



Episode 245: Exercise Tips for Migraine and Headache Disorders

Lindsay Weitzel, PhD:

Hello everyone, and welcome to HeadWise, the videocast and podcast of the National Headache Foundation. I'm Dr. Lindsay Weitzel, founder of MigraineNation, and I have a history of chronic and daily migraine that began at the age of four. I'm here today with Sam Kelokates, founder of Kelos Physical Therapy in Philadelphia. Hi, Sam. How are you doing today?

Sam Kelokates, PT, DPT:

Good, Lindsay. How are you? Thank you for having me today.

Lindsay Weitzel, PhD:

Thank you. Sam is a Doctor of Physical Therapy, and his practice focuses on treating people with headache disorders. That is a rare thing, and it's very exciting. And I've spent a lot of time talking to him about his philosophies around exercise and physical therapy and different types of headache. And I'm really excited to have him share with you what he has already shared with me today. I think everyone's going to get something out of this, including people with migraine and other types of head pain. First, why don't you tell us and tell the audience why you do what you do, why you find this so interesting?

Sam Kelokates, PT, DPT:

When I started private practice four and a half years ago, I kind of just was starting to see patients, and then family and friends. And several had headache conditions, several from PT school, on the headache stuff related to tension headaches and what treatments were working and if there was any like progression from what I learned in school. And I really found out that there wasn't a lot of information. One from what I learned in school, so all my notes and my textbooks didn't have a lot of information. And then I realized I needed to really educate myself more. And I saw that there was a really big need, at least in the United States, for more therapists that focused on headache disorders. And it's the second leading cause of disability in the world next to back pain. We got a ton of education for lower back pain, but nothing for headache disorders. So, I felt that this was something that was really necessary in the United States, and I wanted to really focus on it for my business and the rest of my career.

Lindsay Weitzel, PhD:

I'm really glad that you did this and that we can talk about it. Because I think that the way people with different headache disorders, even people with migraine, we all seem to respond so differently to exercise, and some of us have a ton of trouble exercising. Some of us need exercise. And so, I love that there are people out there that found this interesting enough to go and really, really focus on it.

So, before we get into any specifics, let's talk a bit about the data on migraine and exercise and other headache types too, because I think it can get really confusing for people. We get a lot of contradictory messages. Sometimes we hear that exercise is a trigger for migraine. Sometimes we hear we need to use exercise for migraine prophylaxis. And honestly, I think when it comes to other types of headache, we might not have much data out there. So, what is your theory? What do you see in the data, etc.?

Sam Kelokates, PT, DPT:

The research is still growing. It's kind of lagging behind some other areas in research for physical therapy but it is growing. And there's some showing some positive benefits as far as improved function, decreased headache frequency, decreased disability, improved quality of life. But then you get into like, okay, well how does exercise affect those with migraine. Because it is part of the diagnostic criteria that during your migraine attacks that physical activity or exercise is an exacerbating factor. It makes you worse. And that's definitely true, and why we might not want to exercise during that phase of migraine.

But interictally, in between attacks, it's definitely safe to perform, that we might have to make some considerations for that person's individual situation with migraine, because exercise itself is a physiological stressor. So, if you think about your migraine threshold, exercise will contribute to that. It will add on to other things that are going on in your life when we need to be mindful that if we are adding a stress to your migraine threshold, that there's always the potential that it could push you over that threshold and trigger an attack with that acute bout of exercise. But chronic exercise, so doing it habitually, consistently, can act prophylactically, can decrease your risk overall for migraine attacks.

Lindsay Weitzel, PhD:

In your experience working with multiple people, do you feel there's specific phases of migraine when you should or should not exercise? For example, does it help to exercise in the prodrome versus the postdrome, or etc.?

Sam Kelokates, PT, DPT:

I think the best time to exercise is between attacks, so during your interictal phase is where you're safest. You're more likely to be successful and not trigger attacks and make yourself feel worse. You can definitely exercise during a migraine attack. It's not usually recommended. Most people want to lay down because that's the best way to start recovering and really helping yourself. There are case reports and case studies that show that high intensity exercise has been a reported abortive for some people, but there is not a lot of research on it. So, I can't say definitively if you did X, Y, or Z that it could act as an abortive for exercise to get rid of your headache.

There are some people that talk about it. I've had patients talk about it, but it's more anecdotal that if they start noticing their neck pain or some of their underlying prodromal symptoms coming on, that if they do a light walk outside or maybe some yoga or stretching that it is an abortive for them or helps reduce the severity of their attacks later on. But that's more an individualized assessment to where it's more trial and error. See how your body reacts and responds to that stuff before we make it part of your complete treatment plan.

Lindsay Weitzel, PhD:

I've even heard people say that, oh my gosh, this is the kind of migraine that I can't exercise with. I have to sit still. It's so variable depending on the person and the type of migraine that's coming on. You have some tips and tricks that you like to use for people with migraine or other types of chronic head pain that are working towards certain exercise goals. And I think that they're so interesting because it can be very helpful because for some of us it really can be painful to start exercising or we have to push through a certain amount of pain when we're trying to exercise. So, what is your first and most important tip for people learning to exercise with head pain?

