MIGRAINE WORLD SUMMIT

TRANSCRIPT

INTERVIEWS WITH WORLD-LEADING EXPERTS

NEUROMODULATION DEVICES: PROVEN DRUG-FREE TREATMENT FOR MIGRAINE

FRED COHEN, MD
ASSISTANT PROFESSOR OF MEDICINE AND NEUROLOGY
MOUNT SINAI HEADACHE AND FACIAL PAIN CENTER,
ICAHN SCHOOL OF MEDICINE

Introduction (00:05): So first, I'll say, in terms of research, there have been some studies, specifically animal studies, that have shown that vagus nerve stimulation has been as effective as taking sumatriptan in inhibiting the trigeminal vascular pathway. As far as what I've seen in my clinic, every headache is unique. Every migraine attack is unique. I have some patients that have devices — it is a godsend for them that it's helped so much; others have said that it hasn't. It definitely has its purpose, but I wouldn't say one is better than the other.

Kellie Pokrifka (00:35): On the scene of migraine management options, neuromodulation devices are relatively new players. They use magnetic or electrical currents to help modulate brain activity, and they can be an effective and drug-free way to prevent and abort migraine attacks. However, access issues are a huge problem in this area. These devices can be very expensive, and accessing them can be extremely difficult, especially if you're outside of the United States. To help us learn more about neuromodulation devices is Dr. Fred Cohen. Dr. Cohen, welcome back to the Migraine World Summit.

Dr. Cohen (01:07): Thank you. Very happy to be back here.

Kellie Pokrifka (01:10): All right, so tell us, what are neuromodulation devices?

Dr. Cohen (01:13): So, neuromodulation devices are — it's sort of in the name — these devices that will be sending out signals [or] current to modulate the nerves that are related to pain.

Kellie Pokrifka (01:24): And how do they relate to medications? Do medications also change these pathways that are happening in our brain when we take them for migraine attacks? How do they compare? How do they contrast?

Dr. Cohen (01:37): So, it works differently. So, medications — there's a vast [number] of migraine medications out there, and they all relate to the migraine pathophysiology — the cause of migraine, which is a very, very complex system. We don't fully understand what's happening in a migraine. We know parts of pieces of the puzzle, different components involved, and hence we have drugs that target different areas. And neuromodulation is one of those. Very popular treatments now. If you're on Aimovig, Ajovy, Emgality — those are calcitonin gene-related peptides [CGRP mAbs]. That is a neuropeptide that we know is part of the migraine pathway. The migraine attack ... results in neuroinflammation and that drug targets that.

Dr. Cohen (02:20): Same thing with gepants, such as Nurtec, or Ubrelvy, or the new Zavzpret (zavegepant) — they target that component, where some patients might be on Topamax that targets areas around glutamate. So, there are all these different pieces of the puzzle. And when it comes to neuromodulation, think of these pain pathways like highways in your head. For instance, if I pinch my shoulder or whatnot, it is like a racetrack; it goes up and it goes down these neural pathways. But when it comes to a migraine, think of it like a racetrack with no finish line. It's just going, going, and going.

Dr. Cohen (02:56): And when it comes to neuromodulation, these devices we're going to be speaking about, they are sending pulses [and] currents that will modulate — they will affect these pain pathways to reduce it. It's a common misconception; for instance, some of my patients think it's like stubbing your toe. I call it the "stub-your-toe theory," where these devices are thought to "Oh, it's causing discomfort somewhere in your head, and therefore your brain is focusing on that." That's not what's happening, where it's not that your brain is focusing on a

Copyright © 2024 by Migraine World Summit. All rights reserved.

different area of pain. No, it's that again, these pain pathways that are part of the migraine attack are now being changed.

Kellie Pokrifka (03:33): Interesting. I feel like describing migraine as a racetrack with no finish line is how I feel so much of the time. That's such a perfect description. All right, so what nerves are involved in migraine, and which ones should we be focusing on when we're talking about neuromodulation devices?

