



MIGRAINE WORLD SUMMIT

TRANSCRIPT

INTERVIEWS WITH WORLD-LEADING EXPERTS

BEST EXERCISE OPTIONS FOR PEOPLE WITH MIGRAINE

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Introduction (00:05): And for people with migraine, we may have to be more thoughtful about how our bodies are responding today and how things feel. But if we pay attention to our bodies, we don't let our own expectations for ourselves or other people's expectations for ourselves rule when we stop and when we leave. If we give ourselves permission to engage with the world in a way that makes us feel nourished, and happy, and fulfilled, then none of these things are off limits to us.

Lisa Horwitz (00:37): As people with migraine, we know that exercise can help prevent migraine attacks, in addition to being good for our overall health. However, when you are living with such a painful condition, it can be difficult to leave your bed, let alone exercise. Finding motivation to exercise can be difficult for the healthy and seem impossible for those of us with chronic pain and fatigue. Dr. Betsy Seng helps patients find behavioral strategies to manage pain and is here today to help us identify the best exercises for people with migraine. Dr. Seng, welcome to the Migraine World Summit.

Dr. Seng (01:17): Thank you so much for having me.

Lisa Horwitz (01:19): It's an honor. Before we get started, I just want to say and ask you: What are the biggest obstacles for people with chronic pain who want to incorporate exercise into their lives? Because they're probably seeing this topic and saying, "Are you kidding me?"

Dr. Seng (01:37): Absolutely. And I think that it's important for anybody to know that for chronic pain and for chronic migraine, no one nowadays would think that exercise is like the only cure. And there was a time there where I think that there was some minimizing of the experience of people living with chronic pain by saying, "Oh, well, you just need to exercise more, and exercise interventions help with chronic pain." Both those things can be true, but it can also be true that exercise alone is unlikely to sufficiently address many of the kind of chronic diseases that we're talking about, especially these chronic neurologic diseases like chronic migraine.

Dr. Seng (02:18): And that that recommendation really minimizes the lived experience of people with chronic pain and migraine, where exercise is fundamentally more difficult, and where many times trying to adhere to the recommendation to exercise can actually produce more injury in some cases. It's not avoidance and fear of injury. To be afraid of injury when you've injured yourself exercising, that's a rational fear. It's a rational belief, but it doesn't mean that it's necessarily helpful or adaptive just because it is rational, and I think that's where there's a lot of pull and push.

Lisa Horwitz (03:03): So, we know that exercise can release endorphins into the body. Why is this beneficial for people with migraine or headaches?

Dr. Seng (03:14): Yeah, so we're going to start right off with the stress conversation. So, stress management is one of the most effective lifestyle changes people can make when they're looking to manage migraine. And it's not because you caused your migraine because of your stress. It's not because you caused your migraine because you're bad at managing stress. It's because stress is a very foundational hormonal change in our bodies. And when our bodies experience wide discrepancies in hormonal changes, that seems to be associated with migraine attacks. So, for many women, they experience more migraine in and around their menstrual cycle. Similarly, people will experience more migraine activity in and around wide fluctuations in their levels of stress hormones. So exercise is an important way to regulate those stress hormones that seem to be associated with migraine attack concept.



Lisa Horwitz (04:14): So, we're talking about the endorphins that are released during exercise. How long do these endorphins last after you took an hour walk or did some sort of movement?

Dr. Seng (04:27): So, there are different kinds of movements, and the different kinds of movements produce different effects. So, strength training and aerobic exercise, where you're breathing more heavily or where you can notice your heart rate increased, will be releasing more of these kinds of hormones that we've been talking about than just increasing movement in your day-to-day activities. That being said, the majority of our movement, the majority of our daily caloric expenditure, comes from living life. It does not come from the hour that you spend at the gym. So there's an importance of both. There's an importance of increasing nourishing movement in our daily lives, as well as setting aside time for some kind of aerobic activity or some kind of strength training, both for the health benefits it confers independently on our bodies as well as for potential migraine reduction.

Lisa Horwitz (05:28): Where do you draw the line between movement and exercise?

