INTERVIEW TRANSCRIPT

DISCUSSIONS WITH WORLD-LEADING EXPERTS

Brain Fog & Dementia: The Science on the Cognitive Impacts of Migraine

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Introduction (00:05): Dr. Laura Sebrow is a clinical neuropsychologist and researcher whose work is providing important new insights into how migraine affects the brain. Her studies have shown how migraine can influence attention, memory, and processing speed — not only during attacks but over the long term. She's published widely, including recent findings in the journal *Headache*, and her research is helping clarify whether migraine contributes to cognitive decline or dementia risk while also identifying strategies to better protect brain health. Dr. Sebrow, welcome to the Migraine World Summit.

Dr. Sebrow (00:37): Thank you so much for having me.

Carl Cincinnato (00:39): Can you tell us a little bit about your research focus, and how you became interested in the link between migraine and cognitive function?

Dr. Sebrow (00:46): Sure. So my research is focused on migraine and cognitive functioning. This all started when I started graduate school. I joined a headache research lab, Dr. Elizabeth Seng's research lab. To be honest, when I first joined the lab, I didn't know much about migraine. I knew I wanted to specialize in neuropsychology, so I came in with that focus and started learning about migraine and cognition through the research that we were doing.

Dr. Sebrow (01:17): As I went to conferences and dove deeper, I noticed how limited the research was, especially when it came to cognitive functioning in people with migraine. At the same time, I was hearing from both patients and research participants that they were experiencing cognitive symptoms and really wanted to understand them better. So that combination — the gap in the literature and the clear need expressed by people living with migraine — is really what motivated me to focus in this area.

Carl Cincinnato (01:48): Many people describe brain fog. What does that actually mean from a clinical and research perspective?

Dr. Sebrow (01:55): Yeah, so brain fog can be a little bit complicated to describe, and brain fog can be different from person to person. We often hear that term “brain fog” from a lot of patients. I'll say clinically, whenever I hear a patient talk about brain fog, I always ask them, "What does brain fog mean to you?" Because honestly, I'm a little confused myself. I think a lot of researchers are confused about it.

Dr. Sebrow (02:21): I will say, generally, people understand it as problems with attention or being able to process things quickly — a lot of people feel that way. But one person may feel like it affects their attention. Another person may say brain fog is that they can't really think clearly, they can't really speak clearly. It can really be different from person to person. Like I said before, when I have a patient explaining, "I have brain fog," I always ask them, "What does that mean to you?"

Dr. Sebrow (02:52): Because I need to know what that means. The way one person experiences it can be so different than the way another person experiences it. It's a complicated term. Some neuropsychologists will say, "I'm not going to write that term in my overall impression section in a neuropsychological report, but I'm going to put that in quotations and then give a definition. That's really the patient's definition.”

Carl Cincinnato (03:18): This topic was a popular topic that was voted on by the Migraine World Summit community. We had people ask questions as part of their votes. One of those people was Noor, who said that she's easily distracted and feels like her brain is just slow. Which cognitive skills — memory, attention, processing speed, executive function — are most commonly affected by migraine?

Dr. Sebrow (03:42): Yes, so many people experience those specific symptoms. That's very common. The cognitive symptoms like difficulty concentrating or just feeling very slow can be so bothersome and a disruptive part of their experience. Now, during migraine attacks, research has shown that objective testing reveals declines in several cognitive domains. The most consistent areas include attention and concentration; processing speed; working memory; and executive functions.

Dr. Sebrow (04:20): When I say executive functions, those are really the higher-level thinking skills like planning and decision-making and being able to rapidly shift from one thing to the next. So we have evidence to support difficulties in these areas during the attack.

Carl Cincinnato (04:39): It's a really bizarre phenomenon. When I have a migraine attack — I have migraine with aura — I just feel like parts of my brain are shutting down, and I kind of think that the blood flow is just disappearing out of the space, and it's like just turning off. It's like removing the power from the computer, so to speak.

Dr. Sebrow (04:58): Yeah, 100%. It's quite a unique experience for so many people. It's a very interesting description you've given, and I've heard that from other people as well — very similar descriptions. You don't feel like yourself. You feel like you're completely turned off, and it can be so debilitating — so debilitating in how you function day to day and how you work, how you interact with people. Your work life, social life, if people are in school, and it really can completely change how a person even views themselves.