Dr. Cohen (03:49): So probably the most common nerve you hear about is the trigeminal nerve. The trigeminal nerve is one of our large cranial nerves. It's responsible for the feeling in our face, and it has three branches. We call it V1, V2, V3 going down. And common branches of the nerves — because there [are] many, many branches of this nerve — but branches of it that we commonly target are the supratrochlear, the supraorbital. You might hear about the infraorbital nerve. If those who get nerve blocks, those are commonly effective. You have the auriculotemporal over here. You also have the vagus nerve. And the vagus nerve is another large cranial nerve that runs actually down our neck and exits out of our skull. And it is responsible for a lot of what we call autonomic functions: our heart rate, our blood pressure, respiration, digestion, even sexual arousal.

Dr. Cohen (04:40): We know that the vagus nerve is very involved with cortical spreading depression (CSD), so altering that inhibits that as well as the regulation of neurotransmitters. You'll hear about the occipital nerve — that's the occipital region of our head, or the occipital muscles where it lies. It's part of one of our cervical nerves, specifically C2. And again, that nerve we know relays going back to the whole trigeminal cervical complex. So, modulating that nerve, again, brings it back to the whole migraine pathway.

Dr. Cohen (05:07): And even nerves outside our brain, peripheral nerves. So, we'll talk about devices that actually go to our upper arm: peripheral nerves such as the median nerve, the musculocutaneous nerve. And going back to the whole racetrack theories, that again, it goes up and it goes down. That modulating these, even nerves down here, that they connect the parts of our brain, specifically what we call the periosteum, the gray area, and whatnot. And by modulating that, even though it's down here, it's still modulating areas in the brain that are related to the migraine attacks.

Kellie Pokrifka (05:43): Are any of these more superficial and able to be accessed easier than others? Are others more deep within our brains?

Dr. Cohen (05:50): They run their course; they're the branches of these. When I was talking about the cranial nerves, like the vagus nerve and the trigeminal nerve, they have their roots, if you will, deep within our brain, but then they have their branches that come out. So where these devices are, where they're targeting, they are superficial, and of course they run deeper.

Kellie Pokrifka (06:09): OK, so let's get on to the devices, and then we'll get more into which device targets which nerves, which sensations, and we'll get on to that. So let's start with the Cefaly.

Dr. Cohen (06:20): Sure. So, the Cefaly device is what we call an external trigeminal nerve stimulation device. It came out in 2014, first for the prevention of migraine, and then later found to be useful as well for the acute treatment. And that was in 2017. It doesn't need a prescription. You essentially pay a one-time fee to get it. And then you also get electrodes. And

Copyright © 2024 by Migraine World Summit. All rights reserved.

the electrodes are this sticky pad, if you will, and it attaches right here [to the forehead]. So it's targeting branches of the trigeminal nerve like your supraorbital nerve, your supratrochlear nerve, and it will then — the first version of the device, it's a [circular] design. I call it something out of *Star Trek*. It originally looked like a visor that went around your head, then it went through a remodel. Now it's a much more simplified, if you will, device that sticks right here [on the forehead].

Dr. Cohen (07:04): When you use the device, it is — thank you, Kellie — it again, sticks to the electrode. So it's on your head like that. When you turn it on, the beeps you hear correlate to what kind of treatment you're getting. So, one beep indicates acute, which you'll be using for 60 minutes, and two beeps is preventative, which you will be doing every day for 20 minutes. When the device is running, it will have varying intensities. When you press it — let's say it's too intense — you could press it to adjust that intensity. And again, the way this device works is that, again, it's modulating the trigeminal nerve, one of the nerves we were just talking about. That's the nerve it's modulating.

Dr. Cohen (07:44): So, one of the common side effects people might encounter is it could cause drowsiness. But when it comes to these devices we're going to be talking about, side effects are generally lower than what one would experience when taking a prescribed medication, like an oral medication or whatnot. I get commonly asked, "Can I do this with Botox?" I tell patients, "Don't put it on after getting your Botox therapy. But after that day, of course there's no contraindication using Cefaly with Botox." I do say people who have had a recent head injury or history of seizure [should] talk to your provider first. And with most of the devices, if you have an implanted metallic device or electronic device in your head, that is a contraindication of not to use it.

Kellie Pokrifka (08:24): Again, this is the Cefaly device; this is the electrode that goes on it; they're sticky. And then it goes right here, and this is what it looks like, and there we go.

