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Speaker 1:

Welcome to a recap of our latest third Thursday webinar. Hear directly from expert panelists as they discuss Parkinson's research and answer your questions about living with the disease. Join us live next time by registering for an upcoming webinar at michaeljfox.org.

Maria De Leon:

Good morning. I want to thank everybody this morning for joining us. My name is Maria De Leon, and I'm a fellowship-trained Movement Disorder Specialist, and I'm also a patient for the last 16 years. It's great to be here today. We have a great panel and we have a great topic, Get Moving-Exercising for a Healthy Brain. I know all of you are very excited. We have a lot of people joining us today. We will be discussing ways to improve our brain health through exercise. We'll also cover the valuable role people with Parkinson's and also caregivers can play in Parkinson's research.

If you have any questions, you can type in the Q&A box near the middle of your screen, and the Foundation staff and our panelists will also be getting to as many questions as we can. And if you want other helpful information or want to download some of the slides, check the resource list on your screen. To put on captions in English please click the CC button on the bottom right of the media player on your screen. Like all of our webinars, this session will also be recorded, so if you think you missed something you can always go back and listen to it again, and you can watch it and share with others. It will be on demand.

So with further ado, we have got a lot to discuss, and I want to start by introducing our panelists. First of all, I want to thank everybody. Thank you to The Michael J. Fox Foundation for being here, for all the sponsors. I also want to introduce first Dr. Daniel Cross, Corcos, sorry, Corcos, he's a Professor of Physical Therapy and Human Movement Sciences at the Northwestern University. He's a principal investigator in the SPARX3. Also, I want to introduce Lori Quinn, who's a Physical Therapist, Professor of Movement Science and Kinesiology at Columbia University.

Further, I'd like to also welcome Lynn Hagerbrant, MJF Patient Council Co-chair, living with PD since 2010. Thank you so much, and I think we're ready to get started with a wonderful session. So why is exercise important? First, exercise plays a key role in maintaining and improving brain health. And we are going to ask one of our expert panelists to discuss how exercise can help those with and without PD. Dr. Corcos, can you tell us how exercise impacts PD?

Daniel Corcos:

Thank you very much, and thank you very much to Michael J. Fox. I'm very honored and privileged to be here with my three distinguished colleagues. Exercise is clearly very beneficial for everybody whether you have health or disease. It is especially beneficial for people with Parkinson's disease. You can ask any practicing movement disorder specialist whether they can tell whether their patients have or have not been exercising and living healthily, and they can tell you.

Many people find it a little hard to motivate themselves to exercise. So I'm going to give you 10 reasons why chronic, that means continuous, every week, sustained, exercise is really, really good for your brain, because Parkinson's disease is a neurodegenerative disease. The first reason is, think about blood

flow. Imagine a tree in winter, and so you can think of your brain, it has lots of blood vessels, and you can imagine a tree which has very few leaves.

You can imagine your blood vessels are not getting much blood through, and you now go and exercise, and then think of your whole brain now lighting up. You need to get oxygen to nerve cells. So the first reason why it is great is, it increases blood flow. For those of you who read a lot, you're going to read about nerve growth factors. There are three, there are many more than three, but three you'll read about are BDNF, GDNF and Neurturin. And as you can tell, nerve growth factors help nerves grow. Exercise is good for nerve growth.

Second reason, Parkinson's disease is a dopamine deficiency. There's lots of evidence that you increase dopamine signaling when you exercise. The fourth reason is, if you look at a brain of a person who has a neurodegenerative disease, it starts to shrink. You look at a healthy brain, it hasn't shrunk. You exercise and you reduce atrophy or you increase thickness. A fifth reason is, exercise activates the brain. A sixth reason is, it helps connectivity within parts of the brain.

A seventh reason is, it facilitates connections across the brain. We need the basal ganglia to talk to other parts of the brain, motor cortex, prefrontal regions. An eighth reason is, if you look at animal models of Parkinson's disease, they have few dendrites. Dendrites talk to other parts of the nervous system. You exercise and you increase the number of dendrites. The ninth reason is, brain immune function. The brain immune system improves when you exercise. The 10th reason is that you decrease oxidative stress.

This is a lot to remember. Remember, every time you go out to exercise, you're doing at least 10 good things to your brain, and imagine the blood flowing through your brain. Also, I've talked about the long-term benefits, week in, week out, year in, year out. Every time you exercise you raise your own within system endogenous levels of dopamine.

I hope I've given you good reason to think that exercise is important for you. Actually, if you're looking at the screen, we have two people who have Parkinson's disease and they seem to be nodding along that what I'm saying makes sense to them. So it's probably easier for those of you who have the disease to watch and listen to people who have the disease because they can tell you that it has worked for them.

Maria De Leon:

Thank you, Dr. Corcos. That was very important information. Sorry, my brain sometimes doesn't work well. First before we get to that, I know there's some people that are having some trouble hearing, so maybe the IT tech could help those people. But also those that want some close captioning, again, the CC button on the bottom right of the media player on your screen should help you with that. So hopefully that would help some of the people having some trouble.

