



## Episode 243: How Exercise Affects and Migraine

### **Lindsay Weitzel, PhD:**

Hello, everyone, and welcome to HeadWise™, the videocast and podcast of the National Headache Foundation. I'm Dr. Lindsay Weitzel. I'm the founder of MigraineNation, and I have a history of chronic and daily migraine that began at the age of four. I'm excited to be here today with Dr. Laurel Short. Hello, Dr. Short, how are you today?

### **Laurel Short, DNP:**

Hi. Thank you so much for having me.

### **Lindsay Weitzel, PhD:**

Thank you for being here. Laurel is a nurse practitioner with Advanced Qualification in Headache certification who happens to be a dedicated endurance athlete and loves talking about fitness. Our topic today is exercise and migraine. I think we are all aware that there are things linked to migraine that can definitely be helped by exercise like sleep, mood, weight management, etc. But it is always something we just we don't really discuss in detail in the migraine community because for some of us it's difficult to exercise for a number of reasons. And we're going to cover those.

We have something for everyone today. Whether you are a regular athlete, whether you've never exercised before, we have lots to say. And I might even comment on the fact that recently I now can relate to a little bit of everyone out there. I have a couple migraine processes where I used to always have to exercise to keep my pain away, and now I have a little bit of migraine that is also triggered by exercise, so I can't wait to hear everything that Laurel has to say. Let's start. Laurel, why don't you begin by telling us a little bit about yourself and why you chose to work in the headache field?

### **Laurel Short, DNP:**

Sure. I've been a nurse since 2006, so 20 years next year. It's the end of 2025 as we record this, and I've been a nurse practitioner since 2010. When I first graduated as a nurse practitioner, I worked in a specialty called physical medicine and rehabilitation. This is a specialty that kind of combines orthopedics with neurology. So, I worked with a variety of neurologic conditions, one of them being migraine. And the clinic I worked with, we just evolved over about ten years of treating more and more headache patients, because there was such a need in our community to help work with those patients. And being a nurse practitioner, I felt very drawn to helping patients from a comprehensive standpoint versus talking just about a medication. We all know it's a toolkit approach that works best for treating migraine.

And on a personal level, I grew up in a household with a parent who has chronic migraine. My father has experienced chronic migraine throughout his life, and I have two siblings, and myself and my brother also experience episodic migraine. So, I think that's pretty common in the headache space to find clinicians who have personal experiences with the disease and makes us extra passionate about working with those patients. That's kind of background in why I became interested in it.

**Lindsay Weitzel, PhD:**

That's great. I think it's really good if people can understand you and why you enjoy this field before we start. Let's begin by just addressing the elephant in the room. So many people with migraine do not gravitate to exercise, whether they find it triggering because their migraine disease causes them to feel fatigued. Oftentimes it's just not something people with migraine gravitate toward. I mean, sometimes it just gives you a migraine, sometimes you're too tired to do it. Can you comment on this and why you think a lot of people with migraine would just prefer not to exercise?

**Laurel Short, DNP:**

Yeah, absolutely. And I would say this really applies to all chronic pain including migraine. So, folks are not alone when they feel this way. When I first work with patients, if their migraines are not controlled, especially if they have chronic migraine, they feel very overwhelmed by their condition. It's taking up a lot of mental energy, physical energy. And just as you said, they're kind of using all their energy just to get through their daily activities, work, maybe parenting.

And I've had patients tell me, by the end of the day I don't have anything left. I don't have energy left to spend on my self-care. And exercise is in part self-care. And so, we kind of have to peel back layers of the onion and work on getting a comprehensive treatment plan in place and start to get the headaches under control to allow the person to have energy to slowly start exercising.

**Lindsay Weitzel, PhD:**

That is the very good point. I'm going to move on to the other reason we often hear, which is exercise as a migraine trigger. Do we know why exercise can sometimes trigger migraine in some people?