Dr. Cohen (08:39): So, one last thing on the Cefaly is — a lot of devices have other uses, as well. There was a recent study that showed some evidence that it could be useful for those with vestibular migraine. And I look forward to future studies they do with that.

Kellie Pokrifka (08:52): And so, if you get nerve blocks around here [on the forehead], does that mean that you are more likely to respond well to the Cefaly? Are they completely opposite of each other? Does that have any correlation?

Dr. Cohen (09:04): There have been some studies that have looked into that, and the short answer is that there doesn't seem to be a correlation. So if you have gotten nerve blocks and they haven't helped you, it does not mean that the device is not going to help. And same goes for nerve blocks [that are] are really effective; again, there's not a correlation we see. But it's also: What is a nerve block? Nerve block/neuromodulation: The block — it's stopping nerve transmission. That's why you feel numb in that area. Where neuromodulation, it's not blocking the nerves; you're not going numb when you use these, so the mechanism is different. So that's why just because one works doesn't mean the other will work or will fail.

Kellie Pokrifka (09:39): OK. What is the Relivion device?

Dr. Cohen (09:41): So the Relivion device is sort of similar to the Cefaly device [in] that it's both a trigeminal, but also a combined occipital nerve stimulator device. Meaning that again, we're

Copyright © 2024 by Migraine World Summit. All rights reserved.

targeting branches of trigeminal nerve, but at the same time, it's also hitting — and I want to use my lovely "majordomo" head over here — it's also targeting the occipital nerves, which run like this: You have the greater and you also have the lesser occipital nerve. So we're doing both areas at once, and that's sort of what's interesting with that device.

Dr. Cohen (10:13): But unlike the other devices that I'm talking about, it is so far only used for the acute treatment. Again, like Cefaly, it's 60 minutes that it goes on the head. You could adjust the intensity as a scale from one to 100. And interestingly enough, it also has FDA breakthrough device designation for the treatment of major depression. FDA breakthrough designation is essentially — think of a green light — like the speed up. For instance, the COVID vaccines had that. So that there's evidence that was presented that is promising. So this allows them to do more trials, research to get that done. So it'd be very interesting to see how the treatment for major depression ....

Kellie Pokrifka (10:50): That would be so exciting to be able to use a device that's drug free and be able to treat two extremely common comorbidities that so many of us are struggling with. OK, so this is the Relivion. This is the front of it, and this is the back. And so, you put it on like this, and then you get started. What is the gammaCore?

Dr. Cohen (11:16): The gammaCore device is a vagus nerve stimulator. So again, the vagus nerve runs from inside our head going down our neck. And in terms of how it's [related] to migraine attacks, we believe it's causing cortical spreading depression as well as the release of neuroinflammatory peptides. And this all goes back to the trigeminocervical pain pathway — that racetrack. So, the device is placed alongside your neck. And for prevention, you're doing two stimulations, and they're each 2 minutes in length, three times a day. For acute therapy, it'll be used similarly: two stimulations at the onset of a headache. And it could be followed by two more at [the] 20-minute mark and the 2-hour mark if needed.

Dr. Cohen (11:57): In addition to the treatment of migraine, gammaCore is also used for treatment of cluster headache and also for hemicrania continua, which is another kind of headache condition. And it has FDA breakthrough status for PTSD [post-traumatic stress disorder]. It's also — there's a lot of studies using it with veterans; there's a lot of promising evidence there. And similarly ... if you have implanted devices not just in the head but also pacemakers, defibrillators, cochlear implants, those things are a concern of using it. Always speak with your doctor first. And that it's not to be used in those that have significant carotid atherosclerosis, so a lot of cholesterol buildup in the arteries of our neck, or if you ever had a surgery called a "cervical vagotomy" performed.

Kellie Pokrifka (12:40): This is what the gammaCore looks like. You see the little electrode, so you put some gel right there, and then you place it here, and then you turn it on.

Dr. Cohen (12:49): Oh, one other extra precaution is that for those who have vasovagal syncope, which is a kind of fainting, to have extra precaution as for those that suffer from that, it could precipitate that.

Kellie Pokrifka (13:00): What is the SAVI Dual or eNeura?