Carl Cincinnato (05:29): If we're stressed or if we are feeling emotional for whatever reason, can that affect our cognitive performance in that moment?

Dr. Sebrow (05:38): Oh, for sure. Yes. If you're feeling stressed, feeling very overwhelmed, that's going to take up so much resource in your brain. I like to say, if you have this amount of attention and then all of a sudden you have stress or you're anxious, it's going to take that all up and you have this much left *[moves hands toward each other]*. You're not going to be able to pay attention to what that person is telling you. Your mind is in five different places.

Dr. Sebrow (06:08): You're stressed about something going on at home, you're stressed about work. It's so hard to really be present. One example I like to give sometimes is, let's say you're outside, it's very dark out, and you are trying to get into your house. You have the key, right? You know how to put the key in the door, but all of a sudden you hear some rustling, you hear some noise behind the bushes, you start to get a little bit nervous. All of a sudden you drop your key.

Dr. Sebrow (06:43): All of a sudden you can't put the key in the door — you don't know how to use the key. You start shaking — and yeah, of course you know how to use a key, you know how to open the door — but you're so nervous. You're hearing that noise, but the stress is getting in the way. So 100%, it can really affect you in the moment. And then also long-term, chronic stress is not good for anyone. So we have to be very careful about how we manage that stress.

Carl Cincinnato (07:11): That's so interesting. It's such an area that you don't appreciate at first glance, but it makes so much sense. Even in a workplace context, when you've got an important speech or a presentation, when you're stressed about that presentation and you kind of freeze on the stage, or you have those moments where you can't find a really obvious word that you're trying to say — I guess it speaks to that difficulty that when you're stressed, it is hard to perform normally — or at your peak, certainly.

Dr. Sebrow (07:39): Yeah. And that makes it even more complicated because if someone feels that they have word-finding difficulties and then they get stressed about it in the moment, it's going to make those problems even worse. They get stressed about, "Will I have those difficulties?" That anticipatory anxiety is so real and can really get in the way of your performance.

Carl Cincinnato (08:00): Do these difficulties occur only during an attack, or are they also occurring between attacks for those with frequent or chronic migraine?

Dr. Sebrow (08:10): Yeah, it's important to recognize that many patients report cognitive symptoms even between attacks. We call that the interictal period. These symptoms may also include trouble with memory, language, and attention. That said, the evidence for a more objective interictal cognitive difficulty is somewhat mixed, but we are still seeing in the research that there are changes in things like attention and executive functions.

Dr. Sebrow (08:39): But overall, the cognitive symptoms of migraine — whether it's during the attack or in between the attacks — are real and impactful, and addressing these cognitive symptoms is an important part of comprehensive migraine care.

Carl Cincinnato (08:57): As someone who's lived with chronic migraine — and fortunately I'm now episodic — I would never get to 100% between attacks when I was chronic and frequent. But now I can — I can get back to 100%. I feel like myself; I feel like my full cognition is here to the best of my ability. Is that something that you've heard from other people who might have experienced chronic migraine and who are now episodic?

Dr. Sebrow (09:24): Unfortunately not. Some patients will say the same thing, especially if they're not having as many headache days per month — they're starting to feel more clear and they're not having as many cognitive symptoms. But there are some patients who still report a lot of those cognitive issues even if they're not having that many headache days. I've seen that clinically. It's also a little complicated.

Dr. Sebrow (09:47): If I'm seeing a patient with migraine, we're assessing their cognition, but there's other factors as well. There are factors such as sleep; there are factors such as mood. Usually I'm not just seeing a patient who has migraine and nothing else going on in their lives. They can have a lot of stressors going on. So it's really important to take into account all of those different factors as well, which can certainly all contribute to those cognitive symptoms day to day.

Carl Cincinnato (10:15): Your recent paper in *Headache* examined the cognitive impacts of migraine during and between attacks. What were some of the most important findings of that paper?

Dr. Sebrow (10:22): In our recent pilot study — it was published in *Headache* — we set out to better understand how cognition is affected across different phases of the migraine cycle. And this is not just in a lab setting — it's in real life. We use what we call ecological momentary assessment, or EMA, where participants use their smartphones to complete these brief cognitive tasks several times a day over the course of a few weeks. The idea is that this approach captures real-time changes.

