core

abdominal or pelvic floor muscles while I'm standing in line at the grocery store. Those are those little tiny exercise snacks that you get it in where you can.

Dr. Rachel Dolhun: Yeah.

Cristina Colon-Semenza: We all have busy lives. I know time is often a great barrier that people report as limiting their ability to engage in exercise. There are simple ways that you can bring these components of exercise into your daily life to make it not as overwhelming.

Dr. Rachel Dolhun: Yeah. We've talked about which exercises to do. Now the natural next question is how much am I supposed to do? How do I know if I'm doing it right?

We have a question from Barbara Salzburg-Matthews, who was diagnosed with Parkinson's in 2020. She shares her experience in this video.

Barbara Salzburg-Matthews: I've found that my Parkinson's symptoms related to gait and balance and overall energy was substantially improved with my passion to learn mime. With these techniques, they've been very helpful in my journey. But how do I know if I'm working out enough to truly get all the benefits of exercise?

Dr. Rachel Dolhun: I love that she found a fun way to exercise. That's a huge part of it. You have to enjoy it or you won't want to do it, or it'll feel like a big chore or a job. But Barbara does raise an important question. How do you know what's enough when it comes to exercise?

Cristina Colon-Semenza: That is a great question. I do love that she found mime. That is so creative and so wonderful. There's even evidence for things like improvisational acting to be beneficial for Parkinson's disease symptoms. I love the creativity, and that speaks to the evidence that there isn't really one type of exercise that supersedes another.

In terms of how do you know if you're doing enough, what I highly, highly recommend is we advocate through some foundational research that approaching your exercise health the same way you would approach, let's say your dental health or your physical health, by going and getting a check-up. Everyone at diagnosis should meet with a physical therapist and get some baseline measures done that assesses your strength, your walking capacity, your endurance, your balance, your flexibility. And you get a baseline, this is where you're at.

We also have a real strong foundation of knowledge based on what is considered normal for your age and for your sex. We know then where you're at and we'll say, "Oh, it looks like your balance is actually below where I would expect you to be. Let's tailor your exercise program to improve your balance." Or maybe we find that, "You know what, you're above average. Wonderful, keep doing what you're doing. But let's see you again in another 12 months. We're going to recheck." Then if at that point we're like, "Oh, actually your strength has decreased, now we're going to boost your strengthening program." Really knowing where you're at helps to know if you're doing all you need to do with your exercise program.

Like you mentioned before, it's not that you get one program and you stick with that for the duration of your life with Parkinson's. It needs to be that the same way you change your meds every six to 12 months, you're going to likely need to change your exercise program every six to 12 months to help you best manage the disease.

Dr. Rachel Dolhun: Working with a physical therapist when you can is so important, but there are some people who maybe don't have access. What can those people do?

Cristina Colon-Semenza: Right. I would say then going by what the guidelines are for understanding what is the general recommendation. The general recommendation is 150 minutes of moderate to vigorous physical activity in terms of your aerobic exercise. Doing strength training approximately two times a week on non-consecutive days. And doing balance training approximately twice a week as well. That might sound like a lot, but those things can be overlapping and can meet more than one goal.

Flexibility and stretching exercises, there really isn't strong evidence to guide that. But it's basically a pain relieving thing, so that you can do that on a daily basis for short periods of time. Often useful to do as a warmup or a cool down for your exercise.

Dr. Rachel Dolhun: For people who have access to classes in their local area or even online, there are a lot of Parkinson's-specific classes, too.

Cristina Colon-Semenza: Absolutely.

Dr. Rachel Dolhun: Where you can get some of that input and guidance.

Cristina Colon-Semenza: Absolutely.

Dr. Rachel Dolhun: You mentioned the words moderate to vigorous intensity when talking about cardio.

Cristina Colon-Semenza: Yes.

Dr. Rachel Dolhun: That really gets to the part about how hard should I be working.

Cristina Colon-Semenza: Yes.

Dr. Rachel Dolhun: Tell us a little bit more about what that means. What's intensity, what's moderate to vigorous? How do we measure it?