But as Dr. Corcos was saying, yes, the reason that we feel that exercise is important to the brain, to summate, is that it increases blood supply and oxygen. And particularly the basal ganglia is very sensitive to areas of stress, and trauma, and decrease in oxygen and blood supply. So by doing that, we're increasing that area and keeping it nice and plump along with the other endorphins and chemicals. So moving along, I hope that answers my question. We're going to get to more questions later on after we go through all the slides and hear from all our presenters.

So next slide. What exercise is best for me? I know that everybody has questions. Sometimes some of you are wheelchair-bound, some of you have limited capabilities, or have dystonia and have difficulty walking. So let's ask first Lori Quinn to discuss the different types of exercise that you could possibly engage in, strength, flexibility, balance, and tell us a little bit more of how this can be used or you can be using this in your situation depending on what your capabilities are.

Lori Quinn:

Sure. Thanks so much Maria. Thanks everyone. I'm really happy to be here. So yeah, as Maria said, there are four different main types of exercise that people can engage in. And there's a difference between physical activity and exercise. Physical activity is what you do on a day-to-day basis, moving and not sitting, having less sedentary behavior. But exercise is sort of planned activity that you do. And we separate exercise into these four main components. So aerobic, strengthening, balance, and flexibility. And I'll just give a quick example of each of them.

Aerobic exercise is where we have sort of continuous rhythmic activities where we get our heart rate up to a certain amount, and I'm sure we'll talk later about those exact percentages. But it is important to get your heart rate up so that you're actually feeling like you're working out, maybe breaking a sweat, and ideally using some sort of monitoring device to get an idea about how hard you're working. Some activities of aerobic exercise are things like cycling, or walking at a brisk pace, like potentially up an incline, or walking on a treadmill, doing aerobics types of classes, or swimming.

Strengthening is where you're using your muscles against a form of resistance to try to increase the strength of your muscles. This can be done with upper extremities, the lower extremities, or what we call the trunk, sort of the core musculature. It's really important as we age and just generally to have a strengthening program as part of your exercise program. Some things that you can do that increase your strength are just literally using some simple handheld weights as you do general upper-extremity activities.

Many people use them if they're going walking. You can use light resistance bands. And even doing some very simple activities that are using your body weight. Like squats is a really great form of a strengthening exercise. Balance, what we call sort of agility training, is also a really important component in

Parkinson's because it's an area that much of the medication actually doesn't address.

People can do well with medication but can still have a lot of balance problems. So what you need to improve your balance is actually try to challenge your balance in many different ways. Things like boxing can do that. Certain forms of yoga, or Tai chi, and dance can be a really nice way to also challenge your balance. But it does need to be challenging, so make it a little bit difficult. It almost might make you a little bit off balance, but in a safe environment it's really important to do.

Then finally flexibility or stretching where you actually try to counteract some of the negative effects that might happen from Parkinson's or even just from being sedentary. So if we sit for long periods of times our hamstrings might get tight. Or if we're sitting over a computer some of our upper extremity muscles might get tight. You can do stretching exercises to try to counteract that. Those can be just general stretching exercises or they can be incorporated into things like yoga.

Maria De Leon: Wonderful, thank you so very much. That's very good information. We're now going to go ask Lynn to share her personal experience with exercise and what she enjoys since she also has been living with Parkinson's for some time now.

Lynn Hagerbrant: Yes. I really believe for myself that exercise is medicine. I take my medicine so I can exercise. That's the way I think about it. I always exercised my entire life, but I've ramped it up since I was diagnosed in 2010. And I just encourage anyone out there who has Parkinson's to find something they're passionate about doing, and what they enjoy doing, and look forward to doing.

It really has made a significant difference in my Parkinson's symptoms. I also see in others who have Parkinson's, you can see the difference in those who work out, who exercise, who basically do all the four different kinds of exercise that Lori Quinn pointed out. So it's a significant part of my life.

Maria De Leon: Wonderful. Thank you very much. Dr. Corcos, how much exercise do you think one needs to do in a day or per week to really see the benefit or the effects when dealing with Parkinson's do you think?

Daniel Corcos: Thank you for the question. The most important thing really is to try to exercise. What I will tell you next is what I consider to be the scientific prescription for exercise, and there is an immense amount of evidence behind it. If you can, one should work out with an elevated heart rate, preferably close to 80, 85% of your peak heart rate for 30 minutes four times a week.

There have been three studies which have shown that. I published a paper in 2018. My very good friends in Holland published a paper in 2019, and there was a paper published in 2021. So there have been three studies, each conducted

over six months, showing that if you can exercise three to four times a week for 30 minutes with an elevated heart rate close to 80%, you will be able to slow down the rate that your disease progresses.

Point number one. Now, I realize many people find that hard. I realize some people are much further along in the disease, and later on we can look at some other approaches. But certainly if you're diagnosed youngish and you can do that, that is what is best for you. The evidence is crystal clear. Now, a lot of people asked the question, "Well, what is the best exercise for me?"

