

36| NAN Foundation Brain Health Mini-Series: Physical Activity

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Speakers: John Bellone, Ryan Van Patten



Intro Music 00:00



John Bellone 00:17

Welcome, everyone, to Navigating Neuropsychology: A voyage into the depths of the brain and behavior. I'm John Bellone...



Ryan Van Patten 00:24

...and I'm Ryan Van Patten. Today we have Part 2 of our NAN Foundation brain health podcasts. Today's episode will focus on exercise and physical activity for

brain health. As a reminder for those of you who haven't heard Part 1, this is a side project that John and I have done that's actually outside of NavNeuro where we collaborated with the National Academy of Neuropsychology Foundation to create a few episodes for the general public, meant for anyone. And this is all about practical advice, education, and recommendations for how to improve brain health. So we encourage all of our listeners to share these episodes with your family, friends, colleagues, patients, if you see them, anyone in your life who you think might benefit.

John Bellone 01:15



We wanted to give a special thanks to Tanya D'Avanzo, she's the president of the NAN Foundation, and also the board of the NAN Foundation, they've been incredibly helpful, and Tanya in particular, in bringing this to fruition. We will bring you the third episode in a month from now on nutrition. But today's is physical activity, and we hope that you enjoy it.



Transition Music 01:37



John Bellone 01:41

Welcome to the NAN Foundation podcast, a brain health miniseries. We're your hosts Dr. John Bellone and Dr. Ryan Van Patten.



Ryan Van Patten 02:03

Many of us have heard the term "sedentary behavior", and it has a really negative connotation. John, what does it mean? Does it simply mean that someone never exercises?



John Bellone 02:14

Actually, it's possible to exercise and still be sedentary. Sedentary behavior refers to spending time sitting or lying down, not moving during our waking hours. So someone could go to the gym for an hour every day and spend the other 23 hours doing nothing. That person would still be considered sedentary.



Ryan Van Patten 02:37

Right. Research shows that most people spend at least two hours per day sitting and watching television or videos, and that many people spend at least an hour per day on their computer, either at school or work. And, of course, some people are

even higher than these figures. These statistics have been increasing across time as technology allows us to be entertained in front of screens. Another striking stat is that the estimated total sitting time is over 8 hours per day for most adolescents, and over 6 hours per day for most adults. That is a lot of our waking time spent sedentary. So what is the best course of action for our health?



John Bellone 02:43

Well, formal exercise at the gym is great, but the true key to health is to avoid that sedentary behavior. So, it is not recommended to just go to the gym for an hour per day and spend the rest of your time as a couch potato. The best way to maximize your health is to spend the majority of your waking hours moving. There are many ways to do this, and we're going to get into them in detail in this episode.



Ryan Van Patten 03:51

Right. So let's start with the American Heart Association guidelines for physical activity. Many of you may have heard these before. It is recommended that we spend a minimum of two and a half hours per week in moderate intensity aerobic activity. This includes activities such as brisk walking, dancing, or gardening. Or we can spend an hour and 15 minutes per week in vigorous aerobic activity, such as walking quickly uphill, running, or swimming laps. Of course, you can mix moderate and vigorous exercise in a way that works best for you to meet these guidelines. Do try to spread your exercise out for the week as much as you can, rather than doing it all on one single day and then doing nothing and the other six days. The recommendations also include resistance training, such as working with weights or on machines, in order to strengthen all of those major muscle groups.



John Bellone 04:59

Yeah, these guidelines are great. One easy way to know whether you're engaging in moderate activity is what's sometimes called the singing test. If you are exercising and you can still sing and not be out of breath, then you're not working at a moderate level. So you might consider picking up the pace a bit. If you can't even talk while you're working out, then you're at a quite vigorous pace.



Ryan Van Patten 05:28

The singing test...