Dr. Cohen (13:02): The SAVI Dual is a TMS, or transcranial magnetic stimulation. So, it's using magnetic pulses. So, this differs where the other ones are using more of electric current in a way. And the device, it looks like this [demonstrates device]. It is larger than the other ones, and

Copyright © 2024 by Migraine World Summit. All rights reserved.

I would say it's a bit heavier than the other ones. But again, the mechanism is very different. It came out initially in 2013; the company unfortunately went bankrupt in 2020, but then it came back in 2021. So the device is back. And it's used for both the acute and preventative treatment.

Dr. Cohen (13:33): So, the way it functions is again: It's releasing a magnetic pulse applied at the back of the head through the occipital region of the head. And the mechanism thought to be involved is similar to the other devices. We're talking about the inhibition of cortical spreading depression. And the way to use the device is that when you turn it on, is that you'll see that the top lights up. And if you can notice — I'm trying to see if I get it on the camera — this around the power button, the area starts lighting up. And that indicates the charge that it's building. And then, once it's fully around, it means that a charge is ready. What you would do is that you place it with the power button facing down at the back of your head as such. There are two triggers where my thumbs are, and you press the triggers, and then you'll hear a sound, and that's it releasing a pulse.

Dr. Cohen (14:23): And for preventative therapy, that beep indicates that it is ready to be used. And for preventative therapy, it's four pulses twice daily. For acute therapy, it is three consecutive pulses as needed — repeated two additional times — release, every 15 minutes. Reasons to not use the device; again, if there are implantable devices, this is a magnetic device, we do not want to interfere with anything else that's in the body. And also, it's contraindicated for those with epilepsy.

Kellie Pokrifka (14:53): And this device used to be called the Spring TMS mini [sTMS mini], right?

Dr. Cohen (14:57): Yes, I know it ha[d] different names in the past. It was the Spring TMS before. Now it's SAVI Dual.

Kellie Pokrifka (15:04): What is the Nerivio?

Dr. Cohen (15:06): So, the Nerivio device, so the previous device we talked about was all dealing up here [gestures toward head]. Now we're going to talk about a peripheral electric neuromodulation device. And I'm going to get it out for me. So, this is what the device looks like [demonstrates]. It's on a band, and it will go around the upper arm. And the function of it is even though — because a patient of mine will say, "Oh, how does this treat my migraine? It's down here." So, it goes on your arm as such. "How is this treating my migraine? It's not affecting nerves up here." But again, think of these racetracks — they still go up and it comes down. So it's still modulating your pain pathways that are related to migraine.

Dr. Cohen (15:50): So, the Nerivio device, the treatments are 45 minutes. Acute is used as needed; preventative, it's every other day. So, the device, it connects with your phone. So, I don't have my phone on, but you would have the app on your phone — you connect with Bluetooth, and then you turn the device on, you control the intensity on the app. You want the app … you want to feel it. It shouldn't be painful, but if you don't feel it, that's not enough. None of these devices should be hurting you. Let me make that very clear that if the device is hurting you, speak with your doctor. They should not hurt you. And you could change the intensity as you feel it's needed. And again, acute treatment could be used as needed; preventative is every other day.

Kellie Pokrifka (16:37): So since it's on your arm, can that be something that you can do over clothes?

Copyright © 2024 by Migraine World Summit. All rights reserved.

Dr. Cohen (16:42): Very good question because I'm doing it over my shirt. So, for my demonstration, because I'm wearing a long-sleeve button-down, you want it over your skin, so don't do what I'm doing. But yes, you want to over your skin; it's preferred to not have it over your clothes.

Kellie Pokrifka (16:55): So, with the strength of these devices, I feel like a lot of us are inclined to be like, "The more it hurts, the more we're feeling it, the more effective it's being." So if I'm only using it a little bit and on a slightly different intensity, I'm probably not getting the full effect. Is that correct?

Dr. Cohen (17:13): So, these things pack a punch. Don't underestimate it. Start slow, start at the low percentages, slowly go up. It should not be hurting you. That's not the goal. That's not neuromodulation, per se.

Kellie Pokrifka (17:28): Are these devices only affecting the headache portion of a migraine attack, or can other symptoms be helped by this?