**Laurel Short, DNP:**

We don't know why exactly. That's an excellent question. And there can be multiple factors. I think we're going to get into that in a few minutes in more depth. But I think especially if someone has had an experience where they get a migraine while they're exercising, they may be then anxious or scared that that's going to always happen. So, it could be also that if someone is experiencing a headache, the physical activity can make the headache worse. That's one of the hallmarks of migraine. But then there's also situations where exercising, especially if it's in really extreme temperatures or it involves some dehydration, then those could all be various triggers for the migraine.

**Lindsay Weitzel, PhD:**

I will go ahead and throw this out there just so people don't feel alone. Like I said, my whole life, my migraine process was right sided, and I used exercise to decrease the pain, prevent the pain from getting worse. It was a very, very important part of my treatment plan. Very important. And, just a few

years ago, let's say three years ago, I started getting some head pain, some migraine on my left side. And I noticed that that migraine not only did it feel very different, but it felt worse sometimes when I exercised. So like I said, I am at a point where I can actually relate to a little bit of both when people talk about it, and it is very interesting.

Let's move on just really quick to touch on something else, because there is a type of headache that is not classified as migraine that is related to exercise. What is primary exercise headache, and how is that different from migraine, in case someone out there is actually experiencing something like that?

**Laurel Short, DNP:**

In general, when we say something is a primary headache, it means that it is not being caused by something else. For example, they don't have a tumor in their head. There isn't an underlying cause. They don't have thyroid disease. The headache is the primary issue. So, migraine is a type of primary headache. And then there is a specific diagnosis for exercise induced headache. And that typically is a bilateral pain that someone may feel around the forehead and the temple area. And it is specifically triggered by headache. Now this can be tricky.

**Lindsay Weitzel, PhD:**

By exercise you mean?

**Laurel Short, DNP:**

Yes, sorry, it can be triggered by exercise. Someone can have migraine and also have exercise induced headache. So, they can have both. But you can have someone who specifically has a primary exercise induced headache. If someone is experiencing this, I would strongly recommend that they talk to their medical provider, though, because it's very important to rule out an underlying cause. For example, I just actually had a patient this week who's a swimmer, a very competitive swimmer. And for this season, first time ever, he is experiencing headache 15 minutes after he starts swimming. And we're trying to figure out what the cause is. It's not happening when he runs. It's not happening when he lifts weights. It's specifically when he swims. But he's never had this before. And it could be a primary headache, but it's my job as the medical provider to rule out an underlying cause with lab work, have there be any new medications, looking for another cause. But it is a form of headache.

**Lindsay Weitzel, PhD:**

Let's move on to some of the data that we have in this area. Is exercise known to be helpful in decreasing frequency or intensity of migraine itself?

**Laurel Short, DNP:**

There's actually been quite a few studies on this, and I appreciate you pulling together some of the more recent, what we call meta-analyses in preparation for our discussion today. So, a meta-analysis is when multiple studies are brought together and trying to look at that data pooled so that we can make some guidelines or recommendations based on what multiple different research projects have shown us.

So, there have been many studies done on exercise and migraine, and it's not black and white on the result, as I'm sure you would agree. But in general, these meta-analyses, when we look at them, show that aerobic exercise, especially moderate to high intensity exercise done at least 30 minutes three times a week consistently can reduce the severity and the frequency of headaches. And in addition, strength training has also been shown to reduce the severity and frequency of migraine.

**Lindsay Weitzel, PhD:**

My next question, I feel like you may have already answered it, but in case I'm going to probe a little more in case we have more information. I was going to ask if we know there's a particular type of exercise that's best for preventing or improving our migraine disease.

**Laurel Short, DNP:**

Yeah. And I would like to start with the caveat that everyone is going to respond a little bit differently. So, we have information from studies, but I would always encourage individuals to try different things to see what they respond to. And also, for you to stick with exercise, it needs to be something that you enjoy, right? So that's part of it. Like what brings you joy. What gets you out the door. And we know that the motivation doesn't always come find us. So, it does take some trial and error.