Dr. Seng (05:33): For me, personally, I think that all movement can be some kind of exercise and that it really depends on what your goals are. It also depends on where you're starting from. So, in a very kind of confessional way, I have been very, very physically active for most of my life. But then I have had to be completely sedentary for a period of my life because of medical reasons, and I am trying to come out of this sedentary period right now. What might not have gotten me to heart-pounding aerobic exercise at a previous time in my life now was extremely — both strength and aerobic, happening all at the same time. Totally see this. So, one of the challenges is that for some people, that walk will be aerobic. A brisk pace will produce the heavy breathing and elevated heart rate that we see with aerobic activity. Whereas, for people who are engaging in physical activity more often, who may be younger, they may have to pick up the pace more, or run, or do something slightly different in order to achieve the same bodily changes. So that's why I actually like to use biofeedback to help people know whether they are or are not in an aerobic range, because that is what should determine the activity that you're engaging in.

Lisa Horwitz (07:01): So, if you are someone who is coming back or just starting movement, how long do you need to get into that breathless or heart-rate or muscle-fatigue zone to produce the kind of benefits that we're discussing?

Dr. Seng (07:20): In general, we want people to do things that they find to be feasible. So if you are just getting into movement, the most important thing is to talk to your primary care physician before you really start off any significant increase in your physical activity. The second thing is that there are entire groups of people whose goal is to help people get into exercise, and exercise physiologists are often my best colleagues when it comes to somebody who's starting afresh. For most people, we want them to be engaging in some kind of activity over the course of about 40 minutes. But that doesn't mean that you're engaging continuously in the same activity for that whole period of time.

Dr. Seng (08:10): If what we're talking about is going on a fairly low-intensity walk, we want you to back off on your intensity if you become so out of breath that you can't talk or if your heart rate goes above the recommended cardio range for your age group, which changes as we age. That's one of the reasons why using those kinds of biofeedback can be really, really helpful. At the end of the day, I'm a psychologist, not an exercise physiologist. So, at the end of the day, I



also recognize that the best kind of exercise is exercise that makes us feel awesome and that we really want to keep doing. So whatever that looks like for you is where you should start.

Lisa Horwitz (08:54): So, let's say I love walking up my stairs. I don't, but let's pretend I do. If I wanted to do some sort of stair workout in my house, could I do 10 minutes in the morning, 10 minutes in the afternoon, and 10 minutes at dinner? Does that help, or does it really need to be in a more condensed chunk of time to get the kind of endorphins boost that we're looking for?

Dr. Seng (09:20): It is so difficult to answer that exact question because it really is going to depend on everybody. But if what is feasible for you is 10 minutes, three times a day, that's absolutely better than not doing it all. But if you have the capacity and you can do something for 20 or 30 minutes, that's going to give you a different kind of benefit than just having the movement throughout the day. So you may get more of that endorphin rush. You may be in the cardio range longer because it can take some time to get to the cardio range. And then, so if you're having to ramp up each time rather than sustaining cardio, you may spend more time in the cardio range if you do it in one bout. However, there is a lot of research that shows that sedentariness — what we call sedentary behavior, which is sitting or lying down — is not good for our bodies. Our bodies aren't meant to be sedentary all of the time, and many of us are sedentary all of the time. We work at desks; we work at computers; we don't get up and move.

Dr. Seng (10:34): So for the reduction of sedentary behavior, your 10-minutes-a-day plan is superior to the 30 minutes in one bout. If the alternative would be to sit, then definitely spread it out. There are two complementary goals, which are to exercise so you feel good and so that you get either some strength training or some cardio going. But then there is another goal, which is reduce sedentary behavior — move; move every hour; move in some way. And for that goal, it's actually better to have smaller bouts of activity like you recommended.

Lisa Horwitz (11:17): Kind of along those lines, what are some other incentives to exercise, other benefits besides hopefully reduction in attacks?

Dr. Seng (11:27): Physical activity is also one of the most important treatments that we have to help us regulate our mood. And for many people who are dealing with migraine and chronic pain, mood can be a challenge. It can be very difficult to wake up knowing you're going to be in pain. That is just a very difficult situation. There are also the neural networks that are associated with chronic pain [that] seem to run along similar lines as depression. For migraine specifically, anxiety seems to be even more of a problem because this kind of phenomenon of anticipating the attack can be just as disabling as the attack itself, sometimes because you're worried about the attack and you're worried about the attack, and so you change your whole life to try to reduce how often the attacks happen. But then you're constantly scanning for any sign that an attack is happening. So we need ways to manage that. And there's a lot of literature that suggests that behavioral activation, which is basically getting out of your house and doing stuff, is one of the best treatments for depression.