Sam Kelokates, PT, DPT:

I think it's a two-part kind of tip or trick. It's one, to set a goal, so you know kind of what direction you want to kind of start taking yourself. And that kind of acts as a guide of where do you want to go. But then the second part of that is you need to set a realistic starting point. So, if my goal is like I'd love to get back to running 5Ks. Great. We're not going to go out tomorrow and run a 5K. That's not how you would start getting back into being physically active, right? You need to work yourself up to being able to tolerate that physiological stress again.

And that can take time. For some people, they might be able to jump right back into like doing more regular things like maybe going for a walk for 20 minutes and other people need to start even more scaled back. They might have to start with daily five-minute walks or whatever pain number or exercise prescription kind of works best for them in their condition. But really set a realistic starting point for where you're at. So, if you haven't been exercising, going and walking for 20 minutes three times a week at a high intensity might not be advisable just yet. We might need to start at a reduced workload and then work up to higher level ones and getting you ready for that that 5K distance.

Lindsay Weitzel, PhD:

I love that. I mean, walking five minutes a day is better than doing nothing. And it really does work. It works in everything when you have a chronic illness, whether it's sleep or all of these goals we have. Just small increments are always better than no increment at all. What is your second tip or trick?

Sam Kelokates, PT, DPT:

The second one, rule number two is remembering the rule of too's, so too much, too soon, too often, too hard. Those are things where you're doing too much, and your body's not really ready for it. So, you started out too hard. You're progressing too quickly. Your body needs time to physiologically adapt and get ready for the next set of exercise you want. It also needs time to recover from your previous bout of exercise. Or if you've been having a series of migraine attacks, recover from those attacks so you're well enough to continue to progress. And people think that this kind of progress would be linear, but it's probably more undulated. There's probably going to be a lot more peaks and valleys than you would assume trying to become more physically active when you have a chronic disorder. So, you might need to be more patient about how your progress is. And progress might seem really slow, but that's okay.

Lindsay Weitzel, PhD:

You said something that I find so interesting that had to do with just because your cardiovascular system is ready does not mean your nervous system is. Can you talk a little bit about that? What does exercise do to your nervous system if you're not ready.

Sam Kelokates, PT, DPT:

With migraine, your nervous system is already hyperexcitable. And when we exercise, there's a release of neurochemicals. These are great for creating neuroplastic changes and neurogenesis. That's important for motor learning and how we integrate sensory information in our environment when we're being physically active. So, you have a release of BDNF, CGRP, all the things that have been showed up or proposed in pathophysiology of migraine where your brain releases these chemicals when we do aerobic exercise or strength related exercise. And they are important in they are normal part of that. But they also make your brain more hyperexcitable in this state. That increases your risk for migraine attacks. So, if we're exercising very intensely and we feel great, we're not out of breath, our muscles aren't in pain. Well, we might push too hard and our physiological bodies, our musculoskeletal system, our cardiovascular system, might be able to keep up with the physical demand of exercise, but our brain, our nervous system wasn't ready to meet that demand. It was too sensitive to that type of change going on.

Lindsay Weitzel, PhD:

You also told me a rule you had that shocked me a little bit considering how much pain I'm in sometimes, but it was a great rule. You thought that there was a certain amount of increase in pain during exercise that was okay, and a certain amount that wasn't. Can you talk about this rule you have?

Sam Kelokates, PT, DPT:

Yeah. So it's a rule of thumb, and I think a lot of therapists have it. And I know they do as well for vestibular migraine as well related to like dizziness is that when we're doing some of this exercise and we're trying to push through and figure out what we can tolerate. If you're at zero pain going up to 2 to 3 points and pain is okay, and that's also okay if you're in like a level of 2 or 3 out of pain, 2 or 3 out of 10 pain, if we're going on a 0 to 10 scale. Going up 1 to 3 points is totally okay, especially if it's coming back down when we're stopping the exercise. Like if it's strength training and we're doing like a chest press or rows, we have a little bit of pain, but when we stop doing the exercise it gets better. Or if we're walking and our pain goes up a little bit, but it's manageable a tolerable amount, that's okay.

And then my rules that are saying we should back off or stop, would be that you're going 4 or higher in the pain increase. First try to just pace yourself down, do less weight, less reps, or walk at a slower intensity. And if that's not helping, then we want to stop exercise. And then anytime we cross a pain threshold at 7 or higher, we usually want to stop as well. Now it gets a little more complicated and nuanced if you're somebody that has a chronic disorder and you're already in 7 out of 10 or higher pain, then we kind of need to figure out what can you do without increasing exercises. Usually what I try to do first, before saying you're going to have a pain increase, we might have to push through, but we'll see how we can manage that best for you.

Lindsay Weitzel, PhD:

Your next bit of advice I think is really important for many of us, but probably particularly for people who were very athletic and then couldn't exercise anymore because of their migraine. What is the next thing you tell people? What's the next principle?