But getting back to what the research shows, again, we don't know why exactly, but some of the things that the discussions say in the research study is we know that when someone does aerobic exercise, so let's say running. I know you enjoy running, doing a bicycle, swimming, things that get our heart rate up, get those endorphins going. There is an anesthetic effect to that. It lowers pain levels. So, whether it's a migraine or another type of pain, people have often heard of a runner's high. And so, getting all those good brain chemicals going can help reduce pain. That may be one way that it helps.

Also, we know that a majority of people with migraine also experience chronic neck pain. At least 70% of people with migraine experience neck pain. And so, with regard to strength training, it might not get your heart rate up as much, but it's going to increase your muscle mass, which then could also help with posture. It could help reduce neck pain. And in general, there's actually been some studies to show that people who have a higher muscle mass, if they have chronic pain, it can help alleviate the severity of that chronic pain.

**Lindsay Weitzel, PhD:**

Oh wow. It's funny you said, I was going to go back really quick because you made me think of something you said, to make sure you choose something you like so you can stick with it. And I was remembering some of the things that people had told me. That they had tried to exercise and it was so difficult with their migraine disease. And plus, they hated running and they hated lifting weights and all that stuff. And I had someone come and tell me that she found, this is so funny, this class where you exercise by beating drums and she loved it so much. But it was loud and so she had to wear earplugs since she had migraine. But I was like, wow, who would think of that. But yeah, and some people like to exercise with people, some people alone. So yeah, just keep trying stuff. Who knows, maybe your drum beating class is out there somewhere.

**Laurel Short, DNP:**

Exactly. Maybe you have a love for pickleball that you haven't even discovered yet. And if I think about my personal life, I was not a sporty kid growing up. And then when I was in high school, we got to choose our gym class. So, there's a whole list to choose from. And one of the classes was an aerobics class, and I thought, well, I kind of took some dance at one point, so I'll try out. I like music and I just loved it. And that was my gateway to starting to enjoy exercise was doing this aerobics class.

And then my father was a runner, and that was one of the ways that he helped his migraine condition, because he was the primary breadwinner in our family. He put a lot of pressure on himself at work, and I think running was stress relief for him. But I also saw how at times he would get a migraine after a long run. And this kind of back in the 90s when people weren't as aware of how to fuel themselves during long runs with carbohydrates and electrolytes. So, I think that was often a trigger for him. I've seen lots of examples where it can help, but it can also trigger.

**Lindsay Weitzel, PhD:**

Let's just move on a little bit because I think it's important that we also mention that exercise can do a lot for anxiety and depression, since people with migraine are often at increased risk for these things. Let's just touch on that a bit.

**Laurel Short, DNP:**

Obviously, there's a big correlation or what we call comorbidity for people who have any kind of chronic pain, including migraine, with anxiety and depression. And certainly, by getting a good treatment plan in place for headache, often mood improves. But we want to work in tandem and address both things. And we have a lot of evidence for exercising helping mental health as well.

Some research shows that a consistent exercise routine can be just as effective as an anxiety medication, such as a serotonin medicine like Zoloft. I actually work in the primary care space now. I have a blended role where I have primary care, and I also have a headache clinic for the practice. And so, I'm constantly counseling patients on all the benefits of exercise for their mental health just as much as their physical health.

And part of that conversation is you really need to find something that you enjoy. And patients will talk about time constraints. So, we have to kind of talk about what's going to work in their schedule. And they'll also talk about the difficulty with motivation. And that's where I like to remind folks that motivation sometimes finds us, but often it's creating the habit and creating the routine. And then we have that positive reinforcement that we want to keep going. And so, one little phrase that folks can remember that I learned from a book I read is mood follows action. And I just love that phrase, because sometimes we're not in the mood to get up early and exercise, or we're not in the mood to do it after work, but remembering that after we do the activity, we're going to feel so much better.

And if you have a mild headache that hasn't progressed, doing something low impact or doing some yoga, that I know we're going to talk about yoga in a moment, that could actually be as effective as just lying in a dark room or maybe even more effective. And it's going to boost your mood, so mood follows action.

