



Balance your vitamin levels for better sleep

Guest: Dr. Stasha Gominak

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Sara Jackson - [00:00:16]

Welcome to this interview. I'm Sara Jackson, the director of nutrition here at the Optimum Health Clinic. I'm so delighted to be talking with sleep expert Dr. Stasha Gominak.

Welcome, Stasha.

Dr. Stasha Gominak

Thank you so much for inviting me, Sara.

Sara Jackson

Thank you. In today's interview, we're going to be exploring sleep disorders and how you can overcome even longstanding sleep challenges. But before we dive in, I'd like to give you some more background information on my expert.

Dr. Gominak grew up in California, then moved to Houston, where she received her M.D. degree. She completed her neurology residency at the Harvard-affiliated General Hospital in Boston and practiced neurology for many years. Since 2004 she's dedicated more of her practice to the treatment of sleep and sleep disorders. And in 2012 and 2016, she published two pivotal articles about the global struggle with worsening sleep. Her study looked at the possible causes and solutions. Links to vitamin D deficiency and the intestinal microbiome.

In 2016, she retired from her office practice to devote more time to teaching. She currently divides her time between RightSleep coaching sessions for private individuals and teaching other clinicians the RightSleep method of sleep repair.

We're so thrilled to have you here talking about a topic that's so pivotal to fatigue, which is the core of this conference. The numbers of reported sleep issues have increased significantly here in the U.K. as a result of the pandemic, and worldwide, too, I think. So I'd really like to start off, Dr. Gominak, with asking what impact you think the pandemic has had on sleep issues?

Dr. Stasha Gominak

Great question. It certainly increased my business, so I've been talking about vitamin D for a long time and I individually, sort of surprisingly, stumbled into the fact that vitamin D had receptors in the sleep switches, in the part of the, deeper part of the brain called the brainstem that runs our sleep. And I was really looking for why are my young patients not sleeping well? And then I found this link and we actually explored whether or not there was a certain vitamin D blood level, not a dose, but a blood level that would improve sleep. And myself and the scientists who'd originally reported that vitamin D receptors were in these switches. We wrote an article in 2012. Well, that means we're coming up at almost 10 years ago. Yet that is not common knowledge still.

So when COVID hit Vitamin D moved to the front page and now over the last year, there's more and more literature linking vitamin D to the immune system. And if you look at the front page correlates to bad outcome, they're all related to vitamin D. They don't say bad sleep or fatigue, but that's always in the background. Other chronic medical illnesses increased risk with darker skin. It doesn't matter where you're from. If your skin is darker and you're in a low sun environment, you have a higher risk of a bad outcome from COVID.

So all the things that have hit the front page just helps support my point of view, which is sleep is how we repair. And unfortunately, vitamin D is also directly related to the function of the immune system. And that means those people who chronically have low vitamin D are not able to fight off the COVID infection and they are much more at risk for long-COVID or autoimmune diseases that may actually start after COVID infection because the immune system is not right.

This is also related to what's going to happen when we immunize. So actually, people who have a low D and a [wrongly arranged] immune system will have more complex and more difficult reactions to immunization as well. So it's been very helpful to put it on the front page for my business, because now, pretty soon if you start looking for vitamin D and immunity or vitamin D and sleep, you get to my website. So it's made a big difference in my practice.

I'm really hoping that more and more people will learn about how to help themselves because it's going to take another maybe 5 or 6 years before medicine becomes interested in this. The word vitamin turns off most of MD's and until it's really reaching a huge population that cure themselves and then they feed that information back to their doctors, their doctors really do want them to do better. They just are a little put off by the vitamin word.

Sara Jackson - [00:04:54]

It's so frustrating, isn't it? And what do you think it will take? I mean, the research that's come out in the last 6 to 12 months around COVID and vitamin D is insurmountable. We can't argue with it. I don't understand what it will take, really. I mean, here in the U.K, the government does recommend everybody should be having a maintenance dose of vitamin D, certainly in winter, and it's about a thousand international units they recommend a day.

