



MIGRAINE WORLD SUMMIT

# TRANSCRIPT

INTERVIEWS WITH WORLD-LEADING EXPERTS

SUPPLEMENTS & FOODS THAT EASE MIGRAINE

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**Introduction (00:05):** What I tell patients when we have the diet discussion, it's not one discussion; it's a continual conversation. And don't feel like you have to be perfect. We all feel at times with our diet that we've messed up, and that adds to the shame and the blaming that happens in a lot of the diet and diet industry. And I would say, first and foremost, with diet and supplementation, be kind to yourself. And compassion is a big part of helping the dietary messages and having more of an intuitive diet to know when to choose, make the right choices, and go towards better choices over time. So, it's a long-term discussion, and be kind to yourself as you continue the journey.

**Paula K. Dumas (00:50):** Are you concerned about food triggers, trying a migraine diet, or curious about supplements? Now, a growing body of evidence supports that food can indeed be medicine for migraine. Integrating certain nutrients in your diet, either through food or supplementation, may improve your health and migraine condition. If you're looking for a more holistic approach to migraine management, don't miss this talk with integrative medicine and pain expert Dr. Robert Bonakdar, a highly respected researcher on herbal and natural medicines. Dr. B has studied Eastern and Western medicine around the world. He is a board-certified headache specialist and author of [*The H.E.R.B.A.L. Guide: Dietary Supplement Resources for the Clinician.*] Dr. B, welcome to the Migraine World Summit.

**Dr. Bonakdar (01:39):** Thank you so much for having me. It's a real pleasure.

**Paula K. Dumas (01:41):** Starting with supplements, how do we know if supplementation is required in the first place?

**Dr. Bonakdar (01:46):** Well, I think it's an individual decision, and in some cases, may not be needed. But when we're dealing with folks who are dealing with chronic pain, migraine, there's typically a burden on the body to help deal with that pain, and usually it creates inflammation — oxidative stress — where it increases needs for antioxidants. So, even in a best-case scenario, a wonderful diet, there are sometimes additional needs to really deal with the burden of that migraine. And so, in many cases, we look to that because it's self-empowerment, self-efficacy, choice. It's something that patients really want to do to maximize everything they can do to deal with the migraine.

**Paula K. Dumas (02:30):** Well, I know we're all trying to eat clean, but can't we simply change our eating habits and achieve the same thing?

**Dr. Bonakdar (02:37):** It's all about the foundational diet. And even if we do take good supplements, if the foundational diet is not healthy enough, doesn't have enough fiber, fruits, vegetables, good healthy oils, then you're not really going to get much benefit from the supplement. At the same time, making small tweaks in the diet can make some changes. Just increasing the fiber — we know there's some recent evidence that for every gram of increase in fiber, there's a similar 1% decrease in migraine burden. So you do get benefit from every incremental change, but we can't really rely just on the magic bullet, i.e., the supplement, to outdo a not-so-healthy diet.

**Paula K. Dumas (03:15):** So, are there certain minerals or vitamins that are especially difficult to get in sufficient quantities from our diet that might be relevant for people with migraine?

**Dr. Bonakdar (03:25):** Yes, I think it's really interesting. We know in a lot of the evidence-based guidelines, the supplements that do come up often, like magnesium and the B vitamins like



riboflavin, and CoQ10, those deficiencies actually can start very early on the migraine journey. There are studies like Dr. Hershey and colleagues found that by the age of 13, about a third or more of patients with migraine were already deficient in CoQ10. So, imagine if you are dealing with migraine for decades, what that's doing to your energy stores. And CoQ10 is really important for not only preventing migraine but also reducing fatigue, helping your heart and brain work functionally, so [they] work optimally. So, we know that is an important piece of the antioxidant puzzle. We know minerals like magnesium and zinc can also be depleted in some cases — also iron, especially in women.

**Paula K. Dumas (04:15):** Interesting. So, are all supplements created equal?

**Dr. Bonakdar (04:19):** We know, unfortunately, that the current regulations by the FDA [U.S. Food and Drug Administration] for supplements are very different than prescription medication. So, we're really dealing with a buyer-beware approach where we really need to educate ourselves when we go to the store: What brand are we looking for? Is this a reputable brand made in the U.S., been around for a while, invested in research? Then when we look deeper into the label, does it have the right amount of magnesium, riboflavin, omega-3s? Because in some cases, it might just be saying it, but has minimal amounts.