John Bellone 05:29

[laughs]



Ryan Van Patten 05:30

You know, I would ask you to demonstrate that right here and now, but I don't want you to embarrass yourself and I really don't want to put our listeners through that. We would end up with zero listeners by the end of that fiasco. [laughs]



John Bellone 05:41

[laughs] Yeah, well, I'm not sure if it would be any better if you were the one doing the singing.



Ryan Van Patten 05:45

Oh, I'm not claiming it would be. I'm not suggesting a sing off here.



John Bellone 05:49

[laughs]



Ryan Van Patten 05:49

Let's stick to podcasting and leave music production to the experts.



John Bellone 05:52

Okay. [laughs] Agreed. Keep in mind that the more exercise the better. If you can't quite meet those guidelines, do as much as you can. Some is definitely better than none. Even 10 minutes of walking around your house or in your neighborhood will confer benefits. If you are able to go above and beyond the guidelines, you're going to derive further benefits from it.



Ryan Van Patten 06:21

Another helpful way to track your movement is to count steps through an Apple watch or a Fitbit. Even many smartphones are equipped with a health app that tracks your steps. Some people talk about how important it is to get 10,000 steps per day in order to be healthy. Certainly, it would be great if we could all do that, but research actually shows that the more steps the better, even if you're walking less than 10,000 per day. So if it's motivating to you to count your steps, then count away and try to get as many as you can within reason.



John Bellone 06:59

Also, keep in mind that for some people, certain types of exercise may not be safe. For example, if you have a heart condition, it might not be safe for you to engage in vigorous physical activity. If you have a lower limb injury, or you're at risk of falling,

then walking or jogging might not be safe for you. So be sure to consult with your physician about exercise if you do have a medical condition or if you experience significant discomfort when you're exerting yourself.

Ryan Van Patten 07:37



If you're looking to increase your exercise behavior, we recommend doing so gradually, as opposed to abruptly. Start small and work your way up to a goal. Make physical activity a part of your regular routine, rather than trying a quick 20-day workout and then giving up after it's over. In general, it's much easier to change our behavior for the long term if we do so slowly and gradually, creating new healthier habits, as opposed to trying to overhaul our lives overnight.

John Bellone 08:13



Yeah, we don't want you to have already given up on your New Year's resolution by the time February rolls around.

Ryan Van Patten 08:20



[laughs]

John Bellone 08:21



In case you are not yet sold on whether or not to make these changes, you should know that physical activity is not only essential for overall physical health, but it's also great for your brain. Research shows that it increases brain size by sparking the birth of new brain cells and by increasing the connections between cells, which is often referred to as "brain plasticity", and this occurs throughout our lives. It decreases risk for Alzheimer's disease and other dementias. Exercise reduces symptoms of Parkinson's disease. It improves the functioning of our immune system, helps repair DNA damage, and it enhances cognitive abilities like attention and processing speed and memory. It also boosts our mood and reduces the risk for depression and anxiety and irritability.

Ryan Van Patten 09:20



It also improves cardiovascular health and this is one of the pathways through which exercise is good for the brain. The adage "heart health is brain health" is very true because the brain receives the nutrients it needs via the blood. So we need good blood flow in order to keep the brain operating at maximum capacity. Exercise also reduces the risk for obesity, high blood pressure, and type 2 diabetes - all of which are harmful to the brain.

John Bellone 09:49



There are many ways that those conditions can affect our brain and body. But one of them is by damaging the blood vessels that run all throughout our body and brain. They provide the blood to each cell. The brain is extra sensitive to changes in blood flow because brain cells don't store oxygen nutrients like other cells in our body do. Over time, those conditions can lead to a hardening of our blood vessels or other vascular problems, resulting in less blood flow to the brain. This can ultimately cause changes in thinking skills and increased risk for Alzheimer's disease and other dementias. And regular exercise makes all of this less likely to happen.

Ryan Van Patten 10:36

And, in addition, research has demonstrated that physical activity improves our muscle strength and balance, which importantly reduces the risk of falls, especially as we get older. Falls are incredibly dangerous for older adults. They put older adults at greater risk for broken bones and, worst of all, brain injuries.