Sam Kelokates, PT, DPT:

Number three is it's not all or nothing. So, this is where I really work with clients or patients on being flexible around exercise. That if you had planned to do a 20-minute walk or 20-minute run and you're having a migraine attack, you're just out of a migraine attack, then maybe we need to change up what we are planning to do that day and to be flexible about it. And it's okay to start an exercise, like, I'm just not feeling that great today. This is making me feel a lot worse. Great. Instead of doing the 20 minutes, we'll do 10 minutes. Maybe instead of doing it at a heart rate of 130 to 140, we're going to pace it down and do it a less intense version. And let's say keep your heart rate range in 110 to 120, because that's more of a low intensity for you versus a moderate intensity exercise. And there could be other ways of, let's instead of saying you couldn't do that 20-minute walk today because your head just too pounding, but you still wanted to do something. Great, we will have a plan B in place for your quote unquote bad days or your attack days where you can still do something, but it's within a range or intensity or style that fits better for your current condition.

Lindsay Weitzel, PhD:

There's also another piece of advice that you had that I think is so interesting, especially if people are running off to gyms, etc., they're not exercising in their home environment, or if it's spring. What is your last bit of advice?

Sam Kelokates, PT, DPT:

My last general bit of advice is be mindful of your other triggers, because they're always present with exercise, and they might be even more intense or more sensitive to them while you are exercising, right? So, if we are going to a gym, gyms are visually busy, so there's a lot of visual stimulation going on. There's a lot of smells, sweat or body odor, but also the cleaning chemicals that are a lot of people are sensitive to. There's bright lights. It could be hot or cold. There could be fans going on. That's a lot of sensory stimulation going on. And that could also push you into an attack as well layering on additional physical stress from the exercise itself.

And then we can look at your outdoor triggers. Let's say you're running or for a walk outside. If it's up a high season for pollen, if the weather is very hot or very cold, it's very windy, if there is a storm approaching, these are all things to be mindful of and to make modifications to your exercise routine if those are triggers for you. So I've had patients before where we know that anytime that the summer thunder, lightning storms roll in, that they get an attack. Well, maybe we should plan on exercising earlier because those types of storms come in more in the afternoon. Or let's say we see that there's a hurricane coming because you live in Florida. Great. Let's not plan to exercise during the hurricanes. Let's plan the exercise before and after and not push you into a physical stressor when you know that storms are a trigger for you. So that's where like learning a planning exercise ahead of time can be really helpful for a lot of people.

Lindsay Weitzel, PhD:

Is there anything else you would like to add for our audience today? I love all of that advice. I think it's really great. I think it can be used for all of the types of headache, not just migraine. But I do know I've been an athlete my whole life and there's days that I really have to push through the pain. So, I mean, it's not easy as a person with migraine to exercise. And so, I think that all of us really understand how difficult it can be. And it's hard when a doctor's like, hey, just go exercise.

Sam Kelokates, PT, DPT:

And at least one of the hard parts and one of the things I want to help a lot of people accomplish more is they're often told to exercise. Well, one of the biggest problems people have is planning. Planning is probably one of the most important parts of getting physically active. Because if you don't have a plan and you're just kind of winging it, well, there's not a lot of accountability. There's not a lot of flexibility because there's not anything to be flexible with. So, sitting down and planning out what you want to do. Setting that goal, setting a realistic starting point, thinking about how you want to progress and giving yourself more time than some people might need to accomplish their goals.

So, we can go back to that 5K planning, right. There's all those apps out there that might have you like 6 weeks from couch to 5K or 12 weeks. Well, if you have a chronic headache disorder, you might need more time than that. And that's okay. And to be flexible, like set a goal that you have in mind, but understand that if you have a chronic condition, it might take more time.

And then we want to plan out our week and what type of exercise we're doing. So, what days of the week do you want to exercise and be flexible to push them around different days depending on what your schedule is. If you have kids and you're running them around school or sports activities, knowing where their schedule is and where exercise fits in for you. Because really, if I'm looking at exercise is medicine, what needs to be taken regularly to be really beneficial for you. And if we keep missing doses, it's not going to be beneficial because they're not going to have the compounding effects in the long run.

The other part of planning is what are you going to do during those exercise sessions. How much time do you have. What's the sets, reps. How are you going to measure what you're doing. Are you going to use a heart rate monitor. Are you going to use weight and sets and reps to measure volume of your weightlifting. And I'm just giving cardiovascular and strength training, but there's also a lot of forms of exercise. But it's understanding how much time and volume you can have and what your body's capable of tolerating at that time.

So I think that's the biggest takeaway is if you're going to start exercising, is making it part of your long term migraine management plan or headache management plan, that sitting down and making a plan can be really important to help create consistency, but to remove a lot of uncertainty around exercise and how it's going to help you and to fit in your lifestyle.

Lindsay Weitzel, PhD:

I love how you said exercise is medicine because I have always seen it that way for myself, and I think that's a great way to look at it. And also, the whole incremental approach you use that a little bit is

better than none is so important to make sure that everyone understands. I think that that's just a great approach.

I just want to thank you so much for being with us today and for sharing your ideas with everyone. And thank you everyone for joining us for this episode of HeadWise. Please join us again for our next episode. Bye bye.

©2026 National Headache Foundation. All Rights Reserved.