**Paula K. Dumas (04:52):** And while we're talking about shopping, what should we look for when we're shopping for supplements? Are there some keywords on the labels that we should be keeping an eye out for?

**Dr. Bonakdar (05:01):** Yes, definitely. That's an important point as well, that there are third-party verification organizations — the USP [Dietary Supplement Verification Program], which has been working with the U.S. Pharmacopeia to make sure that not only the brands absorb appropriately, have consistent dosing ... So what's on the label is what you're getting in the pill consistently. The company is not making any egregious claims that this is curing things that they shouldn't be. Another good label is NSF, which we know is on a lot of labels for other products, as well. So I like USP. I like NSF. I want to make sure that on the label there's a way the expiration's listed. There's an 800 number where you can contact the company if there are any issues or questions.

**Paula K. Dumas (05:49):** So many doctors are concerned about a lack of regulation over supplements. That's a comment we hear often. How safe are supplements relative to over-the-counter medications or prescription drugs?

**Dr. Bonakdar (06:03):** I think we do obviously have to be cautious, especially if patients have polypharmacy — there are multiple prescriptions — or have sensitivities to medications. But for the most part, I think if it's a well-chosen formulation, it can be very safe. On the flip side, there are some supplements that I tend to have not on my top-10 list. So, things like butterbur, which we know in some cases can be linked to liver dysfunction, I'm very cautious [about]. There are rare cases where it might be a good fit even though the evidence is level A, probably the top evidence-based supplement from the evidence guidelines, may not be a good choice because of safety. Feverfew, I also think, is not a great choice in most cases. I haven't been impressed with the results clinically [or] anecdotally, and we know in young females, it's not a great choice because of uterine-stimulation potential. So I don't really use a lot of that. Ginkgo also comes up, but again, evidence is not great. And in some cases where there might be contraindications with bleeding disorders, I tend to go with safer herbals like ginger, curcumin, Boswellia. So,



there are safer choices that are more consistent and go-to, and less worry. And then there are some ones, just like with medications, where we need to be more cautious.

**Paula K. Dumas (07:26):** Well, we have heard some good things about a certain brand, which I don't like to endorse brands, but we've heard that there's one brand that's very well controlled in the butterbur category.

**Dr. Bonakdar (07:38):** There was a study a few years ago that looked at, I believe, 21 different brands of butterbur on the market, and they found that the ones that were on the particular brand from Germany were free of the specific alkaloids that could be linked to liver toxicity. So if I'm going to use it — for example, in somebody that has issues typically with allergic disorder plus migraine — that might be a decent choice, and I want to make sure they get the right brand. But I still really look at the liver and monitor the liver and other labs just to make sure — because even in that scenario, we want to make sure that the body's not being overwhelmed. I tend to be one that likes to follow labs, both to make sure if I'm adding a mineral or vitamin D or others that it's really doing the job. Because even a good formulation, some folks it might not be the right fit for them for various reasons, maybe genetic. And so sometimes we do need to change formulations, so we need to keep that in mind. There's no perfect formulation across the board. It really needs to be individualized.

**Paula K. Dumas (08:47):** So, I'd like to ask you about a number of specific supplements and have you give me a thumbs up, thumbs down, or jury's out.

**Dr. Bonakdar (08:56):** Absolutely.

**Paula K. Dumas (08:57):** And these are all designed for migraine prevention or have been recommended for migraine prevention in some capacity. And you can comment on the type that we should be looking at. I think you already talked about magnesium and gave that a thumbs up.

**Dr. Bonakdar (09:13):** Absolutely. Any chelated is the way to go. That being said, if somebody does have significant constipation, they might do better with the nonchelated formulation because it's kind of a win-win. But most cases, over time, the chelated ones are the best way to go. And I usually start about 250 milligrams [mg] at bedtime because if there are any stomach issues, they're less likely to be noticed. Again, that's going to be rare with chelated. Move towards 400 to 500 mg, and in some cases we need more, but I don't push it because it's really about tolerability, and getting folks towards the 400 mg to 500 mg is the recommended daily allowance. And we know about 60%- 70% of Americans are low anyway. And if we can get even 100 mg into the system, we know that not only helps migraine, but it can also help prevent odds of stroke and diabetes. So it's kind of a win-win to start with magnesium.