Dr. Sebrow (10:59): For example, how someone's cognition might change during a migraine attack versus a headache-free phase. What we found is that cognitive performance was indeed worse during that ictal phase — during that actual head pain phase — compared to the interictal periods when they don’t have headaches.

Dr. Sebrow (11:20): And this is important because traditional neuropsychological testing may not pick up on those kinds of fluctuations, and it might even underestimate the burden migraine can place on someone's cognitive functioning in daily life. So this EMA approach really may offer a more accurate way to assess and eventually treat these symptoms.

Carl Cincinnato (11:41): And how was that assessment taking place? Was that like a self-report using the phone app?

Dr. Sebrow (11:49): Yeah, so it was on their phone app. We asked them some self-report questions, but there were specific cognitive tasks. They had to, for example, for one task, connect different letters and numbers as quickly as they can. Another was more of a working memory task where they had to hold a certain amount of information in their head and then, shortly after, be able to recall that information. There were specific brief cognitive tasks, each lasting a few minutes.

Carl Cincinnato (12:15): I mean, that makes a lot of sense. To someone who has migraine, it's like, well, yeah, it's clear that when you have that acute attack, you're not going to be performing at your best or as well as when you are not in the throes of an acute attack. But by the same token, you may not be 100%. You may not feel like you were five, 10 years ago before you had migraine.

Dr. Sebrow (12:36): I think something important to mention about that is when we look at cognitive functioning, there's different ways to look at it. When we have a standard assessment — more of a standardized assessment that's typically in one or two sessions over several hours — we compare their performance to other people of similar age and backgrounds.

Dr. Sebrow (12:59): A lot of these tests are normed on large groups of people, so we can compare an individual's performance to what's typical for their age, education, and background. But that's only part of the picture. Just as important is comparing someone to themselves.

Dr. Sebrow (13:16): A person might score in the average range, but if they've always been a very high-functioning person — they've always been good at juggling tasks or learning new things quickly — even a subtle drop can feel so significant. Just to give an analogy, if someone who runs 6 miles a day can now only run 3, that's still very impressive — but for them, that's a real clear change.

Dr. Sebrow (13:42): That's why when we're doing these cognitive evaluations, we're not just looking at the numbers; we're listening to the person's story and understanding their baseline, and evaluating whether the changes they're reporting are affecting their real-life functioning. Sometimes the results don't meet that criteria for clinical impairment, but the changes are still meaningful — and as clinicians, we need to take those seriously.

Carl Cincinnato (14:06): Yeah, they matter to us as the patient. When you notice that you're at 30% capacity, even if that below 30% — that 70% for you — is still above or at average, it's meaningful for you. Are these findings consistent with other studies that have been done? And do they match up with anything like brain imaging studies that look at what's happening in the brain during these cognitive difficulties?

Dr. Sebrow (14:32): What is very consistent is that we're seeing cognitive difficulties during that ictal phase — during the head pain phase — in a lot of studies. There's a lot of consistent research showing that. The fact that we saw worse cognition during that head pain phase versus in between attacks is consistent with the research, because it's a little bit mixed with regards to the interictal phase when they're not experiencing that head pain.

Dr. Sebrow (15:01): So these results were not surprising at all, and I think there is still more research that needs to be done. There aren't that many cognitive EMA studies. This was really the first cognitive EMA study in patients with migraine where we looked at it multiple times a day across several weeks. So this is pretty new, and there's a lot more research that's going to be coming out with that. It can be complicated with regards to the cognitive mechanisms.

Dr. Sebrow (15:33): I think there is still more research that needs to be done with regards to those brain changes, or any changes that we see on imaging, especially with cognition that's seen on the EMA. We don't have that data yet specifically for those real-life cognitive changes that we're seeing in these studies.

Carl Cincinnato (15:51): If we had an MRI [magnetic resonance imaging] of the migraine brain during an attack, would you expect that — like in those scans where you can see the level of activity — would you expect that the level of activity would fall in certain regions of the brain?

Dr. Sebrow (16:04): Well, research does suggest that cognitive symptoms in migraine may be linked to disruptions in brain network connectivity and efficiency. There is some research to suggest that some imaging studies show some abnormal activation and communication between brain regions that are involved in both pain and cognition.

Carl Cincinnato (16:26): We've had a lot of people ask this next question — in particular Lynn and Dianne — and they'd like to understand if there is evidence that people with frequent or long-term migraine are at higher risk of dementia or accelerated brain aging.