Well, that's like asking, "Should I eat protein? Should I eat fat? Should I eat carbohydrates?" You need a well-balanced exercise program. Resistance training, which Dr. Quinn referred to, is very important. It's very important for bone. It's very important for osteoporosis. It turns out, and this is hard to believe,

but there's a lot of evidence that it may also be the best exercise for improving cognition. So for those of you who do not do resistance exercise, it should be part of your exercise portfolio. And it will be very good for your bone, very good for your brain. It would also help with your function. And as your disease progresses, staying strong is important. Unfortunately, there's a fact the best predictor of mortality across all diseases and health is loss of strength. So do everything you can to keep your strength up. And then thirdly, what Dr. Quinn talked about, and many people do this daily, is stretching and balance.

It's a very simple test you can do for yourself. Stand on one leg. If you're holding it for a minute, you're in great shape. If you're holding it for a second, you really need to see a PT, somebody such as Professor Quinn, and you need help because there is a problem. So in a nutshell, endurance for your cardiovascular system, resistance for your neuromuscular system, and posture and balance because people with Parkinson's unfortunately have a propensity to fall over. And when they do, they fracture bones and it's at a much higher rate than for people who are healthy.

PART 1 OF 4 ENDS [00:16:04]

Maria De Leon:

Thank you. That's very important that you always talk to your doctor about what is the best therapy for you, because everybody has different medical issues and different stage of Parkinson's. And what is good for one person may not be necessarily good for another. So the best exercise is the one that you'll do and it'll be good for you to improve your symptoms and motivate you to do. But you don't have to do the same thing. And we can ask Professor Quinn, what are some practical tips for incorporating more movement into your daily routine?

Lori Quinn:

Yeah, sure. So I have three tips that I'd like to share. But I first do want to say on that last point about the best exercise being the one that you'll do. I think what

is really important is, within the guidelines that we've just discussed, to find activities that do bring you joy or that you do enjoy doing. Any exercise that feels like a slog or is not enjoyable is going to be more difficult to do. If you know the benefits of it, there's many things that we do in our life that we probably don't like to do, but we know they're good for us so we do them. This is one of them. But if you can also find something that you love to do and that you have passion, whether it's getting into the pickleball craze or you enjoy breaking a sweat on a treadmill, it's really important to take that into consideration.

So my three main tips for incorporating exercise into your daily routine would be setting a schedule, having a buddy, and setting up your environment. There's many tips, but I think these are the three most salient ones and things that seem to resonate with the patients that we or the individuals that we work with who have Parkinson's disease. So setting a schedule, however that might be. But something like every Sunday you look through your week and you say, "Where is exercise fitting into my routine?" And making sure that you're getting all of those four components. One of the things that can be overwhelming for people that we work with is, oh, my gosh, I have to exercise doing aerobic exercise five days a week and strengthening three. I don't have enough time to do this.

Well, there's a lot of ways that you can pair exercises together. I know Lynn really enjoys boxing. That gets at both aerobic and strengthening. So trying to do activities that can do both things was really helpful. And I would try to schedule those throughout the week and stick to a schedule just as if you had an appointment to see a doctor. Having a buddy, having someone who helps to hold you accountable and maybe you even exercise with, I think, can be really beneficial. Whether that's a spouse or a friend or a child, a grandchild, or even someone in an online community. There's many online communities that you can collaborate with and you can share and motivate each other.

And then finally, I think a big thing is setting up your environment. Many people may not have a lot of space to exercise. I live in a New York apartment. We do not have a lot of space. But I have a mat set up in a spare bedroom. And my exercise thing's right out so that it's very easy for me to exercise. My environment affords the ability for me to exercise. And trying to find resources within your community that are close by and that you'll know you will be able to engage in, so those are my three main tips.

Maria De Leon:

Thank you Professor Quinn. I think that that's very important, the buddy. Having a buddy, the somebody that keeps you accountable and somebody that can drag you out even when you can't or don't feel like going out or can't drive or can't take yourself, somebody that will take you. And that also increases those endorphins and neurochemicals in your brain having someone to socialize with and having someone to compare. Later on, we'll ask Lynn to discuss her own routine of what she does. But the other thing that I'd like to mention is that doing exercises in a pool is extremely beneficial for Parkin, especially those that

have mobility issues, and also for those that have a lot of balance issues and flexibility problems is extremely beneficial. It's something that I have done for years and it really helps tremendously. And I'll discuss later also what kind of exercise did I do, so we can keep moving on.

So next we will discuss managing disease through exercise. So we're going to pause and let you know first of all that the Michael J. Fox Foundation has landed the Parkinson's Progression Markers Initiative. And I'm so glad that I'm part of this foundation because they're doing such extremely wonderful work. And the PPMI is currently recruiting volunteers and we need both patients and controls, people that don't have the disease. So if you tuned into the webinar last month, you learned that the PPMI helped discover biological tests now that we just recently discovered. They can detect Parkinson's as first biomarker, so that is extremely exciting that I think is going to revolutionize the way we diagnose and treat Parkinson's in the future.