**Paula K. Dumas (10:07):** So, you're going to give that one a thumbs up?

**Dr. Bonakdar (10:08):** Absolutely. Two thumbs up on that.

**Paula K. Dumas (10:10):** Two thumbs up. All right. And then we spoke briefly about butterbur and a specific brand. Would you give butterbur, I think you gave that a thumbs down, but ...

**Dr. Bonakdar (10:22):** Yeah, I would give it kind of a sideways thumb. I would say in some rare cases it might be OK, but it's not one that I use very often at all these days.



**Paula K. Dumas (10:33):** OK. And the brand that I think tested well from Germany is called Petadolex.

**Dr. Bonakdar (10:39):** Correct.

**Paula K. Dumas (10:40):** How about probiotics?

**Dr. Bonakdar (10:41):** So, I think with probiotics, I have no problem with people increasing with eating probiotic foods — yogurt, etc. — because that has a lot of other benefit for immune systems. But as far as a high-dose probiotic right now that I can recommend, I tell patients to really focus on improving your overall diet [by] bringing pre- and probiotics in it. And don't worry too much right now about a specific formulation.

**Paula K. Dumas (11:09):** Gingko.

**Dr. Bonakdar (11:09):** Gingko, again, I think, does have some benefit. It does help with some types of vascular inflammation reduction, but again, it's not top of my list unless I have a patient that has other issues with memory. So I would say definitely not in the top 10. I would say a sideways thumb to that as well.

**Paula K. Dumas (11:27):** If somebody is dealing with brain fog, is ginkgo useful or is it if they're only dealing with ongoing memory issues on an interictal basis, not when they're having an attack?

**Dr. Bonakdar (11:38):** Really, when we're talking about memory fog — we may be keying on this later — but I really like curcumin. There's a specific brand out of UCLA that's actually patented by them that they've used in memory research, which has a very fast onset of relief for brain fog. And that I typically utilize for patients that have cognitive issues related to the migraine.

**Paula K. Dumas (12:02):** Interesting. So, curcumin, what is the brand that's out of UCLA?

**Dr. Bonakdar (12:06):** Sure, it's called Longvida, L-O-N-G-V-I-D-A. So, curcumin in general, or Longvida is a good example, where curcumin is great, but if you just get any old curcumin off the shelf, it may help — some benefit for your joints, general inflammation. But it may not have a lot of ability cognitively or for brain health if it's not one of the ones that has been tested for that.

**Paula K. Dumas (12:30):** OK. I think you gave a sideways thumb to feverfew.

**Dr. Bonakdar (12:34):** The safety issues kind of pulled me back on that and lack of really significant efficacy in clinic.

**Paula K. Dumas (12:40):** OK. Vitamin D?

**Dr. Bonakdar (12:42):** We have now very robust evidence that folks with migraine have a much higher propensity — because we know vitamin D is not only a vitamin, but it's a prohormone, and it's an anti-inflammatory substance — have a much lower ability to keep vitamin D stores high. And so, for every — I think in one study — every 5 incremental increase in points, and again, we're looking at if folks are below 30 nanograms per milliliter, that's the cutoff. If, let's say, you're at 20, for every 5-point increase in folks who are deficient or insufficient, there's about a 22% reduction in migraine. So as you get into normal levels and maybe you go to 40 to



50, I try to get folks to around 45 to 50 to have sort of a buffer, especially in the wintertime. We know that has a very significant ability to reduce migraine [attacks] if you happen to be deficient. So I'm very, very pro on testing and treating vitamin D at this point.

**Paula K. Dumas (13:41):** And you mentioned riboflavin, or vitamin B2.

**Dr. Bonakdar (13:45):** We've known also for a long time — and that's a level B evidence, so magnesium and riboflavin have level B moderate evidence in the guidelines — that riboflavin has a significant ability because it's part of the mitochondrial energy system, along with CoQ10, to really bolster as an antioxidant all the stress — oxidative stress — that's happening with the migraine. And most of those trials have used 400 mg and I tend to think that is, in most cases, too high a dose — not too high that it's unsafe — but that really the body only has about the ability to absorb about 30 mg at any one point.

**Paula K. Dumas (14:26):** We talked about fish oil and omega-3s having some of the most positive evidence in the past couple of years, so I'm guessing that's going to be a thumbs up for you.