Lisa Horwitz (12:42): Wait a minute, there's a medical term for this?

Dr. Seng (12:45): Behavioral activate — Like, "Get out and do things!" It's called behavioral activation.

Lisa Horwitz (12:50): It makes you feel better.



Dr. Seng (12:52): And it does. And it does. It makes you feel so much better to do things, to do anything. Exercise then has even additional benefits because of the kind of hormonal changes that we talked about. But also, the physical changes: that your metabolism improves, your strength improves, your cardiovascular system improves. And those improvements can help you feel much more strong and competent and safe in your body, and all of those things that are just helpful as living as a human being.

Dr. Seng (13:31): The last thing that I always want to bring up is that many times people are very concerned about weight loss. For migraine, there is evidence that losing weight can help people improve their migraine. But if we just think about long-term health and longevity, yes, diet is more important for weight than exercise. But exercise is more important for long-term health and vitality than weight is. So as we age, we really rely on the cardiovascular fitness and muscle strength that we've developed when we are younger to help us continue to be able to navigate our world.

Lisa Horwitz (14:23): So, for people who are having trouble creating a new habit of regular exercise, what tips do you have to help them with motivation and consistency?

Dr. Seng (14:39): There is an enormous — I just want to stress to people who are interested in this — that there is an enormous amount of research about how people start exercise routines and how they stick to it. So you can feel really confident that we know a lot about exercise and how people stick to it. It is very hard to stick to an exercise routine. The things that help start a new exercise routine — one of the most helpful things we already talked about is biofeedback. So really paying attention to your body or getting a heart rate monitor and really showing you — this is how hard I have to work to get in this range — can be extremely helpful. Demonstration is also really, really key when you want to do something brand new. If you are joining a gym for the first time, they will take you around and show you how every single machine works. Do that.

Dr. Seng (15:34): If you have an opportunity, the third thing is called practice or rehearsal. If you have an opportunity, have someone watch you do it so they can provide you with some corrective feedback, especially if you're prone to injury for any reason.

Dr. Seng (15:51): The last thing that's important when you're starting off is this idea of graded tasks. So you should set goals that you feel 100% confident you can do tomorrow — not in a week, not in a month, but tomorrow I know with 100% certainty that I can walk for 15 minutes. So that's your first goal, and you work your way up as you feel 100% confident that you can move to the next place. People who have been exercising for a long time will talk about reach goals or will talk about pushing themselves, and that is great for people who really know their bodies and for whom that pushing is the endorphin rush in itself.

Lisa Horwitz (16:46): Does then hitting that — because you set something manageable that you know you can hit — does that help train your brain to see the exercise as something positive like, we did it, we hit our goal?

Dr. Seng (16:58): Yes. This is a concept called self-efficacy. Self-efficacy is one of the most important psychological phenomena that kind of get our brain addicted to doing things and gets us to keep doing it. When you have self-efficacy, you are much more likely to do that activity than if you don't have self-efficacy. And the fascinating thing is that self-efficacy is your own perception of whether you can do something, not the actual reality that you can do it.



Lisa Horwitz (17:27): So, from all those strategies you listed for people who want to start exercising, does any of that advice change if a person is struggling because of chronic pain or fatigue?

Dr. Seng (17:41): Yeah. So, in general, when we start people on an exercise program, we generally have them schedule in their calendars when they want to exercise. This is very different when I'm working with my chronic migraine patients compared to patients who have other kinds of pain disorders. Every patient I see has some kind of pain. But migraine is just different because migraine is episodic and unpredictable. It's so unpredictable. When people have migraine — when physical activity really worsens these unpredictable episodic neurologic attacks — the first thing that I'll do is that I'll say, "We need to build in either alternative exercise activities that you can do when you're experiencing substantial pain." So, things like gentle movement, things like seated yoga or standing yoga. Typically, my patients with migraine do not like when their head is down, especially when they're having a migraine attack.