And this was made possible by thousands of people like yourself that volunteer and participated. Now we need more volunteers. So if you are so inclined, we would like you to click on the take action box to join the study that's changing everything. So if you could do that, that would be wonderful if you'd like to participate. And you don't have to do anything outside of your home. You can just do it on your computer. So all right, so next slide. Common barriers and ways to overcome them. So I'd like to hear from Lynn the barriers people have faced and solutions to overcome with your balance, with your movement, tremors. How has exercise played a role in this control of your symptoms?

Lynn Hagerbrant:

Well, I feel that I have not only studied the data and the research about how important exercise is, I actually feel it myself. So I am a total believer in this. I mean, I take exercise very seriously. Maria, as I think Lori had mentioned, both of you mentioned that I schedule around my exercise. I don't do anything in the mornings typically till 10 o'clock. I make sure that I exercise during that period of time. As far as lack of motivation, I basically prioritize it. I tend to, for myself and everybody's got to feel like what motivates themselves, I tend to do better in a class with others. I work out longer and harder with other people. So a community-based program is very important to me. There's other people that I know with Parkinson's that do fine by themselves, but I tend to be more motivated in a group, so that helps. I know for a fact that helps with me, keeping me motivated and encouraged to keep exercising. So I think making it a routine, making it a habit, and really taking it seriously is very important in the management of Parkinson's symptoms.

Maria De Leon:

Yes, thank you. And as we see, I think one of the biggest things is this lack of motivation, reluctance to join. And then we had the pandemic, so we were all stuck at home. So how do you do this? So Dr. Corcos, what are the best ways to get started, especially if you've never exercised regularly, are not a big exercise buff like Lynn, like I am? I'm not one to say, "Sign me up for the gym." So what do you suggest? What do recommend?

Daniel Corcos:

Well, the best way to get started is just to tell yourself to do a little bit. So one can just start to walk a little bit. Some people like a Fitbit to track their number of steps. But if you're not doing any exercise at all, if one just can get out of one's house or out of one's apartment and just take a walk around the block and just get into the idea. So Dr. Quinn hit the nail on the head with her three pointers. So if you set a schedule, find a buddy, and get your environment right, and then start very, very easily. I can see in the notes, in the chat, that some people don't like to exercise. We know that. But some people don't even use the word exercise. Just think of it as the E word and you never talk about it, okay?

And now think about activity. And so start easy. If you jump into some of the things I told you about the prescription and you've never exercised, your muscles will hurt. And I don't want anybody to do that, so start very easily. Now, if I had Parkinson's disease, I for sure would look at dancing. Most people actually do like to dance. I know some of you will say, "You won't get me anywhere near a dance place." But the music helps, the rhythm helps, the excitement of being out helps. And so dancing, it's a wonderful activity and the published articles are clear. It is beneficial for posture, gait, balance, and cognition. The boxing programs around the country, you look at pictures of people, they are really engaged. And the issue here is to try to empower yourself. So the people who tend not to do well are those who take their medication, sit back, and don't take the disease on, okay? And those who do well are those who just get on with their life. So start easy and try to find something that you really enjoy.

I talked to the Sonoma group in California recently. They're out by redwoods. Now, can't be too hard to take a walk through the redwoods. And there's a lot of evidence coming out of England and other countries that activities in green areas are very, very good for one. So the issue here is if the E word is a bad word, and it is for many people, then tune up the A word for activity or the D word for dance or the F for fun, and try to find something that works for you. And in many of my talks, I ask people the following question when I'm in a live audience. I ask people, put your hand up if you have a dog. More than half the people put their hand up. And then I ask the question, how many of you would consider not taking your dog for a walk? And nobody's hand is up. So for those of you who have dogs, for example, well, you get your activity in. And if it's good enough for a dog to be active, it has to be good enough for you.

Maria De Leon:

Thank you so very much. Those are inspirational words that I often say that running water does not free. So we just have to keep moving, have to do something. And we don't have to think of it as exercise the evil word. Just do something fun that you like. Even the exercise, cleaning your house, put a little movement, put a little music. And then before you know it, you're having fun and you're moving and exercising and doing all those things. So Professor Quinn, what would you say for people that have some physical disability, some ability

issues, how would you modify or work within the limitations of that to still be able to do some of these exercises that we've been talking about?

Lori Quinn:

Yeah. Thanks, Maria. There's many different ways that exercises can be modified. And I think the really important thing is just to find any exercise that you enjoy and there's ways to modify it. So I think one of the easiest ways is to do exercises in a sitting position versus a standing position. So there's a lot of good research on walking and treadmill. But if that doesn't work for an individual, doing activities in a seated position, so even cycling or on a recumbent bike can be just as effective and you can really get your heart rate up in that position. For walking, there's some really good accommodations that can be made.