I'm really curious to know Dr. Gominak, what do you think is the ideal dosage and what's the ideal blood level? As you said, you're more about the blood level.

Dr. Stasha Gominak

Thank you for that question because it is really important. There is no ideal dose. So, all of the public health organizations around the world that have been asked to weigh in on this are in a terrible position. Because every single human being needs a different dose. It's a hormone, it's not a vitamin. Putting the vitamin word on it has had horrible implications. One, it means that we're having to go directly to the patient because the doctors have decided vitamins are not for them.

Two this vitamin, that's not a vitamin, it's a hormone is available over the counter. That's like having testosterone or prednisone or thyroid hormone. Like what if you came into your MP, is it MP?

Sara Jackson

MD. Oh the government, yes, MP.

Dr. Stasha Gominak

Your local physician.

Sara Jackson

Yeah. GP.

Dr. Stasha Gominak - [00:06:28]

GP, that's what I'm talking about. So you go into your GP and he says, well, Sara, you're tired. I think it's thyroid. Why don't you just go down to the pharmacy down the street, buy yourself some thyroid and I'll see you back in a year and see how you're doing.

That's exactly what's been done with vitamin D, and that's insane. So normal lay people know if my doctor says my thyroid is off, I have to do a blood level and then they give me a dose and then I come back in a month and I see what my blood level is.

Every single hormone in the body needs to be in a tight, little narrow band where it stays. Too much and too little both provide disaster. Same thing with vitamin D. That means every single person has to take it, measure another vitamin D level in a month and then adjust.

You guys actually have a very special lab in Birmingham that does vitamin D levels by what's called a blood spot test. It's very affordable, it's like 20GBP or 30GBP. They are unfortunately overwhelmed by the request now. So they have a much longer turnaround time. But oddly enough, the national health system has provided this and it's really important. It means that the lay public can educate themselves even if their M.D. is not educated. Most M.D.'s still think what's the dose? It's not the dose, it's what's my level?

And then the next question is, what do I want to do with that blood level? If we stay in the mindset of a certain blood level provides strong bones and we have actually no studies that say what blood level of vitamin D provides an ideal protection against infection. What's the ideal blood level for abnormal immune system? No one's really published that. We know it has hundreds of effects throughout the body in multiple areas of the immune system, but we don't have an ideal level that means, what are you trying to do with the vitamin D? And then is there a specific level that produces that outcome?

Because I was so completely naive about one, the controversy of this chemical. It has huge political controversy in most countries. Not only was I naive about that, but I was naive about the endocrine system because I'm a neurologist. So I had this very naive question. Well, if all my patients don't have deep sleep.

So the first study was, what about all these young, healthy females with headaches? What are their sleep studies look like? And they don't have apnea, which I believe is a more severe disease. They are, most of the time either waking up at 3am or severely fatigued. They don't go into their general practitioner and say, you know, I have three kids and I'm so fatigued. They would chuckle at that. But actually, if we were able to make 15 babies and survive, that woman who's had 3 kids should not feel like she's dying, but she usually does.

That means that fatigue and all the other things that come with it, after having innocently had 3 kids, is actually related to the fact that having 3 kids in the current environment with a low vitamin D to start with and every single kid uses up your vitamin D, that woman is now living in a body that is not a normal human any longer.

We're going to talk about the fact that vitamin D is a major determinant to have a normal microbiome, and that's really why I have a website. But let's just say she's fatigued, her sleep study is much milder than the severely affected 60 year old. And on my studies, when I started doing sleep studies on women like that, they just didn't have deep sleep. Once she doesn't have deep sleep, but there's no stopping breathing. It's not this. It's something in the brain.