So let's talk about how we might start increasing our physical activity and reducing that sedentary behavior. Again, the theme here is simply to move more. There are dozens of ways to do this, and you should choose the options that are most enjoyable and convenient for you. Exercise can be at the gym, of course, but it doesn't have to be. Other ways to move include lifting and carrying groceries and/or small children - just remember to keep your back straight and bend at the knees. You could take the stairs instead of the elevator. You can park further away from the grocery store when you walk in.

John Bellone 11:40



Yeah, I always laugh at the people who circle the parking lot for 10 minutes trying to find that perfect spot in front of the store so that they avoid walking the extra, you know, 40 steps. [laughs]

Ryan Van Patten 11:51



I know, I know...

John Bellone 11:52



Other ways to smuggle exercise into your everyday activities are to maintain a garden or do yard work, such as pushing a lawn mower or raking leaves yourself, rather than hiring a gardener to do those things. Doing push-ups or sit-ups in your home, maybe while you're listening to your favorite podcast. Taking a brisk walk,

and this can happen in your neighborhood, or at a local park, or a local mall, on a treadmill, or anywhere else that you feel comfortable walking. You don't need an expensive gym membership, like Ryan had alluded to, to get the benefits of exercise.

Ryan Van Patten 12:25



Yeah, all those are great. Other people might enjoy swimming, engaging in water aerobics, playing sports, riding your bike to your destination instead of driving your car, going dancing, doing housework - things such as mopping, vacuuming, or dusting - taking a class in yoga or Tai Chi, or even just stretching while you're at home watching TV.

John Bellone 12:50



Yeah, I think they get the point. [laughs]

Ryan Van Patten 12:52



Enough examples.

John Bellone 12:54



Clearly there are so many ways to be physically active. I always tell patients that I don't care what you do to be active, just that you do something. Preferably it will be something that you enjoy doing, so that you're going to be able to keep up with it. For me, it's swimming and riding my bike and playing racquetball. It doesn't even register to me as exercise because it's just fun.

Ryan Van Patten 13:20



We should mention a few options for people who have limitations in lower limb mobility as well. For example, many fitness centers have what's called an "arm bicycle". This looks like bicycle pedals, but there are hand grips instead of foot pedals. This is a way to get aerobic exercise if you don't have use of your lower limbs. You could also try swimming or water aerobics, or what's called an "endless rope machine", which is a length of climbing rope that's looped through the machine and you continuously pull down on the rope.

John Bellone 13:55



There are also options available for people who are unsteady on their feet, or who have injuries to their lower limbs. For older adults who are at risk of falling, they can walk slowly on a treadmill holding on to the sides. They can do water aerobics, like

Ryan just mentioned, they can use a stationary bike - there are so many other options. Even just lifting light free weights at home is a great option. Again, be sure to talk to your doctor about options available given your specific situation. And to minimize the time spent being sedentary, we can use a standing desk or maybe go for walking meetings. Really, whenever we're socializing, we can be doing it while walking. It's just important to get creative with it.

Ryan Van Patten 14:51

Well, I think we've probably thrown enough at everyone for today. Let's end with three action steps. These are ways that you can increase your exercise behavior today. First, simply sit less. You might set a timer for 30 minutes every time you sit down and either do work standing up or take a quick walk before sitting back down. Second, as we've mentioned, move more. Choose a few of the options that we've listed in this episode and find what works best for you - what's most enjoyable for you - and then build those into your everyday routines. And, finally, add general resistance training to your daily routine. This can be done at the gym with free weights and machines, or it can be done in your own home. There are many resources available online to help you get started. Remember that any increase in physical activity is better than none, so don't get discouraged.



John Bellone 15:50

Well, that's all for today. Thanks so much for listening, and join us next time as we continue to promote neuro-wellness through education.



Exit Music 15:58

John Bellone 16:20

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Ryan Van Patten 16:30

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