Dr. Sebrow (16:41): This is such an important question, and it's one that I hear a lot from patients, especially those who are experiencing cognitive changes with their migraine. It's totally valid to wonder if these symptoms mean your brain is at risk long-term. Here's what we know from the research.

Dr. Sebrow (17:01): There have been several large long-term studies called cohort studies where people with migraine were followed for years and their cognitive function was tested regularly using standardized neuropsychological assessments.

Dr. Sebrow (17:19): Across these studies — and I'm talking about research that spans three to 12 years — there's really been no strong evidence that migraine increases the risk of dementia or significant cognitive decline, regardless of migraine type, whether it's with aura, without aura, episodic, or chronic.

Dr. Sebrow (17:39): Now here's where it gets a little bit confusing. There are some meta-analyses, which are studies that combine data from lots of other studies, and those have suggested a slightly increased risk of dementia in people with migraine. The question is, what's going on? I think the key thing to understand here is that these two types of studies use very different methods.

Dr. Sebrow (18:04): You have these longitudinal cohort studies that track people closely over time and use real cognitive testing, so they can detect those subtle changes in cognition. The other kind of studies often pull from health records or a database. They might look at whether someone has a dementia diagnosis in their medical file, but they don't necessarily test cognition directly. It's kind of more like taking a snapshot; it covers more people.

Dr. Sebrow (18:34): That said, it can miss details or include misclassifications, and can really be vulnerable to other issues like diagnostic errors or missing data, or other confounding factors like other health conditions that weren't accounted for. They look at the diagnosed dementia and may pick up on later-stage disease, whereas those cohort studies may be better at detecting early cognitive changes.

Dr. Sebrow (19:00): We still need more research, and it's so important for researchers and clinicians to keep watching, especially in people with other risk factors like high blood pressure, diabetes, or a family history of dementia.

Carl Cincinnato (19:14): And I guess if you look at the risk factors for dementia itself, having long-term chronic pain, like decades or a lifetime of chronic pain, like high levels of inflammation — those are things that can increase the risk of dementia on its own, but they're also things that are features of chronic migraine.

Carl Cincinnato (19:34): So maybe the link isn't there that migraine causes dementia, but if you have uncontrolled, debilitating migraine attacks frequently or chronically, then that sets an environment that may — this is my understanding at least from the interview that we had with Dr. Richard Lipton [in 2024] on this topic — was that that sort of sets the conditions where dementia is more likely to occur than otherwise in a healthy individual who doesn't have that chronic pain or those high levels of inflammation. Would that be a fair assessment?

Dr. Sebrow (20:06): I completely agree with what you said, especially what Dr. Lipton said. I always read Dr. Lipton. It's really a great point. We need to think about those things like inflammation, and we really have to be very careful in how we approach this, especially with regards to treatment and making sure that these things are well controlled.

Carl Cincinnato (20:26): Yeah. So the nice thing is that it's not like if you have migraine, OK, you need to worry about dementia. It's more like if you have migraine that's out of control, and you have chronic pain, and you have high levels of inflammation, and migraine is part of that, then it's another good reason to really try and get control, to do everything you can to manage migraine with a robust and comprehensive migraine management plan. It's another good reason to double down on it.

Dr. Sebrow (20:53): A hundred percent, yes.

Carl Cincinnato (20:55): Karen and Jeanne are concerned about the medications they're taking and the impact on cognitive function. I can speak to this. I was on a preventive treatment [topiramate] for seven years, and when I stopped it, it was like coming out of a fog. It was like a fog had lifted. Can medications we're taking affect our cognitive function over the short term? And what about the long term?

Dr. Sebrow (21:14): Yeah, when it comes to how migraine medications affect cognitive functioning, the picture is still a little bit mixed and not fully clear. There are some medications like topiramate, which is a preventive treatment known to cause side effects such as slow thinking, trouble concentrating — and people report memory problems, especially at higher doses. There's another, lasmiditan [Reyvow], an acute treatment [that was discontinued in 2025]. It's been shown to affect things like driving performance shortly after taking it.

Dr. Sebrow (21:45): That said, the research overall is still pretty limited, especially when it comes to long-term effects on cognition, specifically in people with migraine. Cognition is not always measured as a formal endpoint in many of these trials. That means we often don't get detailed information on how a medication might affect their thinking, how it affects their memory or attention, especially over the long term.