**Dr. Bonakdar (14:35):** Definitely a thumbs up, and if I had to guess, it would be at least a level B in the next guidelines. Again, a lot of research like vitamin D has been recent, good trials out of the NIH [National Institutes of Health]. Dr. Ramsden has done mostly dietary interventions, which is very interesting because he's actually had folks increase omega-3 foods while decreasing omega-6, which can be inflammatory, especially if it's overconsumed versus omega-3. So, I hopefully have the time to talk about that, where omega-3 added to amitriptyline actually had better results than just the amitriptyline itself. So I think there's some benefit for most people to take omega-3s. And I would say, roughly speaking, about two-thirds of my patients with migraine who test omega levels are deficient or insufficient, which I think is something that most people will be surprised to learn.

**Paula K. Dumas (15:28):** And that study that you mentioned, it was omega-3s and amitriptyline, but also vitamin D and amitriptyline, correct?

**Dr. Bonakdar (15:36):** Yeah, absolutely. So, there's another study that looked at vitamin D, and if we got the vitamin D to a normal healthy amount, then that would actually improve the benefit of amitriptyline. So, I think there is a real wisdom to combining supplement — the right supplement with the right medication. They typically work well together because they're coming from different angles to support migraine reduction.

**Paula K. Dumas (15:59):** How about melatonin?

**Dr. Bonakdar (16:00):** Many folks have heard about melatonin for helping with sleep, and I use a lot of that, usually at 3 mg. But even without sleep issues, we know that melatonin is a nutrient that gets depleted as we age, and especially in migraine. So I use it even if there's not a sleep issue because, similar to other supplements that have been compared to prescription, that was also compared to amitriptyline. That seems to be the comparator in a lot of trials, and it seemed to have similar benefit — in some cases, even better.

**Paula K. Dumas (16:29):** So, you mentioned that you were a fan of ginger. Can ginger also be used that way with a prescription medication to improve its efficacy?



**Dr. Bonakdar (16:40):** Yeah, we've known long-term that folks get benefit from ginger, if it's a potent type of ginger, when we combine it. There was actually a recent study where ... in the acute setting where patients were getting IV anti-inflammatories, which is very typical — you might be getting your Toradol or similar — and they added 400 mg of a 5% extract of a specific gingerol type of ginger, and that's a very specific type of ginger that can be very potent. They found that those folks had a faster onset of pain relief and less adverse effects, including GI. And so, I think it, again, comes from the fact that ginger's working on serotonin receptors in the gut. The anti-inflammatories are doing their thing elsewhere and the ginger is sort of tempering the potential side effects. We know it also reduces gastritis and ulcer formation. So, I love the combination of ginger with almost all acute medications out for migraine right now, especially anti-inflammatories.

**Paula K. Dumas (17:48):** Well, you mentioned that study about ginger versus sumatriptan, and when I first read it, I got very excited, and I tried just to use ginger instead of triptans to knock out my attacks. I didn't have as much success as I was hoping for.

**Dr. Bonakdar (18:04):** Patients are very excited to replace [them]. It's kind of an either-or. I would say absolutely not. Don't let your body flare; your migraine [attacks] flare. Try to use them in combination until you find that things are quieting down, calming down, and then maybe you could have some milder attacks where you could try just the herbal and see how it goes.

**Paula K. Dumas (18:25):** You mentioned how ginger can help ease the gastro symptoms of migraine. Are there any other supplements that can ease the nonheadache symptoms of migraine?

**Dr. Bonakdar (18:36):** That's a great question. Now, we talked about curcumin helping with brain fog. We also know both ginger and curcumin, as well as Boswellia, which is another herb in the same region that's used quite a bit. Those all help with muscle aches, joint issues — sometimes there's a generalized inflammatory response where everything feels stiff and tight. Those herbals are quite helpful. I also like a lot of the antioxidants for the fatigue. So, I have a lot of patients that might have migraine, and they get really long-term fatigue — not just minimal fatigue, but it's kind of lingering — or they might have associated fibromyalgia. So those antioxidants can be really helpful to fill those tanks. The CoQ10 — we didn't talk too much about CoQ10, but that would be another thumbs up for me, to make sure you get at least 100-150 mg of CoQ10 on board, with the riboflavin and magnesium as a starting point to help with that.