So some people choose to use an assistive device, something like a wheeled walker to help. A lot of people don't like to use that, but I think if it enables you to be able to get some mobility and exercise, I think it's something really important to consider that that could be part of the exercise program is walking. And if it enables you to walk a little bit further, then I think that's an important consideration. Also, things like walking sticks or walking poles, those can be really helpful, especially walking on uneven terrain. So it's really important to try to, as I talked about earlier, about the challenging your balance a little bit.

[inaudible 00:32:00]. I talked about earlier about the challenging your balance a little bit. So maybe not just walking on level surfaces, but walking on uneven surfaces or going for walks out in the country. Using a walking pole to be able to help support and provide a little bit of balance can be helpful. And then lastly, I would just say there's a lot of really great exercise classes that are online that can be found for people with Parkinson's. And many of those can be accommodated. They show people standing and people sitting and doing exercises in a modified way. And I know Dance for PD does that as well. So looking for those PD specific exercise programs, they often have modifications built into them.

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Maria De Leon:

Thank you so much. Dance for PD is one of my favorite classes to join. So the Michael J. Fox Foundation has online platforms that are designed for Parkinson's community so they can connect in shared interests and topics and you can probably find something, they're looking for somebody, a support that can help you get to know and what they're doing to get started and what kind of activities they're doing. Lynn, what would you say to someone that has a hard time getting started, what would you tell them how to get motivated to begin exercising or begin a activity program of at least trying to move a little bit?

Lynn Hagerbrant:

Right. So what I would recommend to somebody who doesn't exercise is to basically start small, which was mentioned before from the other panelists, and take a walk, start with walk, and then also look for a buddy or community based

program. There's so many advantages to that. Not only is there trained instructors, but there could be support from others and it prevents isolation. I see a lot of isolation with people with PD and it makes a big difference to get out in the community, get outside, be in nature, take hikes and walks. And I think too, it's a good idea to reflect on what you enjoy doing such as [inaudible 00:34:19], which was brought up dancing, or like Maria, you said you like to be in the pool. So all really tap into what you enjoy and really look into that.

There's so many ways to exercise. There's many ways to work on balance and just incorporate all this in a gradual way so you don't get hurt and not don't get injured, but just gradually increase it to, and I really believe that you are going to definitely feel the difference. It means it's made a significant difference in my life to incorporate all of the exercise strength and balance. It's amazing what exercise can do.

Maria De Leon:

That's wonderful. Yes. And I would really suggest for those of you that have never really had a formal exercising program or not really excited about the E word, just start with simple stretching. When you wake up in bed, before you get out of bed, stretch, do some stretching exercises of all your muscles, your neck, your hands, everything. And slowly start building that way so that you get your muscles moving and start getting some more flexibility. And you don't injure yourself if you do happen to stumble and fall because you're more flexible and not so rigid. So start slow, small steps, but then once you really get going, I know that people have asked about the loud program, the big program, and yes, we have to do things in a big way because sometimes we want to start getting smaller known space. So in order to really walk, sometimes it does help walking with somebody that will increase the pace and so that you can walk faster, otherwise we tend to shuffle and go down.

So having some of those programs are very beneficial. So thank you. So I think we'll go to the next slide. And as we mentioned, everybody has had wonderful ideas and comments and thoughts about ways to exercise and what to do. But remember this is a lifestyle. Parkinson's is here to stay unfortunately, until we find a cure. It is progressive, but doesn't mean it's the end of our life. So in order to do well, we have to own it and we have to make it part of us. And by doing that, we have to change our life, our lifestyle and incorporate it. So that's what this is about, making our lifestyle healthy and one component of it, lifestyle is exercise. So Professor Quinn, so can you tell us how lifestyle medicine encapsulates movement, nutrition, socialization, sleep, and all the wonderful risky substances and stresses that we have in our life to be also that's life and now we have Parkinson's. So how do you mesh it all together so that we're able to thrive and live the best life we can?

Lori Quinn:

Yeah, so this is great. So this general concept about lifestyle medicine and what we're talking about here with Parkinson's disease, it really can be encompassed by the term brain health. And this is something that we've been spending a lot more time thinking about in terms of how can we potentially prevent a lot of

the neurodegenerative diseases like Parkinson's disease, but also how can we help people live their optimal lives with Parkinson's. And it's part of a comprehensive program. We're all here because we probably think exercise is the most important piece of this puzzle. And I also think that exercise actually influences a lot of these things. So I also think when people exercise, they tend to eat better. That might be anecdotal, I don't know if there's research to show that, but I think that, I certainly know that when people exercise, there's building evidence the benefits on sleep.

So these all integrate. But exercise I think is one of the pillars. I'll just talk about a couple of them. So sleep hygiene is very important, getting six to eight hours of sleep. Some people do benefit from tracking their sleep and knowing if they are having fitful sleep. And that can be something that sometimes can be treated medically but also can just be treated with what we call sleep hygiene, having better behaviors around sleeping, not watching television at night, limiting your screen time, having nice comfortable environments, those sorts of things. I'll also say socialization is a really key piece of overall lifestyle management and brain health. Having people that you interact with that you enjoy being around. I think exercise can also be a part of that. Because as Lynn said, she enjoys exercising with other people, that can be a tremendous source of socialization for individuals.