Cristina Colon-Semenza: Yeah. Lots of different ways to measure moderate to vigorous intensity. We have found in the physical therapy literature that we really are under-dosing individuals with exercise and physical activity. It's okay to get tired, it's okay to get a little sweaty. In fact, we want you to be getting a little sweaty and feeling like you're working hard. Moderate to vigorous physical activity means that you're working a certain percentage of your maximum heart rate.

Moderate to vigorous means about 60 to 85 percent of your age-predicted maximum heart rate. There's some really easy calculations that can be done to help you to calculate that specifically for your age and your resting heart rate level. However, there are some really down-and-dirty tricks as well. The talk test is a favorite one, where you just are testing how much you can breathe while talking. If you can talk but not sing, that's usually indicative of moderate intensity exercise. Whereas if you can't talk and you can't sing, then that's usually indicative of vigorous intensity exercise. That's an easy one.

But also, with all of our smart watches and all these technology tools, often they're tracking your heart rate for you. So that this way, if you know what your target heart rate zone is, you can check in with your watch and it will help you to understand where you should be.

Dr. Rachel Dolhun: Yeah. Different ways to measure this, depending on what works for you if you have a smart watch. But if you don't have a smart watch, or it's not charged, or you forgot it that day, you can just use your breath.

Cristina Colon-Semenza: That's right.

Dr. Rachel Dolhun: Another question on top of how much should I exercise, which ones should I do, is when should I exercise? Along these lines, we have a question from Marie M. who says, "I recently purchased a stationary bike that I use almost every day. Does it matter when I use it in relation to when I take my Parkinson's medication?" Lindsay M. has a similar question. "How does medication effect exercise? How should it be timed for maximum effect?"

Again, probably not one answer for every single person, but how do you answer this question about medication and timing with exercise?

Cristina Colon-Semenza: Right. The idea is, because we know that intensity is important, we really want to maximize the potential to be able to work to the best of your ability. That's when you're in on-stage of your medication. The recommendation is to basically exercise 30 to 60 minutes after taking your meds when your medications are at their optimal peak dosage, and then push yourself within that time period. And to avoid potentially exercising during your off periods.

But I will say that, with a caveat, is that your physical therapist might actually want to work with you during some of your off periods because life sometimes, you have to operate during those off times as well. Potentially you'll work with your PT during some off times to learn some strategies of how best to move. But for exercise, really it's that you want to be able to work at your maximum potential so time your exercise 30 to 60 minutes after taking your meds.

Dr. Rachel Dolhun: When your medication is most likely to be at its maximum effect, which is different for people, usually in that 30 to 60 minute window. But taking into account too when you feel best. Some people are morning people. Others are more evening people. If you have more energy toward the evening time, that's okay.

Cristina Colon-Semenza: Totally.

Dr. Rachel Dolhun: Or if your schedule allows for it in the evening, that's all right, too. Taking into consideration all these things.

Cristina Colon-Semenza: Absolutely right, because we're dealing with two different things. We're talking about the effectiveness as well as motivation, and hopefully finding that sweet spot where those two can come together.

Dr. Rachel Dolhun: Another important point we talked about is that exercise actually helps your medication as well. Tell us about that.

Cristina Colon-Semenza: Right. Obviously with dopamine replacement medication, we're trying to increase the dopamine in your neurologic system so that then it can feed that pathway for motivated movement and purposeful movement, and automatic movement. However, exercise itself can increase dopamine levels and potentially even improve the receptors' response to the dopamine. So that together, taking the medication and exercise, will hopefully give you the even maximized effectiveness for feeling better, working better, moving better.

Dr. Rachel Dolhun: This is what I always tell people. Exercise is part of your treatment regimen for Parkinson's just like medication. It is just as important as the medication you take. Think about it when you think about taking your medication on a schedule, think about your exercise on a schedule in the same way.

So many benefits from exercise, which we don't have to tell everybody about, everybody knows those benefits. But like all treatments, there are some potential side effects. Many fewer than the benefits, but they're there. Some people wonder could exercise actually be bad for you? Is there too much of a good thing?

