Can Do MS Podcast Transcript
Vitamin D and Other Supplements: What You Need To Know
Episode 81

[Rosalind Kalb: Hello and welcome to the Can Do MS Podcast. This is episode number 81 and I'm your host, Dr. Rosalind Kalb. Today, we're honored to welcome back Dr. Ilana Katz Sand. Last month, she joined us to discuss the gut microbiome. If you miss that important conversation, be sure to go back and listen to that episode as well. This month, Ilana is joining us to talk about the role of vitamin D and a person's susceptibility to developing MS and in disease progression. We will also talk about the role of vitamin D and other supplements in maintaining overall wellness.

Hello. I'm happy to welcome back Dr. Illana Katz Sand. We had the opportunity to talk to her last month about the gut mi-microbiome. And today, we're going to talk about vitamin D and other supplements. So thank you, Ilana, for being here.

Ilana Katz Sand: Thank you so much for having me back.

Rosalind: So people with MS often ask, in clinical work and when they come to programs for Can Do MS or the National MS Society, what supplements they should take for their MS. What's good for them? What's safe for them? I know this is a huge topic, but let's start first by talking about vitamin D, which is top of mind for many folks. Can you just start by telling us what we know today about the role of vitamin D and a person's susceptibility to getting MS in the first place?

Ilana: Susceptibility is probably the part that we know the most about, in terms of vitamin D. So there's clearly an association [(2:01)] between sun exposure and our vitamin D status and in the development of MS. And that's something we've known for a long time. From an epidemiological standpoint, so thinking about kind of broad strokes, and who gets MS, we've known for a while that there's this latitude gradient regarding the development of MS. Meaning that, the prevalence of MS is much higher in higher latitude areas. And supporting this epidemiological evidence, we have at this point several large cohort studies that show us an inverse relationship; meaning, that one goes up, the other goes down between vitamin D level and the risk of developing MS. And so those are studies like looking at the Nurses Health Initiative Cohort Study. Another study that was done by our colleagues looking at military personnel. And those kinds of studies are nice because there are stored blood samples over time, and then you're able to actually follow people over time and see who ends up developing MS. And so those studies have shown us that there's a risk there between having a low vitamin D level and a development of MS.

Rosalind: Just for clarification. Can you draw the connection between the latitude, exposure to vitamin D, and prevalence of getting MS?

Ilana: Yes. So I will draw the connection that we know. I think there may also be other things there that we haven't been able to measure, but the idea here is that living in an area that is higher in latitude means that there is less direct sun exposure. And sun exposure is one of the ways that we get vitamin D. Ultraviolet radiation causes a reaction on the skin to help us produce vitamin D. [(4:00)] And so areas that are closer to the equator, people have higher vitamin D levels. And that level goes down the further you get from the

equator. And we know that that matches up really well with the prevalence of MS. The outstanding question, of course, is it the vitamin D that's the issue? Is it the sunlight itself? Because sunlight also has its own effects on the immune system. Or is there something else that's totally unrelated and this is just kind of a marker, you know? For example, people have also thought about viral illnesses and people who live further from the equator tend to have more viral illnesses, and maybe that's what we're capturing here.

There are multiple lines of evidence suggesting that vitamin D is important in and of itself, but it's very hard with these observational studies, um, to answer this kind of question. In terms of other research looking at susceptibility for developing MS, other pieces in the literature that suggest that vitamin D is important, with the fact that there is also a relationship between the mom's vitamin D level. So mom having a vitamin D deficiency and the child growing up to have an increased risk of developing MS. And then similarly studies that have looked at neonatal vitamin D levels of tiny babies and showing that if there is a vitamin D deficiency there, that child has a higher risk of going on to develop MS. And then similarly, looking at levels of sun exposure in childhood, and correlating that to the risk of developing MS. So it kind of, you know, all of these different pieces of evidence; putting things together and building this story around susceptibility in vitamin D levels.

Rosalind: Well, it's at least a partial explanation for why up here in Maine where I live, there's a lot of...there's a lot of MS.

Ilana: Yeah-yeah.

Rosalind: So, once a person has been diagnosed with [(6:00)] MS, right, it's already happened, they have it. Does their vitamin D level then play a role in the disease course that they have?