Dr. Cohen (17:34): So, they did look at those, we will call “most bothersome symptoms” — the other symptoms relating to migraine attacks. And that while most of the endpoints were pain reduction, pain freedom, some of the devices can have that effect. Because again, you're sort of modulating; you're stopping a migraine cycle. So for some individuals, it may stop their most bothersome symptom. For others, it may just stop the headache pain component.

Kellie Pokrifka (18:01): Are there any ones in particular that may be effective, or more effective, for specific other symptoms?

Dr. Cohen (18:07): That is, I would say, almost patient specific. Some studies, like Nerivio and Cefaly, have looked at that. I believe all of them have looked at the most bothersome symptoms, and the data does vary. But as you say, that's more specific to patients that they may notice that one might help them more than the other.

Kellie Pokrifka (18:25): So, a lot of these are using electrodes, and they feel like they're shocking us. Is this a TENS unit?

Dr. Cohen (18:31): So, TENS unit [transcutaneous electrical nerve stimulation unit] — that's a more, I would say, generic term. There are generic TENS units. You could — if you go on Amazon and look up a TENS unit, you'll find stuff. You'll find it all over Google. But what's different when we're talking about these devices today is that they're specifically designed for these treatments, meaning that they're giving specific doses, specific currents in specific areas.

Kellie Pokrifka (18:55): So if I go online, I can find TENS units for extremely cheap. And versus the cost of these devices, which can be very expensive, will I get any benefit? For example, like if I bought a generic TENS unit and I put it right here in the specific area, do I get any benefit from that? Is that worth it?

Dr. Cohen (19:14): I wouldn't recommend that because, again, it requires — you have to be very familiar with [the] device. When it comes to, again, these devices we talk about, we know what they're outputting. There are clinical trials that back it. TENS units are different. I don't know what current it's giving. You don't want to harm yourself. So no, I don't recommend patients getting a generic TENS unit.

Copyright © 2024 by Migraine World Summit. All rights reserved.

Kellie Pokrifka (19:36): And what about a generic electrode gel? Can I get that for way cheaper off of the internet and on a search for that versus buying it directly from the manufacturer?

Dr. Cohen (19:46): Similar to the generic TENS units, it's just — when it comes to the electrodes, we don't know what's in them. We don't know what the gel is made of. And therefore, they're not tested. I also don't recommend.

Kellie Pokrifka (19:58): Are there other ways we can stimulate these nerves without buying a neuromodulation device?

Dr. Cohen (20:03): Yeah, so these nerves can be stimulated in many ways. Putting hot, cold packs, massage. A lot of people with — suffer from migraine attacks and say, "Oh, if I press around here or here." So, acupressure, acupuncture, certain exercises, humming, gargling, deep breathing — they all do that. But the difference with the devices, you're getting a repetitive, similar dose every time and the same dose over that duration.

Kellie Pokrifka (20:28): So, a lot of us experience gastric stasis during a migraine attack. First of all, what is that? How is it related to the vagus nerve? And can these devices that target the vagus nerve, can we get improvement on our gastric stasis from that?

Dr. Cohen (20:43): So gastric stasis is our stomach. It's moving around —how we digest, whatnot. And gastric stasis is when it's essentially not moving. And that — we know that occurs during a migraine attack. There have been imaging studies that have shown that. So that's why people could be nauseous or vomit during their migraine attacks, and we know that it's involved with the vagus nerve.

Dr. Cohen (21:04): The vagus nerve, as I said, it comes down the neck; it goes down and has a lot of attachments in our stomach — the release of stomach acid, and a lot of controls of our stomach. It's one of the autonomic functions with digestion. So, there have been two open-label studies using a vagus nerve stimulator such as gammaCore in people who suffer from severe drug-refractory gastroparesis. So, meaning that they have very bad gastric stasis that nothing's really helping them, and preliminary results show that it was actually helpful in treating. So that may be a use later on that we have more evidence for.

Kellie Pokrifka (21:36): Can we use medications at the same time as we're using neuromodulation devices?

Dr. Cohen (21:40): So, you can take medications with a neuromodulation device; that's perfectly fine. I have some patients who report that when they take their triptan or their gepant with their device that it's more effective. There wouldn't be a contraindication for that.

Kellie Pokrifka (21:53): Have you found in your clinic or any research studies [that] medications [are] more effective than neuromodulation devices?