We got a question on this from Sharon Bending and her father Tony Saviano, who was diagnosed with Parkinson's in 2002. Here are Sharon and Tony.

Sharon Bending: Dad's had Parkinson's disease for 22 years. We try to find a balance between working out hard and not getting sore, because sore muscles can make anybody stiff. We don't want to take his body's focus away from other things that's working on healing these sore muscles. Our question for you is ...

Tony Saviano: How much exercise is too much? Can I overdo it?

Dr. Rachel Dolhun: How do we find that sweet spot? Not too little, and not too much.

Cristina Colon-Semenza: Right. The sore muscle thing, I think that's part of the physical therapist's or your exercise professional role, is to educate you about what you should anticipate. If your goal is to increase strength, a part of the strengthening process does require some of that soreness. That soreness is actually breaking down of the muscles, and it's part of the process for the muscle to grow and get bigger. Anticipating that as a part of the strengthening process is important to know. However, if

you're so sore that you can't function, there's something wrong and you've overdone it, absolutely.

Another important point is that, with strengthening, because we do want this process of breaking down the muscle and rebuilding, if you're strengthening every day, every day, every day, and not giving your body time for that rebuilding process, that is going to be ineffective. Absolutely with strengthening, resistance exercises, you need to have a day of rest in between working that muscle group. That's really important to know.

Dr. Rachel Dolhun: You have to figure this out a little bit too, by finding out what amount makes me the right kind of sore and what makes me too much.

Cristina Colon-Semenza: Yes. Absolutely, absolutely. Respecting pain. I know that sometimes in the exercise, athletic space, there's a no pain, no gain saying. We as physical therapists, and especially in this place with Parkinson's disease, we do not abide by that. We are not looking to create pain. We are looking to maximize function, create motivation for exercise, use exercise effectively, but pain is not a part of this equation.

Dr. Rachel Dolhun: One of our community members had said, "It's not no pain, no gain. It's no pain, no pain."

Cristina Colon-Semenza: Yes, yes. Right. We are not wanting anybody to be dealing with pain in their lives. Yes.

Dr. Rachel Dolhun: So many times, exercise is really easier said than done. Parkinson's symptoms, busy life in general, it just makes it tough to get started or to keep going.

Cristina Colon-Semenza: Yes.

Dr. Rachel Dolhun: Richard Huckabee, who was diagnosed with Parkinson's in 2013, and his wife Angela, shared their experience with this. Here they are.

Richard Huckabee: Occupational therapists really got into my head. He said, "You have Parkinson's. So? If you didn't have Parkinson's, you wouldn't feel like exercising or doing exercise period if you didn't have Parkinson's. You got Parkinson's, and you're going to feel like not doing it 100-times more, but you got to tell yourself you got to do it because of the benefits."

Angela Huckabee: People know it's important and that they should do it. Everybody, not just people with Parkinson's. What are some things you can do to motivate yourself? Get with a group a friends and go on a hike on Tuesdays, and do things like that. I think that is what people need. They know they should exercise. What kind of ways could I motivate myself to get started?

Dr. Rachel Dolhun: As Angela and Richard said, we know we should do it. It's more about how do we get started or keep going.

Cristina Colon-Semenza: Agreed. I am a physical therapist, I research exercise, and I am challenged sometimes. Life gets in the way, we all have busy lives. How do we make this work?

Really, there are two general ways that I like to think about. One being social support for exercise. I know that I'm a social exerciser, so I set up a regular date and time with my friends to say, "You're going to hold me accountable, I'm going to hold you accountable. We're going to get out every Saturday morning and go for our morning run."

Similarly, at the University of Connecticut where I work, we've been running an exercise group for people with Parkinson's disease for over 10 years now. When someone doesn't show up to that exercise class, we're sending an email, we're giving a phone call to say, "Hey, we missed you. Where were you today? We need you there." We're holding each other accountable. So you're not only doing the exercise and the physical activity for yourself, but you now have a community of support where you're hopefully motivating others and others are motivating you.