Dr. Sebrow (22:13): Some studies include cognitive measures, but they vary a lot in what tests they use, how often they test, and how big the study is, which can make it so hard to compare results or draw clear conclusions. Also, something to think about is that many trials exclude people with preexisting cognitive issues, which may leave out those who might be more sensitive to side effects. So in general, it's really important to balance migraine control with side effects.

Dr. Sebrow (22:47): And if you are noticing that brain fog or you're having trouble thinking after starting a medication, bring it up [with your doctor]. There may be other options or ways to adjust the dose, but overall, understanding the cognitive effects of migraine treatments is still an area where more focused research is definitely needed.

Carl Cincinnato (23:06): Yeah, and I don't want to say, like, that that was a horrible treatment. For me, it served its purpose. And I know that there are people that use that treatment and get great results out of it. So it doesn't mean that for one person's experience, it'll affect another. But it is a known side effect from that treatment.

Dr. Sebrow (23:25): For sure. Yeah. Everyone is so different. One person can have those cognitive side effects and then they may tell another person, "Don't take that. I had horrible side effects." But maybe that person won't have that, and maybe it can be a really effective treatment for them. So we have to be very careful about that and have those conversations with our physicians, with our neurologists.

Carl Cincinnato (23:46): I mean, the thing I noticed is as soon as I was coming off it — it may have been like a little bit of a delay as I was tapering down off it — but I was like, "Wow, I'm back." And it was kind of like, after seven years, it did come back. Cognition did come back afterwards. But I was also tapering off at a time where my migraines were better as well. So that might have played a role, too.

Carl Cincinnato (24:10): So moving now to daily functioning and quality of life, what kind of day-to-day consequences can cognitive symptoms have on work performance and academic tasks, or even family life?

Dr. Sebrow (24:21): Yeah, this can really be so different from person to person. Everyone's lives are different. Everyone has their own social life, their work life, family; everything is so different. Someone can have a few children and a few dogs, and they're not able to get anything done while they have a headache, and they're not able to manage basic household activities. They're in bed all day. They're not able to get any work done.

Dr. Sebrow (24:53): Maybe they're working from home, but they still can't really work from home. They're not able to use that computer, and maybe they want to go out with friends, but even scheduling something can be so difficult. Some patients, if they have those word-finding difficulties, they may be nervous to speak, even with people that they're very close with. I've heard that from some people where they start feeling very embarrassed.

Dr. Sebrow (25:17): People may tell them, "I don't notice anything," but they're feeling it. They're really struggling, and it can really affect them day-to-day in their social lives. And they just don't feel like the same kind of person. So you'll hear different examples from different patients. But it really depends on what their lifestyle is like in terms of how these cognitive symptoms affect them.

Carl Cincinnato (25:41): Yeah. And when you mention headache, you're talking about an acute migraine attack.

Dr. Sebrow (25:46):

Yes.

Carl Cincinnato (25:46): And how that can be really debilitating and limit our abilities. Do we tend to underestimate or overestimate the cognitive effects? And how do we separate what our perception is versus this more measurable, more objective impairment that you test in your research?

Dr. Sebrow (26:06): It's tricky when we use the word overestimate and underestimate, and when we compare it to any of the objective data. Like I said before, if someone feels a little bit off cognitively, they're going to report those cognitive issues. And then on the exam, we're not seeing those issues that they're reporting. So we may say, "Oh, they're overestimating." But that's not an overestimate to them. Those symptoms are so real.

Dr. Sebrow (26:40): And I think we need to be careful as clinicians not to underestimate anything. If I have a patient who's reporting these word-finding difficulties, or that they get so distracted and keep forgetting things, and if I tell them, “I don't notice anything; there’s nothing that I notice” — I don't know what their lived experience is like. And even if we have the data that shows something different

than what they're reporting, it doesn't mean that's not what's happening. We need to be so careful on how we compare the data — compare their subjective complaints to the objective data that we have on our exams.

Carl Cincinnato (27:21): How does frequent migraine compare with other chronic conditions in terms of its cognitive burden?

Dr. Sebrow (27:25): I don't think we have enough comparative research to say exactly which condition carries the greatest or the least cognitive burden. But before we even get there, I think it's important to talk about what we actually mean by that cognitive burden. It's not just about what shows up on a neuropsychological exam. It's about how those symptoms affect a person's daily life, their work, their relationships, their confidence, and their sense of self.