Ilana: So it's a good question. We think that it may, although not all of the studies have shown the same results. There's been some research that has suggested a higher relapse rate, or MRI lesions, and worse MS-related disability among people who have lower vitamin D levels. But it's not really been a 100% consistent, that hasn't been shown in every single study that's looked. And the same goes for clinical trials that have tested vitamin D supplementation. I think part of the problem is that there's a lot of variability in how the studies have been conducted, which makes it hard to interpret results on one shows one thing, another shows another. So I think that definitely makes it challenging.

Rosalind: So you mentioned before about exposure to sunlight, explaining why closer to the equator you'll have more exposure to sun, and a lower risk of getting MS. But we also know that there's vitamin D fortified milk and other dairy products and we know that's some foods are probably higher in vitamin D than other food. So what's the best source for people to get their vitamin D? There's also supplements and we're also simultaneously getting war-warnings about not spending too much time in the sun and wearing a lot of sunscreens. So, from your perspective, what do you tell your patients about how they can best get their vitamin D?

Ilana: It's all very conflicting and we don't have a great evidence-based answer for this, but I think that going for a combination of these is probably a good strategy. So sunlight is great but, of course, we have to balance that against the risk to our skin from UV exposure, right? So skin cancer and premature aging, [(8:00)] those are not good things. So I think getting some sun is good. Would I advise you to stand out in the sun without sunscreen all day and get tons of sunburns? No. But I think some sunlight is great. I think that needs to, in most people, be combined with other strategies, especially in areas where there's not a whole lot of direct sunlight and it's not really an option for-for much of the year. Even if you stand outside in the wintertime in a place like Maine where you are, you're just... the sun is not very strong so you're not gonna make a whole lot of vitamin D from that. And so for a lot of people, you need to kind of pursue multiple strategies. So there are certain foods that naturally contain vitamin D. Fish like salmon and tuna, egg yolks also contain vitamin D. But unfortunately, other than mushrooms, you can't really find, naturally

occurring vitamin D in plants.

There are certain foods that are fortified with vitamin D. So for example, a lot of people think that dairy is rich in vitamin D but actually, vitamin D is added to dairy. And the same goes with like, you know, cereals or soy products like soy milk or tofu and things like that. Those are fortified with vitamin D. That's fine if you're eating those foods for other reasons, but I wouldn't search for them just because of the vitamin D content. To me, if you're eating something that's fortified with vitamin D, they're just adding vitamin D drops to the food and it's not very different I think from having it as a supplement at that point. You know, it's different when there's a food that has naturally occurring... a naturally occurring vitamin. I think it's great to eat in the food because there are other synergies in terms of absorption and things like that with other things that are in the food. But when it's being added, I don't... to me, it's not that different from a supplement. Depending on their vitamin D level that we measure in the blood, most of [(10:00)] my patients do end up taking some type of vitamin D supplement. I'm based in New York so not as high up as Maine, but, most people here are vitamin D deficient by level.

Rosalind: So you mentioned testing, so let's talk about that for a minute because many of us have a tendency to think that if something is good for us then more is better for us. But, you seem to be suggesting that by testing, you're looking at a range of what is a healthy vitamin D level. So could you talk a little bit about that so people know how much vitamin D they should be taking?

Ilana: Sure. So different labs, again, going to that consistency problem, different labs will have different values, different reference ranges where what is considered normal range, then I would definitely advise talking to your doctor about whether your vitamin D level, you know, is within, range for that particular laboratory. And when they qualify as deficient, and I would definitely recommend deciding on a supplement in conjunction with your doctor. For some of my patients who have a very low vitamin D level, for example, I may choose to, give them a prescription strength vitamin D that they take for eight weeks just to try to get the level up a bit. And then after that, we may move over to what I do for many other people, which is over-the-counter dosing.

Most of my patients end up taking a supplement that's between 1000 and 4000 units per day. Vitamin D3 tends to be better absorbed than D2. So I usually recommend somewhere between 1000 and 4000 units of D3 per day, depending on... depending on their level. And you know, again, the evidence for this is not fantastic, but I think most of us at this point feel that it's reasonable given, you know, these connections [(12:00)] that we see. We think it's reasonable to make this recommendation. Again, kind of going back to some of the things we discussed last time with diet because from a general health standpoint we think it's reasonable, in terms of maintaining bone health, you know? There are other things in general health that vitamin D is tied to like breast cancer risk. So most of us feel that it's reasonable to supplement to at least get people into the normal range. And people have different ideas about, you know, what the ideal range is but I think there is at least some good agreement in getting people into a normal range. And so I would definitely advise people to talk to their doctor about where they are in there.