Dr. Cohen (22:00): So first, I'll say in terms of research, there have been some studies, specifically animal studies, that have shown that vagus nerve stimulation has been as effective as taking sumatriptan in inhibiting the trigeminal vascular pathway. As far as what I've seen in my clinic, every headache is unique. Every migraine attack is unique. I have some patients that have the devices — it is a godsend for them that it's helped so much; others have said that it hasn't. It definitely has its purpose, but I wouldn't say one is better than the other.

Copyright © 2024 by Migraine World Summit. All rights reserved.

Kellie Pokrifka (22:29): And in your clinic, does there tend to be one that works for more patients? Are there any indications for a specific patient, which one may work better for them? Is there any way we can know just where to start with this?

Dr. Cohen (22:42): So, when it comes to picking a device, generally, where they're describing the pain might lead me to do it. Like if they have a lot of pain here in the back, I might pick a trigeminal or occipital nerve stimulator, but it doesn't necessarily have complete correlation. When I bring up devices, it all depends on the patient. For those patients, for instance, if they bring up right off the bat with me that they don't want to take a pill or an injectable, I bring up, "There's something you could do that's not a systemic treatment."

Dr. Cohen (23:09): This is if these — neuromodulation is very useful for our pregnant patients because many treatments for migraine are either contraindicated or there's not any safety evidence for it. So, treating pregnant patients could be very concerning because obviously you want to treat them, but now you're sort of losing some of your arsenal. But neuromodulation plays a very good role there. And again, I discuss all the kinds of modulation with the patients, how they use it, and usually discussing with them — and how their migraine affects them is what leads me to help choose the device.

Kellie Pokrifka (23:42): What is a systemic treatment?

Dr. Cohen (23:45): When I say systemic treatment, when you take triptans, gepants, you're swallowing a pill, it's being dissolved, it's going in[to] your bloodstream. When it comes to the devices, you're applying it to a specific area.

Kellie Pokrifka (23:57): Does that mean that treatments that are not systemic, does that tend to be safer and [have fewer] side effects?

Dr. Cohen (24:03): Not necessarily; I wouldn't go as far as that. But when it comes to, for instance, let's say I have a patient who has a lot of other comorbidities. They have a lot of other conditions that they're taking a lot of other medications for. If I prescribe them a migraine medication, I worry about, "Is this going to interfere? Am I now going to interact with one of their meds? Is it more likely they're going to suffer a side effect because they're on other meds?"

Dr. Cohen (24:28): For instance, a lot of medications act on [the] kidneys and liver, which is how medication naturally acts. But the more you take it, is this too much? In my opinion, the first rule of medicine is: Do no harm. And that comes to effect when patients come to me if they're on eight, 10-plus pills. OK, even though, sure, I'm giving this pill that has all this great evidence to help their migraine, but am I actually causing more of a problem? And that's a useful area that neuromodulation is on, that I'm able to give you something that has evidence to treat, but I don't have worry about causing an issue with one of your other treatments or conditions.

Kellie Pokrifka (25:01): So, we're told a lot with medications that if we take the medication at the first sign of an attack, we're more likely to have improvement. We're more likely for the attack to actually stop. Is this the same advice that we would use for neuromodulation devices?

Dr. Cohen (25:15): So, I recommend whenever you feel your migraine attack starting, to take whatever your abortive medication is — whether it be a pill or whether it be a neuromodulation device — that the earlier you try to stop it, the more effective it will be.

Copyright © 2024 by Migraine World Summit. All rights reserved.

Kellie Pokrifka (25:28): What are some access issues revolving around neuromodulation devices?

Dr. Cohen (25:32): So, there are access issues with neuromodulation devices, specifically with insurance coverage, that unlike prescriptions, which, after — and a lot of our drugs are prior authorization — that are able to get covered. It's different when it comes to these peripheral devices. That I have a lot of patients who'll say, "Oh, my insurance didn't cover it." There's a higher upfront cost. And with that said, I always recommend patients to always try to do it through their insurance.

Dr. Cohen (26:01): All the websites for these devices we spoke about, they have pages dedicated to helping you go through that process. Other ways you can mitigate the cost is having things like a health savings account to try to get some tax benefit from getting it. But that is, unfortunately, an issue we have is access to these devices. For veterans, that the VA [Veterans Affairs] has a lot. They are well-known for covering these devices. So, if you are a veteran, and this is something you're seeking, that the VA should cover it.