Dr. Sebrow (27:57): And that can vary hugely depending on someone's lifestyle, their support system, and the demands that are placed on them. So, for example, if someone is in a cognitively demanding job and suddenly finds themselves struggling to multitask or find words, that can be deeply distressing and limiting. On the other end of the spectrum, I've worked with people who have advanced cognitive impairment, like in dementia, and they've completely lost insight into their cognitive difficulties.

Dr. Sebrow (28:30): In those cases, yeah, they have significant cognitive difficulties, but the burden may not be felt by that individual. It actually may be [felt] more by their family or the caregivers because of that lack of insight. So cognitive burden isn't just about the symptoms themselves; it's also about the context in which they happen. And that brings us back to the challenge of comparing migraine to other chronic conditions. Many studies use different cognitive tests, different timeframes, and different definitions, which can make it so hard to draw direct side-by-side comparisons.

Dr. Sebrow (28:59): A migraine study might involve younger, otherwise healthy adults, while dementia, or multiple sclerosis, or epilepsy study might involve older adults with additional health conditions. So we're not comparing apples to apples. And even more importantly, many studies don't measure how cognitive symptoms actually affect their daily life, like someone's ability to parent, or keep a job, or just feel like themselves.

Dr. Sebrow (29:35): So I would argue that we need more research that looks at not just those test scores, but the real-world impact of cognitive symptoms across different conditions — including migraine — and ideally include patient-reported outcomes and more diverse populations, because the cognitive burden can be so incredibly personal.

Carl Cincinnato (29:59): And I would imagine as well it would be interesting to look at the interplay between the conditions, like when they're comorbid — when someone has more than one — how does that work? And what is effective management and how does someone crawl out of that scenario? It would be incredibly difficult but also important to understand from a research and from a science perspective.

Dr. Sebrow (30:18): For sure. It's always hard when I have a patient who has migraine; they have a history of depression; they also have fibromyalgia; they also have diabetes. They have all of these chronic issues, medical issues, and psychiatric issues all combined. And we see these cognitive issues on the exam and they ask us, "What's causing what?" And it can be so hard to tease apart. It really can be.

Dr. Sebrow (30:45): All those conditions that I just mentioned can all be associated with executive functioning, so it can get so complicated. And I agree — we really do need more research looking at these conditions altogether.

Carl Cincinnato (31:01): Let's shift now to prevention and management. If someone improves their migraine control with preventative therapy, do cognitive symptoms usually improve as well?

Dr. Sebrow (31:10): It can improve. For some patients, they will find that improvement — they're not having as many headache attacks. But like I mentioned before, for other patients, it really may not improve regardless of what strategies they're using. And that's where it gets really complicated because we have to find those specific strategies that work for that person. What works for one person may not work for another person.

Dr. Sebrow (31:41): And really tailoring a plan that works best for you is something that the patient needs to work with the clinician on to figure out what's going to be the most appropriate plan.

Carl Cincinnato (31:51): So does that mean you might need to stratify your management plan into controlling the migraine, but also addressing these cognitive symptoms separately?

Dr. Sebrow (32:00): Yeah, I think we need to think about them separately, but also together as well. We're looking at the overall picture. We want to see if there is any sort of connection. You know, what happens if a patient has these cognitive symptoms and they're just getting worse over time, and their headache attacks are getting better? That's where we need to figure out what exactly is going on. Are there any other factors contributing?

Dr. Sebrow (32:29): Are there any other conditions that we don't yet know about, and that's why they're having these cognitive symptoms? Oftentimes people think, "OK, migraine, cognition. Yeah, I hear there's a link. It's probably due to the migraine." It may not be due to the migraine. Just because they have that, and that's what they lived with their entire lives — there may be other factors going on that we may not know about yet.

Dr. Sebrow (32:51): And so we need to pay very close attention to those specific symptoms, how they started, and if they're progressing — if they're changing in any way — and the types of cognitive symptoms. Maybe they used to have just attention difficulty and now all of a sudden it's really starting to affect their planning, their decision-making, and really starting to affect their memory retention. That's where we start to get a little bit concerned if maybe there's something else that's going on.

Carl Cincinnato (33:13): Cognitive symptoms and migraine both tie back to brain health. Are there lifestyle habits that protect brain health in people with migraine?