And lastly, I'll just say on nutrition, I think there's several diets that are really coming to the forefront. The Mediterranean diet or the mind diet have some decent evidence again, that's building. But what I would just say is it's just about more fruits and vegetables and healthy foods and less processed foods. I won't say too much on avoiding risky behaviors. I do love my glass of wine and I did see in the chat somewhere that someone asked if it was neuroprotective. I really hope it is.

But I think we have to be really mindful of avoiding too much alcohol and certainly other substances that can negatively impact not just our thinking and our body, but also potentially might interact negatively with medication.

Maria De Leon: Thank you. That's very sound advice. And Dr. Corcos, what do you see this lifestyle medicine, how does that play out in the managing Parkinson's disease and nutrition and moving and exercising?

Daniel Corcos: Well, I always agree with Professor Quinn and I see no reason now to disagree. I think she hit all the bases very well. And there's a very famous Dutch neurologist, Professor Bastiaan Bloom, who's a good friend of mine. And for those of you who've listened to Professor Bloom, he makes the case that if one can, one should think like an athlete. Now I realize we are talking to six, 7000 people and for some people the E word is forbidden. But for others, exercise has changed their life. And I Zoom with a group of people with Parkinson's disease and it has changed their life. And when you see and talk to them, it is life changing. And so one size does not fit all.

But if you go through the literature, which is now crystal clear, that if you really want to have a good lifestyle, then one has to invest in oneself and athletes do. And the lifestyle medicine here is very important to look at. And so we've talked a lot about the movement, the sleep is a problem in PD and that was talked about. Stress management is a big deal. We haven't really talked a lot about apathy, depression, anxiety.

If you are struggling with those three and it is causing you not to be able to exercise, then to see a good movement disorder specialist to really address that issue, possibly using pharmacology so that one can reach a point, that one can exercise is very important. Because once you get into the exercise, the evidence that it can help depression and anxiety is really quite compelling. And if you look at all the mood disorders, they all talk about exercise and they all talk about how it changes the underlying biology. Now for those of you who can see our three other panel members, forget me at this point when I say this, but if you can find people to socialize like those three and go and do activities, so that's what you have to do. And the evidence is crystal clear when you look at the literature on dementia, those people who are actively social, who have good networks, who meet people, who talk to people, who are engaged with people, do very well.

Nutrition is clearly important. You talk to all our athletes, we haven't discussed this and perhaps Dr. De Leon may want to comment a little bit, but those of you who take cinema, dopamine, the food you eat and the timing of your food, vis-a-vis your medication, becomes very, very important. And she may also want to address a question which I'm always asked, but I have no expertise and that is vis-a-vis cannabis. So on the one hand it can be very relaxing for people and it can be very, very helpful. I've also had my physician colleagues make sure people realize a subset of people, and with 6000 people listening, one or two of you fall in the category of hallucinating. I think if you do hallucinate, then avoiding risky substances becomes that much more important. So turn it over to somebody else.

Maria De Leon: That's wonderful. Thank you. Good advice. It does play one thing feeds to another. The whole goal of having a well managed lifestyle, healthy lifestyle, brain health has to do with both in and out body and mind and soul and something that we are now going back to trying to do holistic care because in the past we were so focused on the body and forgetting about the mind, the psyche and everything else. So I think that Lynne could probably tell us how doing all these exercises has helped her with her sleep, her stress, depression. So I would like to hear a little bit from you how this has helped and if there's a better time to exercise that would improve sleep or interfere with sleep. So there's always that question. So I'd to hear a little bit of from you.

Lynn Hagerbrant: Thank you, Mary. Well, it's multifaceted. I think that it's not just exercise. I think there's several components. It's basically incorporating, this is what I really want to get across to everyone. Parkinson's treatment is more than taking your

medication. When I first was diagnosed, I looked to medication, I looked to medication to manage my disease. Gradually over the years I realized that I need to basically embrace Parkinson's and do something about it, which takes more work than taking my medications. It takes commitment, it takes my drive to exercise when I don't feel like it, it requires motivation. And so I believe that if you basically embrace exercise and take it step by step, you are going to basically notice a significant difference in your symptoms that's basically going to encourage you to keep exercising.

And also stress management is extraordinarily important with Parkinson's. There's so much guided meditation online. I basically incorporate guided meditation into my life. I wasn't into meditation before I was diagnosed with Parkinson's, but I am now. If you calm down your central nervous system and you focus, it really makes a big difference with your Parkinson's symptoms. And it helps with sleep. I use me guided meditation to go to sleep at night when I have trouble. So I try to avoid medications if possible. That said, if you do need medications and a physician prescribes it, by all means use it. But also incorporate some of the non-pharmacological means to basically manage some of these symptoms such as stress, anxiety, and depression.