So at the time, I was looking for a chemical, some explanation for why these hundreds of young, healthy women and teenagers and kids didn't have deep sleep. And then I stumble on the fact that they all have low D. And then I asked a very simple question, is there a vitamin D level where my patients will come back and say, hey, I'm sleeping better. Wow, this is amazing. And it was so obvious and mostly because I was studying young, healthy females with migraine. Migraine is tightly bound to REM sleep. They actually had lost their REM sleep, not through no fault of their own, as far as they're concerned, they're doing everything they're supposed to. They lay down, they go to sleep, they're very tired.

So they're doing what they're supposed to. But there's a deficiency state in the background. That's a totally different way to think about sleep disorders. It was a totally bizarre new introduction for me. And I only got there because I was reading these articles about single cells that run our sleep, that are pacemaker cells firing at a certain rate. So I had gotten to a place where I was speaking about sleep in a really kind of nerdy, weird way, like neurologists think about things.

So then I find these articles that have vitamin D receptors in these cells that allow us to get into REM sleep and get paralyzed. So at the end of this length of study, because this is a global epidemic, I'm personally am not a scientist, I'm just a clinician sitting there in my office. But it's so important. And at first I thought we had it all figured out.

So, one, going back to your question, is a 1000IU's an ideal dose? Well, no.

Sara Jackson - [00:12:13]

It depends on the person. Yeah, absolutely.

Dr. Stasha Gominak

It's the right thing to do if you're in the public health field, because what if you happen to be 1 out of 50 that needs tiny little doses of D? Because there are some people who actually are in the dose range of 500IU's to maybe 1500IU's and they get a big, huge move in their level. You can actually hurt someone badly by putting 300IU or 400IU or 500IU in milk and then they have sleep disorders because their D is too high. That means public health questions are really different than, what should I as an individual know about vitamin D? And it's related to what your issues are.

Number one, if you're perfectly healthy, there's nothing wrong with you. You've never had a medical problem. You take no medicines and you live outside. You should never be missing with this stuff because we're not meant to really know about this. This is something that biology has made over the last several, really million years.

And that means our biology is directly linked to D because we were meant to live outdoors, because all animals do live outdoors. So when we moved inside, there was this huge change in our biology. And at the same time we have the dermatologists standing up for their organ, which is the skin with no other doctors like me or endocrinologists standing next to the dermatologists saying, now, wait a minute. Yes, you're right, skin cancer is linked. But it turns out vitamin D actually protects you from getting skin cancer. That means if you have an ideal inside D level, you leave the vitamin D on your skin and you are protected from developing skin cancers. And that's why they didn't show up until the late 70s in age. As soon as we start to put on sunscreen and move indoors and have air conditioning, the skin cancer incidents goes up, ironically. It goes up in darker skin individuals, because they are blocking the formation of vitamin D because they were made to be at the equator and to put up with high doses of UVB radiation.

Sara Jackson

So fascinating isn't it?

Dr. Stasha Gominak

So there are all these biological links that haven't been squared away. And then in the midst of this, medicine has minimized the importance of vitamins. The basic science literature is there. There are hundreds of articles about what vitamin D does on a cellular level and in little animals like mice and rats. The problem is moving it into clinical study is extremely complex. You don't have the time to cover that.

But that means, one, if you're going to take vitamin D, you better do your D levels. Two, if want to get a specific effect, like if you're tired and you'd like to be not tired, that means you have to get your sleep perfect. That steps into a much more complex idea set, that we're going to do next, but the

most important thing to know is in the U.K. you can get your vitamin D level done. It's a blood spot test. It's cheap. You should do your D levels at least every month for the first four months or so until you start to be able to attach. How do I feel when my D level is X, Y, Z? For what I want to do with sleep in your units the right number to be is 150 to 200 nanomoles per litre. Your units are different. British Commonwealth countries' units are different.

That means if you want to get better sleep, it has to be at a certain level. I have a website that's dedicated to this where I have a workbook that actually takes you through the stepwise way, the how of how to do this called the '*RightSleep Workbook*', the why we're doing it is on the website. So I personally feel it's very important to understand why you're interested in this. So what are the ramifications? Could I hurt myself? What are all the, what's the bigger picture of the information?