Dr. Sebrow (33:22): Yeah, that's a very important question, and I think one that can be very empowering. I think we still need more targeted research specifically in migraine; there is a lot that we can draw from both migraine studies and broader brain health research. We know that habits like regular exercise, quality sleep, and stress reduction can be highly beneficial.

Dr. Sebrow (33:48): Other important factors include cognitive stimulation — engaging in novel activities that challenge the brain, such as reading new books or learning a new skill. Social interaction also plays a key role by improving mood and reducing stress, both of which can affect cognition. Staying socially active also helps keep the mind engaged and sharp. That said, it's important to acknowledge that this advice is easier said than done.

Dr. Sebrow (34:24): And it's not just about knowing which lifestyle habits help; it's also about how people can realistically adopt and maintain these changes. Many people with migraine have lived with disruptive sleep patterns or fatigue for years. Hearing, "You need more sleep," or, "Try to be more active" can feel so overwhelming or frustrating, especially if they don't get guidance on how to make those changes sustainably.

Dr. Sebrow (34:48): So, for example, someone who's been getting only three to four hours of sleep per night won't suddenly jump to seven to eight hours overnight. That's not going to happen. But even those small improvements, like going from three to five hours, can be a meaningful step forward. Similarly, for those with very sedentary lifestyles, just taking a short walk can be a huge achievement compared to months of inactivity.

Dr. Sebrow (35:24): These baby steps really do matter and can build that momentum over time. And that's why it's so important to approach lifestyle changes with patience and flexibility. We want to celebrate that small win. While lifestyle habits are a key piece of protecting brain health and migraine, it's equally important to be patient and compassionate with oneself and really to have a practical, supportive plan tailored to each person's unique challenges.

Carl Cincinnato (35:57): I know a lot of people listening would really appreciate what you've just said. So thank you for saying that. Because it can be really difficult in the setting of chronic pain. It's great to be able to do these things that cognitively engage us, like reading and problem-solving and learning new skills, but it's so hard to do that when you've got chronic pain or acute migraine or fog in between migraine attacks. So thank you for saying that.

Carl Cincinnato (36:21): And I think what you're saying — if this is a fair summary — is aim for progress, not perfection. None of us can do all of this all the time. But it's kind of finding where those pockets are — like maybe cognitive engagement is out of the question, but maybe you could manage a walk around the block. And then that walk around the block, after you've done that a couple of times, maybe that clears the head a little bit. Maybe that helps in other aspects.

Carl Cincinnato (36:45): And then that opens up another opportunity to do something, and then that opens up another. And you create a sort of virtuous cycle that allows you to kind of do more and more over time and gradually, rather than trying to do everything all at once, which is overwhelming.

Dr. Sebrow (36:57): Exactly. Yes.

Carl Cincinnato (36:59): Are there any interventions like cognitive rehabilitation or training that have been tested in migraine populations?

Dr. Sebrow (37:05): First, when we talk about cognitive rehabilitation, we're referring to a set of therapeutic approaches designed to improve or compensate for cognitive difficulties. These can include structured cognitive exercises to retrain skills like attention, or executive functioning, or memory, as well as compensatory strategies to support daily functioning.

Dr. Sebrow (37:33): For example, teaching someone how to use reminders more effectively, or how to structure their environment to reduce cognitive overload. Cognitive rehabilitation is commonly used in certain populations like traumatic brain injury [TBI] and stroke, where cognitive impairment can be so widely recognized. When it comes to migraine, though, this is a relatively unexplored area. To date, there's very limited research on cognitive rehabilitation specifically in migraine.

Dr. Sebrow (38:07): So most of what we know about cognitive interventions does come from other areas or other populations. There have been studies in general chronic pain populations. These interventions often involve computerized exercises aimed at improving cognition. And some of those studies have shown promising results with improvements in cognitive performance. That said, migraine has largely been left out of that research.

Dr. Sebrow (38:37): And despite the fact that many people with migraine report issues like brain fog, forgetfulness, or trouble concentrating during and between attacks, we don't yet have solid evidence for whether targeted cognitive rehabilitation could help. So at this point, we can say cognitive

rehabilitation has been studied in other populations and has been studied in chronic pain more broadly. There's reason to believe that it may hold value for people with migraine as well.