Dr. Seng (18:43): Or we just double — literally double — the number of instances of exercise they could get in a week. So if they feel confident that they can exercise three times, we will look and try to find six periods of time they could exercise in the week so that if migraine is so significant that exercising would exacerbate their headache, they can just cancel because they know they still have five more times left this week that they could potentially exercise.

Lisa Horwitz (19:14): So, I'm not sure if you have any specific exercise recommendations for types of exercise that are beneficial for people with headache or migraine specifically?

Dr. Seng (19:25): The one thing that I would say is that the most evidence has been done in aerobic exercise. So that's things like running, swimming — anything that gets your heart rate up — brisk walks. The effect sizes for strength training look pretty good, although there have been fewer studies. So, if you enjoy the idea of hitting the gym, or lifting weights, or doing things for strength training, I mean, that looks like it's looking pretty good, too. There's less evidence on yoga. Many have told me that if their yoga studio requires a lot of this certain pose that's often very common, where your hands are on the floor and your head is kind of down by your hands, it uses your ...

Lisa Horwitz (20:09): Downward dog.

Dr. Seng (20:10): Downward dog, it engages your shoulders a lot. But that can be pretty challenging for patients with migraine. So, honestly, my biggest thought about this has been that people with migraine often have really poor flexibility in and around their neck and trapezius muscles. We often actually include stretching your neck in the very first behavioral migraine management session. We provide a couple of neck stretches because, for so many people, their neck muscles are tight. So we have people go straight to the side and hold for six seconds. We have you turn left and right for 6 seconds, head straight down, chin to chest. But the hardest one for almost everybody is you take your chin over your clavicle, and you try to get right here. [Demonstrates stretch.]

Lisa Horwitz (20:57): Oh yeah.

Dr. Seng (20:58): For many people with migraine that is — they move it, and they're like, "Oh my gosh, I can't even move my head." So I think that because those muscles are often so tight and



so overworked in people with migraine that then, when you're in a position where you're putting a lot of your body's weight on those muscles, it can just not be comfortable.

Lisa Horwitz (21:18): Are there any types of exercise or movement that people with migraine should avoid?

Dr. Seng (21:25): If there's one thing that I would like to communicate, is that people with migraine do not need to live in fear of their world, and their environment, and their body. That we are safe to interact with our world and that we're safe to engage in exercise, and to go to parties, and to eat out. Those things are safe for us. For all humans, there's some inherent risk. And for people with migraine, we may have to be more thoughtful about how our bodies are responding today and how things feel. But if we pay attention to our bodies, we don't let our own expectations for ourselves or other people's expectations for ourselves rule when we stop and when we leave. If we give ourselves permission to engage with the world in a way that makes us feel nourished, and happy, and fulfilled, then none of these things are off limits to us.

Lisa Horwitz (22:29): Along those lines, is it OK to exercise during an attack?

Dr. Seng (22:34): Yes. Yes. And for some people, exercising during an attack actually does help. Although, for most people with migraine, it makes the attack worse. For a small subset of people, they like exercising during their migraine attacks. It distracts them, it makes them feel better. These are often people who are already exercising quite a bit in their daily lives, and they'll ask, "Am I harming myself in some way?" And the answer is no.

Lisa Horwitz (23:00): So, if you are a person who gets an attack during exercise — so let's say every time I go for a run, I get an attack. Is that type of exercise always going to be off limits to me, or can my body adjust and I kind of get past that "this movement causes me pain" phase?

Dr. Seng (23:22): In migraine, very little is going to be "always" anything — maybe menstrual migraine. But many people with migraine experience changes in what does ... you know, kind of ... their brains are and aren't responding to in their environments over time. So first, I would back off and see: Was it really the exercise itself that was doing it? And when you go to reintroduce the exercise, you want to just absolutely make sure that all of the other situational factors that can contribute to migraine attacks are just not present. So we want to try to increase your migraine threshold as much as possible so your brain is [as] resilient as possible against a migraine attack in that moment so that you can then try to reengage in an activity that you enjoy. There are some people who find that activities where their head kind of jiggles a lot, they're just painful. And that alternative activities that are less jerky can be helpful.

Lisa Horwitz (24:30): For people who have chronic pain — and like you said, migraine's unpredictable, the unpredictable pain — working out on a regular basis can seem impossible. Is sporadic exercise still beneficial?