Sara Jackson - [00:16:09]

Dr. Gominak, can I just interrupt? Can you just tell everybody what your website is? I know that there'll be lots of people going straight for that workbook.

Dr. Stasha Gominak

Sure, drgominak.com and I'm the only Gominak in the world because it was a distorted name, that's a Ukrainian name, and because I'm the only one if you just type in Gomaflaggi or something like that, and vitamin D, my website will pop up.

Sara Jackson

Lucky you.

Dr. Stasha Gominak

Yeah. So then the next piece to know is vitamin D is tightly linked to the microbiome. Now we're going to do that.

I want to stop for a minute and ask Sara if you have any other questions about what we just discussed.

Sara Jackson

No, I mean, at the clinic we do encourage our clients to test their vitamin D and actually we use the Birmingham assays already. But normally, I mean, to be honest, I normally tell my clients to do it every three months. But that's really interesting to hear from you, that it should be monthly rather than every three months.

And I think that's such an important message that we need to be monitoring. And too much vitamin D, is a Goldilocks hormone isn't it? So too much creates a problem, just as too little. It's fascinating. It's so interesting.

I'll let you carry on because I think the vitamin D and the microbiome link is really, really crucial for a lot of our clients because some of the drivers behind CFS/ME and long-COVID we know as well, there's a lot to do with the mast cell response, but it is a lot to do with digestion and the gastrointestinal tract. So I think the role that vitamin D plays in there. I'd love to hear more about your thoughts on that role.

Dr. Stasha Gominak

I want to circle back and talk about why it is I want people to do it monthly at the beginning. One of the difficulties has been we were using vitamin D to make the bones better, but there was no physical symptom attached to what your D level was. When we started to get into sleep, we actually had a very clear physical symptom we were following. So I don't feel good when I wake up. My sleep is poor, I may fall asleep, stay asleep but I... And the girl who prompted this, finally going into the

vitamins, was an 18 year old who had 10 hours of sleep. She went to sleep. She stayed asleep. She woke up and she felt tired. She had no deep sleep. So she had none of the deeper phases that would make her feel rested. There was a physical sign that I was associating with the D.

When you look through the literature, this is the only time that's ever been done. No one asks, your D level is 45, how do you feel? Now you're D level is 75, how do you feel? How does it feel when it's 160? So the reasoning behind doing it more often is you're trying to get to a certain place because you're trying to achieve a certain physical goal. And the importance of that is when I feel good, what's my D level? When I feel crappy in this way what's my D level?

That is extremely important because you can't keep doing your D level every month for the rest of your life. And in fact, when you go out in the sun and British skin is made to have foggy cloud cover, that is why the coloring of the Brits, my mom had one of the genes where her hair went white at 22. That's a British based gene. That gene doesn't mean that her hair color made a difference. But if you take out the melanin and coloring throughout the whole body, so if you think of the skin also, the melanin goes away really young, that prolongs your ability to be fertile and to have more kids and improves your lifespan, up until the last few years anyway.

So there are several genetic things, red hair, the same, those genetic changes have to do with. That means if you have British skin and you go outside, and I mean British skin as bright white, you go outside in the summer, you better adjust your vitamin D level because you're making it from the sun, that means there are multiple areas of complexity in keeping your vitamin D in the range that makes you feel better. And as soon as you don't feel good, you better go in and get your D level done.

So it's a very different way of thinking about this. It's not something you take just to be healthy. When you start taking it you better be paying attention to what you're doing because you're really running your entire endocrine system. Vitamin D bosses the thyroid, it bosses all the sex hormones, it bosses the cortisol. It is the primary controller that controls all these other hormonal systems. That means, you can get mighty screwed up just from messing around with vitamin D.

And nobody's there to help you because the endocrinologists have not been willing to take on that knowledge, even though they know that vitamin D has receptors all over the pituitary that runs all these other systems. They do not test D and thyroid every time. They really should be doing that. That means you're on your own, your endocrinologists or your GP are not going to alert to that. In fact, they're likely to coo coo your request. They're likely to say, no, we're only doing it once a year.