Dr. Sebrow (39:06): But we do need more migraine-specific research to understand what works, how much it helps, and for whom. Just given how real and disabling these cognitive complaints can be, it's an important direction for future work.

Carl Cincinnato (39:24): What myths or misconceptions do you hear most about migraine and brain health?

Dr. Sebrow (39:30): There's definitely people that say, "Oh, because there's so much inconsistent research, there's really not much going on." I really do hear this from neuropsychologists; I hear this from people who don't really know much about migraine.

Dr. Sebrow (39:50): And this was a big reason why I started becoming so passionate about it — when I started learning more about it and started hearing this from people who've been working with patients for years — that there's really not much going on cognitively just because we don't have enough research. It's true — we don't have enough research. There's so much more that we need to learn. But just because we don't have enough research doesn't mean that there's nothing going on.

Dr. Sebrow (40:14): We already have the evidence that there's something going on. The patients are reporting it. That's important. Regardless of what the research shows, this is what the patients are experiencing. So I would say in the field of neuropsychology, neuropsychologists should take a very close look at the literature. I will say, if you open a neuropsychology textbook, many of them won't even have the word headache in there — won't have the word migraine.

Dr. Sebrow (40:43): There's really this lack of knowledge. And we all talk about it with our patients because so many patients have migraine. We write about it in our neuropsychological reports. Yet we don't know much about it. A lot of people don't know much about it and they're talking about it with their patients — not in the textbooks. So I'd say the biggest myth, really, is that there's nothing going on. And I keep hearing that over and over again from people.

Carl Cincinnato (41:10): I'd love to show those people a video of Serene Branson, who was reporting live on TV, and she had a migraine attack. She continued talking normally — or at least she thought it was normal to her — but people thought she was having a stroke because she was speaking words that weren't words; it was just a jumble of sounds. And people were really concerned for her health and wondering if she had a stroke. And this video is up on YouTube.

Carl Cincinnato (41:39): We interviewed her and we showed her in the Migraine World Summit, and it's incredible. And you can't look at something like that and say, "Oh, there's not a lot going on here." It's a pretty remarkable and shocking video of what people face every day in our community.

Dr. Sebrow (41:55): Yeah, interesting you mentioned that. I give a talk on neuropsychology and migraine in our training group. Over the last five years, I've been giving this talk, and I always show that video because I think it's such an important video, and people are just shocked. They're surprised to see that. So, yeah, I think it's such an important video to show a lot of people. So I do that pretty much every year now.

Carl Cincinnato (42:19): And kudos to Serena for having the courage to not pull that down or demand it be pulled down. She's been an advocate and speaks out about her experience. For patients who worry about dementia, what is the most important message you'd like to leave with them?

Dr. Sebrow (42:34): Most patients that I see for evaluations, they're concerned about dementia, right? They have a cognitive issue. They have cognitive symptoms, and they say, "Is this dementia? Am I

getting Alzheimer's?" And what I've heard supervisors say is, and now what I say is, “We all don't know who's going to get dementia,” right? That's the truth. I don't know what's going to happen to me in a number of years. Who knows what's going to happen? We don't know who's going to get what condition.

Dr. Sebrow (43:04): But what is most important is that there's so much we can do to improve our brain health, right? There's so many lifestyle factors, so many things that we can do for ourselves and take care of ourselves. It's a big concern. A lot of people are concerned about it, but you can have cognitive symptoms and not have dementia. You can have cognitive symptoms — it's not going to necessarily lead to Alzheimer's disease. People get so concerned about that.

Dr. Sebrow (43:31): But I think it — I'm hoping it's reassuring for me to say — don't be concerned that just because you have these cognitive symptoms, you are going to get that. That's not the case, right? The truth is we don't know who's going to get what, but these cognitive symptoms can happen in so many different people, so many different patient populations, for so many different reasons. You're stressed one day? Yeah, you're going to be forgetful one day.

Dr. Sebrow (43:53): You may not be able to recall what that person said. Cognitive lapses happen so frequently to everyone. No one's perfect. And we all have our own unique set of strengths and weaknesses, cognitive strengths and weaknesses, right? We all have those. So it's important to realize and not to get too concerned when those cognitive blips happen.

Carl Cincinnato (44:15): Well, we greatly appreciate you joining us today on the Migraine World Summit. Thank you very much.

Dr. Sebrow (44:19): Thank you so much for having me.