Dr. Seng (24:46): Yes. Yes, absolutely. So, people with migraine often thrive on routine. On the one hand, your body may get used to physical activity in a way that is helpful, and you find a daily routine that really works for you. But for people who are having a lot of migraine activity, a lot of these routines kind of get thrown out the window. And that's one of the hard things about living with migraine, is that you want to keep a routine, and now you're napping for four hours this afternoon to try to get rid of a migraine attack. That's just part of life. So you should never feel guilty about taking care of yourself in the way you need to in the moment. And that also,



the fact that you had a migraine attack yesterday and you prioritized yourself and your health, shouldn't impact the likelihood that you might exercise today now that you're not experiencing a migraine attack. This is a concept called "slips and slides." When we set ourselves goals and we don't quite reach them, many times, we feel that we have slid all the way back to the beginning. Like if I can't exercise every day, I might as well not exercise at all. And that's just not the case.

Lisa Horwitz (26:07): Can a lack of movement — physical movement or exercise — trigger an attack?

Dr. Seng (26:15): So, we don't know as much about sedentary behavior and migraine as we know about exercise and migraine, and we don't even know that much about exercise and migraine. So I don't think that we have really good evidence on sedentariness. That being said, in general, it seems like changes — things that are unusual for you — can often be things that can precipitate migraine attacks. So if it's unusual for you to be as sedentary as you might've been otherwise, that could certainly be something that we might see during the period of time before a migraine attack.

Dr. Seng (26:57): The other challenge with any of these things that we've seen as empirical triggers before is that we do that by looking at the 24 hours before a migraine attack and asking, "Well, what were people doing then?" And the assumption has always been that what they were doing was somehow causing the migraine attack, and, of course, it could be in the other direction. For many people, neck pain is a common kind of premonitory feature, and one could imagine you saying, "Oh my goodness, I must have been sitting at my computer all day. My neck is killing me." Was it really that you were so much more sedentary than normal that day, or is it just that you're in a premonitory phase?

Lisa Horwitz (27:36): Part of the attack. Yeah, I feel like I ask that question to myself all the time: "Is this neck strain or is this just the attack?" And usually, it's the attack.

Dr. Seng (27:45): It's just the attack. It's just the attack. We have been blaming ourselves, I think, a lot, for bringing attacks on when, in fact, what we may just be is noticing the attacks earlier and earlier. I would just really caution you to be kinder to yourself, and to blame yourself less for your attacks, and to recognize that you're a person who's living with migraine. These things are part of living with your life right now, and that a broader commitment to living a life that includes healthy physical activity and reducing sedentary behavior is better than beating yourself up about this one time that you hung out and watched TV all day with your kids and then you had a migraine attack the next day. Just, who knows?

Lisa Horwitz (28:31): Are there any final thoughts you'd like to leave with the audience?

Dr. Seng (28:35): If you're watching this, you are already doing an amazing job managing your migraine. You are! You are already trying to figure out what's going on and trying to make it work in your life, working with your doctors to take the medications that you need to. And that just because physical activity hasn't gotten a lot of research attention — so my confidence around any specific recommendations is low — that doesn't mean that physical activity isn't an important part of routine healthy lifestyle, that there are a lot of benefits to being physically active. And we know a lot about stress management, and physical activity can really help many people regulate their stress. So I think that there's a solid rationale for people to try to engage in physical activity in their routine daily lives. But we know so little about specific kinds of physical activity and migraine that we're very much at the point where it's like, what works for you is



what you should do. What you think you can really do tomorrow and what makes you happy — that's the kind of physical activity you should be engaging in.

Lisa Horwitz (29:50): Where can we learn more about what you're doing or follow your work?

Dr. Seng (29:56): So, you can always look up — I have a faculty webpage at Yeshiva University. So that is going to have the most up-to-date information. And you can also follow me on Twitter @seng.elizabeth.

Lisa Horwitz (30:08): So, today with Dr. Betsy Seng, we've discussed the many, many benefits of exercise. And I also want to thank you so much for taking the time to talk to us today on this topic that can often make us feel less than. And you've really been so welcoming and understanding about the limitations that people with migraine have and how hard it can be to move our bodies. And I just really appreciate it. Thank you.

Dr. Seng (30:38): Thank you.