But maybe you're not a social exerciser. There are some people who prefer to exercise alone and that's okay. But then you need to also figure out your strategies to start and stick with exercise. For some people, that might creating a goal. That goal isn't just, "I'm going to exercise," because that's easy to just toss away to the side.

Create a SMART goal. What do we mean when we say SMART goals? It's being specific, measurable, making sure that it is appropriate, relevant, and timely. So really being specific about that goal, so saying when you're going to do it, who you're going to do it with, and set a time to say I'm going to achieve this goal, let's say within one week. Exercise three times a week for 10 minutes for this one week. Now you're going to go back and follow-up on that.

There are also technological ways to help keep you accountable to your goal. You can check with a smart watch or technology. Or even using a pen-and-paper calendar where you just check off or give yourself a gold star every time you do what you said you were going to do.

Additionally, you have to figure out what works for you. It really has to be individualized to your needs, your values. Some individuals think sometimes about exercise as work. They'll say they're retired, and now exercising and managing the disease is their job. Whereas others, and this is a finding that I've found in some focus groups in minority populations, is that so many individuals especially in the Hispanic community indicate that they don't think of exercise or physical activity as work. But really, their exercise and physical activity needs to bring them joy. That there's a tie-in with music, and dance, and community, and food. That it's more like a party around exercise and physical activity. So understanding not only your personal needs, but maybe your cultural needs and expectations around what exercise and physical activity means for you.

Dr. Rachel Dolhun: Underneath all of that, I often talk to people about finding your why. Why do you exercise? I think like you said, when we talk about goals feeling vague. If we exercise because it's good for us, that might sometimes feel like a throwaway or that's not going to get us out the door. But if we exercise because we want to be able to play with our grandkids, or we want to be able to travel, or we want to be able to run that 5K that's on the calendar three months from now. That can keep us going.

Cristina Colon-Semenza: Start small, realistic, achievable, and then you can go from there. But yes, having those smaller goals is an appropriate, really good tool and technique to keep you motivated and get you out the door.

Dr. Rachel Dolhun: Specifically for family members, so many say, "I know this is so good for my loved one, but I just can't get them to exercise, or I feel like a nag." What tips and advice can we give them?

Cristina Colon-Semenza: Right. I think with a family member that doesn't want to exercise, something that you can do as a loved one is be curious. Really ask questions, open-ended questions, to understand what is it behind them not wanting to exercise. Hopefully together, you can problem-solve what the barriers might be for why that individual doesn't want to exercise. We all know that it's good for us, but there's more to it than just knowing that educationally or logically that exercise is good. Be curious, ask questions, potentially try to problem-solve together.

The other thing that I will point to is that, as a part of Parkinson's disease, there is a symptom of apathy, which is decreased goal-directed behavior. Meaning that you lack motivation, and that's a part of the disease process. If there's truly a psychological syndrome, or symptom, or condition that is going on, apathy, depression, that is getting in the way of the exercise, that potentially that needs to be treated simultaneously with you getting that person to be more active.

Dr. Rachel Dolhun: Just like we talk about adapting for tremor or balance problems, we may have to adapt around mood changes that can help with Parkinson's.

Cristina Colon-Semenza: Absolutely.

Dr. Rachel Dolhun: Goals can be shared between family members or loved ones and people with Parkinson's, too. One of our community members talks about how he and his wife set a goal together to be able to walk hand-in-hand without him feeling off-balance with Parkinson's. So having that goal that you're working toward together can be really helpful for a lot of people as well.

Cristina Colon-Semenza: Yeah. I can see how that would be motivating, not wanting to let each other down. Working together towards that goal can be exponentially more motivating.

Dr. Rachel Dolhun: Thanks for our community members for sharing their questions. And thanks to you, Cristina, for sharing your insights and tips.

Cristina Colon-Semenza: Thanks so much for having me. It's been my pleasure.

Dr. Rachel Dolhun: We hope that this makes exercise more accessible and it inspires you and your loved ones to make it a regular part of your life. You can read more on exercise for brain health and life with Parkinson's in our free guide at michaeljfox.org.

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