**Lindsay Weitzel, PhD:**

Oh, I love that saying. Thank you for that. So, you're right, we haven't really touched on yoga yet, so thank you for bringing it up. What about yoga? Can yoga be helpful for people with migraine, and if so, is it helpful in different ways than some of the other forms of exercise?

**Laurel Short, DNP:**

Yeah, the first studies we were talking about were specifically looking at aerobic exercise and strength training. So, things that are more traditional of getting your heart rate up or really working on increasing muscle mass. And there are some forms of yoga that are more, quote, power yoga. But traditional yoga is really looking at connecting with your breath. It's considered a mind-body exercise, and it's one of the most common forms of complementary medicine, period, for mental health, for chronic pain, arthritis. And again, we don't know all the scientific reasons. But my personal thoughts are it really is helping with mindfulness. It's helping with relaxation techniques. It's helping you get in tune with the mind-body connection. And we know that just guided relaxation and deep breathing can also help with migraine. So, I think it's really multiple reasons why yoga can be beneficial.

**Lindsay Weitzel, PhD:**

For really one of my last questions, I think it's important that we give advice to people, if you have any, people who are having trouble starting an exercise program because of their migraine disease or even sticking with one if they've tried starting one. What advice do you have for those people?

**Laurel Short, DNP:**

When I'm meeting with individuals that have goals related to exercise, I usually start by talking about SMART goal setting. Have you heard that phrase before? So SMART goal setting stands for Specific Measurable Achievable Realistic and Time-oriented. And really what that means is when you have a goal to start exercising, you want to make it very specific and start with a small goal first, because it can feel very overwhelming to say, I want to exercise an hour a day, or I want to run a half marathon.

Well, let's break that up into smaller goals that we know are achievable. So, you might start with 20 minutes twice a week. And then once you do that for a month, you might add a third day. Or you might say, there's a pickleball league at my local park and I'm going to go to that once a week and I'm going to find a friend to go with me. Or my community center has a water aerobics class and I'm going to go to that class once a week. So, you make it very specific. And it can really help to have accountability of a class that you go to, or a friend you're going to go for a walk with. So, find ways to make it achievable and realistic.

**Lindsay Weitzel, PhD:**

Well and some people are accountable to their pets because you need to walk your dog every day. There's so many people that do that, so I'm just throwing that out there. Is there anything else you'd like to add to this topic before we go today?

**Laurel Short, DNP:**

Yeah, I would say that consistency is key. So even if you miss a few weeks, okay, just meet yourself where you're at, get restarted. And even if you feel like, okay, I'm only doing this twice a week, that's okay. You're being consistent with it, so consistency over frequency. We talked about finding something you enjoy. That's so important.

I would say if you are someone who is already an avid exerciser and you find that you are getting triggered by some of maybe your more intense workouts or you're a runner and you're finding that you're getting headaches after a long run, I would take a step back and consider meeting with a dietitian or your primary care clinician, because there's often simple things we can address, like your nutrition before, during, and after the exercise, your hydration, your electrolytes. Maybe you haven't had labs checked in a while. So don't assume that you need to give up an activity you enjoy if it's triggering headaches. Let's see if there's something we can do so that you can continue doing the activity that that you love.

And then lastly, I would say there's another concept that I got from a coach that I love, which is stress on the body is stress on the body, whether that's positive, negative, physical, emotional. And so, this is holidays when we're recording this, if this is a time where you just have so much going on and you need to back off your exercise routine, that's okay. We know that our nervous system can only handle so much, and so we're not meant to do the same amount in every season. So just, again, meet yourself where you're at, pace yourself, and know that long term by finding something you enjoy and being consistent with it. And really finding a community is part of that. It's really going to help your migraine and your overall health and wellness.

**Lindsay Weitzel, PhD:**

That's wonderful advice. Thank you so much. Thank you for being here. Thank you everyone for joining us. And please join us for our next episode of HeadWise. Bye bye.

**Laurel Short, DNP:**

Thank you.