You don't want to take too much vitamin D. Like we were saying, you know, just because something is good, it doesn't mean more is better. And it can definitely be dangerous to take too much vitamin D and that can cause symptoms of having a high calcium level. So those would be things like fatigue, depression, which are things that people who live with MS already experience, and we don't wanna make any of those things worse. And also, it can cause serious problems with bone health and other things throughout the body. So it's important not to just go out and buy some huge vitamin D supplement and start taking it. I would definitely choose your dose based on the discussion with your doctor.

You know, when we think about what vitamin D does, it really does a lot of things throughout the body. So it binds to a soluble receptor in the blood and it acts as a transcription factor, which means that it can regulate the expression of genes. It can turn different genes on and off throughout the body. So when we

think about MS, we know that vitamin D can help regulate the immune system, that's, you know, how we think, this connection is working, that it helps kind of bring down inflammation. But there are many, many other things that vitamin D does throughout the body and we have to be [(14:00)] mindful of that as well.

Rosalind: So vitamin D is just one of many, many supplements that are out there that people ask about or think they should be taking. From your point of view, with your knowledge about diet and nutrition and health, would you say that a healthy diet can provide enough of the nutrients that people need? Or are there other supplements that people with MS might want to ask their doctors about?

Ilana: So vitamin D is, I would say the best studied. And as you can see from our discussion today, even for this which is the best-studied one we have, we don't have perfect evidence for, you know, even for vitamin D. And the evidence for other supplements is really quite poor. It's an area where I think we really need to do more in terms of research. There are a lot of different supplements people ask me about. So some of the common ones would be, I would say, B-Complex vitamin, that's something I get a lot. Or Coenzyme Q10, fish oil, turmeric would be another one. But because the evidence to support those is not very good, I don't usually recommend them. And rather, I recommend attention to having a balanced high-quality diet as much as possible.

Rosalind: What about just a general vitamin? Do you recommend that people take a multivitamin on a regular basis or does that also depend on other factors?

Ilana: You know, it depends on other factors. I think most people probably don't need a multivitamin. Most people are probably able to get enough nutrients from their diet if they're eating a diet that is healthy and well-balanced. There are like specific dietary needs, you know, specific needs that might come from having certain dietary habits. For example, someone who [(16:00)] is vegan, you know, may want a supplement with B12, for example. That would be an example of a, you know, a very specific need then that's not being fulfilled in the diet. But other than that, I think you really can get most of what you need by having a healthy diet. And I don't know that supplementing with a vitamin is going to do all that much. There have been, you know, some studies looking kind of in a general health literature and multivitamins, and it's nothing really that's conclusive in terms of whether it has any benefit for general health.

Rosalind: Any parting recommendations or advice just about how to think about over-the-counter supplements. I mean, I think we worry so much about medications and whether they're FDA approved and the study they go through. So what do we know about supplements and how they are studied and produced?

Ilana: So I think safety can be a problem because the supplement industry is really not well regulated. So let alone the fact that we don't understand whether certain supplements may be of benefit, we don't necessarily even know what's in the bottle if it's what's being advertised. And we certainly don't know if it's safe. So, you know, there are a lot of examples of medicine of things where we thought something might be helpful based on some sort of hypothetical mechanism. But when we actually try it out, it turns out not to be helpful, or to even be harmful. And so I generally recommend against supplements. They also...They also tend to be very expensive.

And you know, with that being said, if someone is taking something that they think, you know, is helping them and it's making them feel better, then that's great, and I, you know, fully support them in that, but I definitely do caution against it. If someone's coming to me and asking my advice, "Should I start taking this or that or the other thing?" I usually am going to say, "No. We don't have evidence to support it, you know? [(18:00)] It could be dangerous. It is going to be expensive." And so I would kind of focus more on behaviors and thinking about things like diet and exercise, you know, or training, quit smoking, you know, things like that. I would...I would much rather you spend your time and energy on those things than on running through the supplement aisle.

Rosalind: So, thank you again, that was extremely helpful and I'm sure our audience wishes that they could come sit down and have a one-on-one consult with you about diet and supplements and vitamin D. But thank you for joining us and I hope you and I get to do this again sometime.

Ilana: Thank you again for having me. It's been great.

Rosalind: Thank you so much for listening to the Can Do MS Podcast. And thank you to our sponsors for their generous support. We appreciate the support from EMD Serono, Novartis Pharmaceuticals, Sanofi Genzyme, and Genentech. If you liked this episode, please be sure to jump on Apple podcasts to give us a rating and review.

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