Maria De Leon:

Thank you. Thank you, Lynn, because this is where we're running a little bit short now, so I just wanted to keep everybody. Appreciate all that. And I wanted to say that there is a free diet guide available in the resource list that provides practical tips to start incorporating more nutrition into your routine. And so want to encourage you to enter some more questions. We have a lot of questions. We probably not going to give to answer all of them, but you can always talk to the staff and we'll try to get as many. I also like to thank the Michael J. Fox webinar series that has been made possible through the leadership of members of our Parkinson's.

At least it has been made possible through the leadership of members of our Parkinson's Disease Education Consortium in conjunction with the Albert B. Glickman Parkinson's Disease Education Program. The editorial control of Michael J. Fox is published, content rests solely on the foundation.

So now we're going to try to get to some of these questions a little bit. We've been talking about a lot of things. What's the best exercise? Find the one that works for you. Talk to your doctor, the diet that works for you. A lot of people are concentrating and worried about this heart rate issue. Talk to your doctor. But in reality, as a Parkinson's doctor, I tell you that the best thing is to focus. Everybody is different, what your symptoms are, what you're dealing with, and find the routine, the plan that is going to solve your issues, whether it's balance, whether it's pain, whether it's stiffness, and work with your physician, with the PT, OT, speech therapy if you're having problems with your voice.

And then find support groups that will help you get into some routines. And start slow. You don't have to go all in. As Dr. Corcos said, there's a lot of studies

that show that increasing the blood flow into the brain by just walking 15 minutes a day for three times a week in Alzheimer's and other patients can help decrease the rate of Alzheimer's and dementia. So it's not been shown in Parkinson's that I'm aware of - Dr. Corcos may know something different - but that could just start slow.

Let's see. Some of the questions that people are just dying to find out. I think we covered a lot of them. Does more exercise mean better? By doing more, are we doing ourselves more effect or are we causing more problem? Dr. Corcos, what are your thoughts on that?

PART 3 OF 4 ENDS [00:48:04]

Daniel Corcos:

There is a point of diminishing returns, so certainly more is not better. And the most important thing, just like an athlete, listen to your body. A great coach for an athlete knows when to encourage an athlete to work a little harder. They also know when to encourage an athlete, "Now's the time to rest, now's the time to take a day off." I think if you can set up a schedule very close to the prescription, you don't need to do any more than that, and there's no strong evidence at the moment that you will get a noticeably greater benefit.

The other thing that's very important to realize is that one can get injured, one can get hurt. In the comments, many of you talk about having an injury, so I do not want you to think that more is better. There is definitely what they call in science a ceiling effect at which point you get no greater benefit.

I did see one comment, which I want to comment, and I think it was from, the last name was Manchester, who wanted me or somebody to talk about the P word. Absolutely. Being playful is great. One of the things I like to do is I like to cycle with my friends. And yes, we are very playful. There's a group who plays a ping pong. You can read books on why people play, and bringing a playful element to life is important.

So yes, the science tells you that if you do certain things to your heart and muscle, it's good for you, but to take a playful approach. And you look at people dancing. They are, at some level, playing. So I think part of it is a mindset, and it's a mindset that I'm going to do this for myself, and I'm going to find ways to enjoy it. I'm going to be playful, I'm going to have fun. And yes, if you are at the last five minutes of a hard workout, possibly that's not playful. I agree. But at which point you tell yourself, "Think of my brain. Think of all the blood going through. Think of what I'm doing for my neurons."

This is really, it's all about a mindset. What helps some people, and I had this very clearly articulated to me, it doesn't work for everybody, but some people who have Parkinson's disease want to minimize the impact or burden they have on others. They are aware. They do everything they can to keep themselves in the best shape, not only for themselves, but for their family, partner, caregiver.

The trick here is to find what works for you, and what works for one will not work for another.

Maria De Leon: Thank you very much. That is so true. You have to find that balance and talk to your team of physicians. Professor Quinn, what would you recommend or think is the best foods to eat before you're going to engage in a active exercise routine or before or after? People are really wanting to know what is the best meals or nutrition plan.

Lori Quinn: Oh, okay. We'll just preface it with saying I'm not a nutritionist, and I think it says this is an area of interest, although my daughters would argue against that. But then I would definitely consult a nutritionist who's got information on this. I think it is important. There's been a lot of questions about timing of food and medication and exercise. And Maria, maybe you could touch on the medication.

Maria De Leon: Yeah, no, we'll talk about that a little bit, yes.

Lori Quinn: But look, you don't want to eat right before you exercise because that just is too much competing resources for the energy that's required to digest your food, so we recommend at least an hour before that you eat something. There's a big push towards having higher protein and eating fruits and vegetables, and certainly fruits in the morning and maybe a little bit less so later in the day because it's got high sugar content. But I would just say trying to eat about an hour beforehand and trying to eat good, healthy, whole foods and less processed foods are, I think, some of the mainstays.

Another really big piece of this is water, water, water. Carrying a water bottle around with you all the time, having it readily available. Again, this is part of the environment. Set up your environment so that there's water around so that you stay hydrated, and I think that is a really another important component related to these lifestyle factors.