**Dr. Bonakdar (19:48):** We know that some people get some allergic symptoms, so I tend to — or sensitivities where they are very sensitive to environment, any foods that can linger after a migraine — I use diamine oxidase, which is very popular in Europe for the environmental sensitivities from migraine. For photophobia and eye vision sensitivity, I like magnesium because we know that there's a subset of photophobia, or our vision sensitivity, that's really linked to magnesium deficiency. So, in some cases, I try to really fill the magnesium tank, hoping that it's also going to help with reducing eye symptoms and other environmental sensitivity. So those will be a few examples.

**Paula K. Dumas (20:25):** Some great examples. Thank you. So, what's your opinion of combination supplements that are designed specifically for migraine that include more than one of the nutrients that we've discussed?



**Dr. Bonakdar (20:39):** That's a common question. I think over the last 20 years in helping patients with migraine, we know that often one deficiency is connected to others. So, there's often patients who are using riboflavin, and CoQ10 and omega, zinc, and the list goes on; B vitamins. It can be overwhelming; it can be 10 bottles, and often I try to steer them toward better choices. There are a number of headache multivitamins out there. Folks are probably familiar with HeadacheFree vitamin, and that was one of my choices for a number of years. Just to be fully transparent, over the last few years I've worked with a team to create a headache multi that I think has better absorbed and effective dosages of certain nutrients.

**Paula K. Dumas (21:38):** I think we'll be updating our supplement guide to make sure that we've got the latest and greatest information. So, the big frustration that many people at home will be having is: "My doctor doesn't know much about this." Why don't more doctors talk with patients about supplementation?

**Dr. Bonakdar (21:57):** If that's not happening, I think looking for centers that have integrative headache centers, [or] that have integrative centers associated with them, or looking at the consortium group of academic centers. Most of them have integrative physicians that can do a consult for migraine to kind of shore up lifestyle if you're not getting that through your traditional headache center.

**Paula K. Dumas (22:19):** And how do you handle it with your patients at Scripps?

**Dr. Bonakdar (22:23):** What are the symptoms that we can hopefully match to a supplement diet approach to kind of reduce the burden. And I think it's also important that when we talk about diet, many patients are worried about the discussion because they're worried, "Oh, the doctor's going to take this away and that away." I like to start with saying that there's a lot of things we can do with diet that don't really have to do with what foods we eat, but how we eat them. Make sure you're consistent with hydration; don't skip meals. Just look at portion size, and then we can start looking at the pros and cons of what to eat. I think that helps people kind of get de-stressed. We also do cooking; we have a teaching kitchen.

**Paula K. Dumas (23:02):** I think I need to come to that teaching kitchen.

**Dr. Bonakdar (23:04):** Yes.

**Paula K. Dumas (23:04):** I think that would be really fascinating. So, let's talk about diet. Are there any foods that we should make our best efforts to avoid?

**Dr. Bonakdar (23:13):** The Standard American Diet, which the acronym, as everyone knows, is S.A.D., I think is very fitting because it tends to be highly processed, high amounts of refined or simple sugars — which most Americans eat way too much simple sugar foods — high amounts of salt, the wrong types of fat. And not to say anyone that's going to be perfect, but when we look at the average American diet, the majority of calories tend to be more processed than from whole foods. Tends to be very low in fiber. So we're eating foods that have been so refined that what used to be a typical fiber intake of 30 or 40 grams a day is now closer to 12 to 15. And again, going back to what we've talked about: for every gram we're going up, we can reduce migraine; for every gram we're going down, we're seeing an increase in migraine.

**Paula K. Dumas (24:08):** Well, I am going to ask you about specific diets in just a moment, but before we get there, a lot of people with migraine are sensitive to taste.





**Dr. Bonakdar (24:17):** That's an interesting phenomenon. I've noticed that as dealing with all types of chronic pain here at Scripps, that taste, appetite, what patients yearn for changes over time. And it's not anything that they, unfortunately, have a lot of control over. We know that the centers of the brain that control appetite and taste, and in some cases, pain fluctuations, are very connected. What that tends to do in some research is to push folks if there's a lack of taste to ultra-palatable foods. So, very high-fat foods, very salty foods — foods that have a high hit to them. And so that obviously pushes back towards the Standard American Diet.

**Paula K. Dumas (25:02):** Now you mentioned that fiber does play a role in migraine. There's some new research about that. So, as we talk about these diets, maybe fiber factors into them.

**Dr. Bonakdar (25:12):** Oh, absolutely. I think the interesting thing about a lot of the dietary studies, even the omega-3 study, some of the omega-3 foods may actually have other nutrients — fiber, B vitamins, antioxidants — that also help it. So, none of these nutrients in food, with food intake, are really working by themselves.