Kellie Pokrifka (26:26): That's so fantastic that veterans do have good coverage of that; that's incredible. So, The Headache and Migraine Policy Forum, they recently did a study and they said that 1 in 3 patients who sought insurance coverage for their devices — they were denied. And only 5% of patients were fully covered. Does that sound right to you?

Dr. Cohen (26:46): Unfortunately, that does sound about right. Like I said, a lot of — when I've offered the neuromodulation devices, a lot of patients do have difficulty. That's something I hope changes in the future. I hope that we improve our insurance coverage of devices because they're very useful.

Kellie Pokrifka (27:02): So, what are the differences between these new neuromodulation devices and the ones that were invasive?

Dr. Cohen (27:07): Sure. So, right off the bat, the invasive ones are invasive — there have been stimulation devices for a while, that they are ones that require surgery. So, there have been, for instance, occipital nerve stimulators that get implanted; trigeminal nerve simulators that get implanted; sphenopalatine ganglion stimulators that get implanted. There's deep brain stimulators; there's vagus nerve stimulators, and they're doing a similar thing. But the difference is that they're in there now. This is hardware that's placed within your body. The benefit of that is that the more you can be as direct, but there are cons to it, too.

Dr. Cohen (27:45): First off, it's invasive. It requires a procedure, whereas this is just popping it on your head. And there's more risk of things going wrong. What if the hardware gets infected? What if it has to come out? Whereas if you want to stop this — with the devices we spoke about today — you just essentially stop it. You just stop using it, and it's done. Both of those things have their purposes. There are conditions that require people getting deep brain stimulators or implantable stimulators, so each of them needs a discussion with your provider. But generally, those are more reserved for more refractory treatments, more other chronic treatments like for Parkinson's and other chronic pain syndromes might get an implantable stimulator.

Kellie Pokrifka (28:25): All right. So, Dr. Cohen, it seems like we have a lot of new options for neuromodulation devices. It can be extremely difficult for many of us to access these devices, unfortunately. But they can target a lot of different nerves that are involved in the very complex

Copyright © 2024 by Migraine World Summit. All rights reserved.

pathophysiology that is involved in migraine, that we don't even fully understand at this point. But we can get help. They are drug-free, they're localized, they're not systemic, and we can have some great benefit from them. Do you have any closing thoughts on neuromodulation devices?

Dr. Cohen (28:54): It's something that a lot of patients don't know about when I bring it up, they haven't heard of those things. You're not seeing as many commercials like you're seeing with the newer migraine treatments. If you're seeking a nonpill, noninjectable treatment option, this is certainly a great one to look at. I highly recommend speaking to your headache doctor about it. Go on these websites; it's great information. And that it's definitely an effective and viable treatment.

Kellie Pokrifka (29:18): Dr. Cohen, where can we follow your work?

Dr. Cohen (29:20): So I actually have a website, headache123.com. That has a lot of articles I've done, a lot of interviews. I've run a blog about topics and whatnot. I have a post about vitamin D and headache. I'm going to have one about MSG [monosodium glutamate] and headache. So certainly [a] great place to find resources about headache medicine and education.

Kellie Pokrifka (29:38): That sounds perfect. I'm so excited to check it out, and I'm sure that will provide so much benefit to so many of our viewers. Are there any other resources you want to share?

Dr. Cohen (29:46): So, there's a lot of advocacy groups out there, like Miles for Migraine is a great one that I can show you resources for getting in touch. I highly recommend everyone to look for your nearest Miles for Migraine walk or race. They're great fundraising events for — that they raise money for the awareness as well as research in treatment of migraine. The American Migraine Foundation, the National Headache Foundation, American Headache Society, these are all organizations that this is their goal. For outreach, for advocacy, and to the betterment of treatment in migraine and other headache conditions.

Kellie Pokrifka (30:19): Dr. Cohen, thank you so much for being here on the Migraine World Summit.

Dr. Cohen (30:23): Thank you very much for having me here. Very, very happy to speak.

Copyright © 2024 by Migraine World Summit. All rights reserved.