Maria De Leon: Thank you very much. Yes, water is extremely important because we get one, very constipated. We have all the autonomic problems, and then depending on where we live, it could be extremely hot, extremely cold, and then we're more likely to get dehydrated, and that's going to worsen our Parkinson's symptoms.

But what we've been talking about is having a healthy connection of who we are and what we like to do and what our needs are. So that means that we have to know ourselves and listen to our bodies. Sometimes we can be a little stubborn and say, "Well, I need to exercise," even though you can barely get out of bed. You're falling, just tripping on your PJs, tripping out of bed.

So you need to really think about when is your best time, and maximize your medications. Some people are morning people. I am a night owl. I'm always best at night, no matter how I am during the daytime. Exercise, but unfortunately exercising at nighttime, then that's going to disrupt your sleep-wake cycle. We

have to think about that, that it is better to exercise in the morning, earlier, so it's not going to impact your sleep.

But also taking into consideration that you don't have to exercise every day. You don't have to go all out every single day. Some days maybe you're having, you're dehydrated, you're having some upper respiratory issues, you're having other problems, your fatigue. Listen to your body, and rest if you have to. And then you have the energy to go and do the activities and make sure that you are optimized on your medications so that if you're having a lot of apathy, and I'm glad, I'm going to take a little chance to talk about apathy.

Apathy is two things. One is the apathy that you don't feel like doing anything because you just don't have the oomph to do it. It takes so much effort. You want to do it, you want to go out, you want to exercise. But just the thought of doing it is just so exhausting and overwhelming. And that is lack of dopamine. You need more dopamine and need to talk to your doctor. And yes, once you're exercising, oh, that's going to boost up your dopamine. You're going to feel great. But then it's going to go down. So we need to work both ways: exercise, but also increase more dopamine.

If, on the other hand, you don't feel like doing anything, and even if you love to go, whatever, fishing or like to go shopping, you just have no interest in doing that. Then you're probably more depressed, that even though you know could do it, you just don't want to do it. You don't care as opposed to you know you want to go out, you want to socialize, you want to exercise, but it takes a lot of effort. That's lack of dopamine.

You don't interest anymore in doing anything. You don't care if you get changed. You don't care if you get dressed. You don't care if you talk to anybody that's depression. And we need to talk about increasing serotonin in that case. So you need to talk to your physician either way, and discuss what is really driving this behavior.

And then take medication before you go do these activities, because I've seen lots of people that will go push themselves, and you're doing great while you're doing the activity. You use up all your dopamine, and then what happens? You stop, and suddenly you drop, and you fall. And you break a hip, you break, you end up in the hospital with concussions and so on. So you need to make sure that you listen to your body.

I'm also guilty of that. Initially, I didn't want to listen, wanted to go, be a doctor do, and I fell several times, and I ended up with herniated disc. Now I know that if my body's kind of slow, take your medicine, rest first. Then okay, let's go and do some activities.

It's important that you time it when you are going to do. And if you're going to push yourself, don't go out in the heat, don't go off extreme weathers, because

that's going to require a lot more dopamine and a lot more stress on your body. So try to do your routines in a time that is going to maximize your medicine and also make it safe for you. Okay, so I hope that helps some.

Any other questions? I know there's a million questions about medicines, and does DVS affect exercise? It depends how you're controlled. Again, how the dopamine levels are, are they fluctuating, are they controlled? But you should be able to do some activities, and always start slow.

I like water therapy because it's great for balance, and it is great for pain and flexibility. You don't really feel like you're putting a lot of effort, but you really are, in the deep water. You have to be in the deep water to get the balance. Usually what I do is grab one of those sticks that they use, those floating poles, you hold on and make sure you wear a vest. I don't want you drowning. And then grab those sticks and try to stand on that stick with one foot and balance and then the other foot and balance and then stand with both feet on that stick, like a U. And you stand on it like a swing in the deep water. That is the best balance exercise that I have found. You're refresh, you're in the pool, especially if it's indoor, you're having fun, and your balance will get better.

Other things that will improve your balance: walking on sand, walking on an incline backwards. Of course, don't do this by yourself. Make sure you have your physical therapist, your friends there watching you. You don't want to fall. But that really helps with your balance.

Having a lifestyle that incorporates all kinds of activities, good nutrition, good sleep. And as these wonderful panelists told us, stay active, brain active, physically active. And you don't have to do the same thing all the time. Mix it up, make it fun. Dance one day, go cycling, go swimming. And I think that that's the best way to maintain that activity.

Do you guys have any other thoughts you want to add as final comments, before we say goodbye?

Daniel Corcos: Well, it was a privilege being on the panel with you three, and it was a privilege to be able to talk to the audience. Thank you all very much.

Lynn Hagerbrant: It's an honor.

Maria De Leon: Thank you for being here. You guys were wonderful. Big round of applause for everybody. I look forward to seeing you guys again and maybe giving you a big hug and doing some exercises together. Thank you joining us.

Lori Quinn: Thanks, everyone.

Lynn Hagerbrant: Bye-bye.

Maria De Leon: Thank you.

Daniel Corcos: Bye-bye.

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