**Paula K. Dumas (25:37):** So, is there any evidence for a gluten-free diet for migraine?

**Dr. Bonakdar (25:42):** I get that question a lot, and I really tend to say it depends on the family history and patient history. There are folks who are gluten-sensitive, so I definitely endorse that, and I had some amazing results — and patients who are truly celiac get benefit. At the same time, I have a hard time telling all patients to be off of gluten. I think in many respects that over-elimination is an issue with migraine. We know trigger foods are real. There are many folks who are sensitive to wine, and other foods, and aged cheese, and aged meats. But I think when we start just kind of willy-nilly taking out foods that then also carry other nutrients, it can be difficult. And I think that's one of the reasons why we see the migraine population having lower intake of things like thiamine. Why? It's probably because the restriction has also caused thiamine to be depleted based on the other food choices. So we need to be careful and really nuanced, hopefully lab-data-driven with those restrictions.

**Paula K. Dumas (26:47):** A couple of the diets like the Heal Your Headache diet and the Diamond [Headache Clinic] diet, are a lot about avoiding a whole long list of triggers.

**Dr. Bonakdar (26:57):** And that goes back to when patients, when I bring up the diet, and maybe their eyes roll or they get very nervous. And I think, for me, it's kind of flipping the tables on a diet discussion. Diet discussion should be about finding good lifestyle choices, and that goes way beyond diet. I start with sleep, for example. We know, as an example, if we're improving our sleep, that in and of itself reduces caloric consumption the next day. Especially those high-processed, high-palatable foods because of the changes that good sleep gives to our brain. And I want to start with a positive message. These things work together; we'll get to the triggers if we need to, but let's increase the positive foods that also have benefit for preventing diabetes and heart disease — all the things that patients are interested in.

**Paula K. Dumas (27:47):** So, let's go straight to the superfoods that can be used to get the nutrients that are proven to fight migraine.

**Dr. Bonakdar (27:54):** I look for foods that have not just the one nutrient, but if they have five or six things. So high-omega seafood like salmon — even moderate-omega seafood like shrimp also have antioxidants like astaxanthin — they have a fair amount of other nutrients and minerals, like zinc [and] selenium. That's really important to keep in mind. I like, obviously, whole grains.



The more sprouted the bread with seeds, the better because we're getting a lot of good oils in there. We're getting a lot of the lignans, the fibers, that often are missing in the diet. I do like mushrooms because they do have riboflavin and [are] one of the rare sources of good vitamin D, if you're especially looking for nondairy sources. And obviously, colorful fruits and vegetables — your sweet potatoes, your berries — they tend to have a lot of antioxidants. They do have, obviously, sugars in them, but they're usually tempered by their fiber content. So I'm definitely pro-that. And lastly, the kale, the spinach, and the green vegetables have, again, not just one thing but a whole host of nutrients that we're trying to fill up for most folks with migraine.

**Paula K. Dumas (29:14):** Excellent. We're really, really grateful for your expertise. Any final thoughts?

**Dr. Bonakdar (29:19):** Thank you for having me. First and foremost, it's a pleasure to be here. I think what I tell patients when we have the diet discussion, it's not one discussion; it's a continual conversation. And don't feel like you have to be perfect. We all feel at times with our diet that we've messed up, and that adds to the shame, and the blaming that happens in a lot of the diet and diet industry. And I would say, first and foremost, with diet and supplementation, be kind to yourself. And compassion is a big part of helping the dietary messages and having more of an intuitive diet to know when to choose, make the right choices, and go towards better choices over time. So, it's a long-term discussion, and be kind to yourself as you continue the journey.

**Paula K. Dumas (30:08):** Well said. I know a lot of people are going to want to follow your work and connect with you. What's the best way to do that?

**Dr. Bonakdar (30:15):** If they look up the Scripps Center for Integrative Medicine, there's a website on the Scripps Clinic site, and they can contact us there to learn more about our work and if they're interested in consultation or working with our team of wonderful dieticians, acupuncturists, etc. We try to have a whole integrative team here to help support patients' use of other very important conventional treatments to kind of round out the picture.

**Paula K. Dumas (30:43):** Dr. B, thank you so much for joining us on the Migraine World Summit.

**Dr. Bonakdar (30:47):** Absolutely. Pleasure again, is all mine. Thank you.