So having said all that, the next piece is the other new discovery that I wrote about in 2016 was one, Walter Stumpf and I wrote that article in 2012 and I really thought we had it all figured out. The sleep got better, but unfortunately it got really worse again in two years. That means the D is just one of the things that's gone bad when our sleep goes bad. And the second, very important piece was, it was clear that the IBS, irritable bowel symptoms did not get better with D. Walter had written about numerous parts of the GI tract that were directly linked to vitamin D. Despite that, and my thought that the bugs would just come back and be right with the D, they did not. That's really important. My patients not only didn't get IBS cure, they started to have more and more pain by the end of the second year and so did I.

Sara Jackson - [00:22:15]

I was going to ask. Sorry to interrupt. I was going to circle back and just looking at the bigger picture with vitamin D, so I know that there are other classic symptoms of vitamin D deficiency, such as pain, you just mentioned pain. And I wonder what your thoughts are? Was it the vitamin D deficiency that came first? And then those other symptoms like the pain?

Dr. Stasha Gominak

Yes. And the reason why I know that is, I'm sitting there in my office, I'm not a pain specialist. So usually when they bring up their joint pain, I'm like, well, take that to your rheumatologist. But my patients only had one thing in common. So they're seeing me for Parkinson's or for back pain and for

seizures and for headaches. They all have different diagnoses, but they have one thing in common. They've all been doing vitamin D and they've all been doing it exactly the same period of time. And I've got people coming in and saying, you know, I came to see you because I had daily headaches, now I ache all over, what's up. And I'm like, oh.

Sara Jackson - [00:23:09]

It's not the result you were looking for.

Dr. Stasha Gominak

And their D levels are fine. It's not that the levels are too high or too low. We've perfected how to keep the D where it's supposed to be. Something else is happening and it's creeping up. And I have pain too that I've never had before that's not related to being injured. That's pretty creepy because I am out there on this edge, on this frontier.

So what happens at that point is, one, the IBS didn't get better. So there's a really important point. Vitamin D replacement to replete the stores does not bring back the bugs, no. The next question was, what do I do with all this pain? And somebody walked in the door, one of my patients who was into vitamins, walked through the door with a book about pantothenic acid, which is B5. And that led me down a path, only because I was desperate and only because I had all these people that were all starting to have pain at the same time, pain of various kinds. But this book was about the cure of pain in rheumatoid arthritis patients from using B5. And it had references that described that B5 plays a role in sleep, if you block B5, you get insomnia, burning, a funny gait and belly complaints within two weeks.

These studies were in the 50s. They're very old and they've never been repeated. But they gave me a scientific basis for saying, oh, I have two patients who just walked in the door with burning in their hands and feet. I'm a neurologist. I've been doing this for 30 years. That is extremely rare. And no one had reported B5 deficiency as causing it because all of the books, all of the nutrition manuals, all of the internet information, says B5 deficiency, pantothenic acid deficiency does not exist because it's in every food. And that turns out to be a lie. It turns out that coenzyme A is in every food. But the only source of B5 for us is the bugs.

Sara Jackson

Gut microbiome. We're talking about the gut microbiome, the bacteria.

Dr. Stasha Gominak

That's right. The bugs in the microbiome, in our small intestine, I believe small intestine, not the large intestine. So there were many steps in between but the final bottom line is when you start D you need to bring your bugs back. You need to bring the microbiome back. If you're sick enough to be watching this, you have a D deficiency and you have the wrong microbiome even if you don't have microbiome symptoms like IBS.

So nobody really gets sick, in my view, from just the D that's low. They all get sick because the D has been low enough for long enough that their own bugs, their own microbiome or the bacterial colonies that are there to protect and serve, and they are an organ of our body, those guys are long gone. And by the time you're getting into this lecture, not only are the bugs gone, but you don't have stores anymore of the B vitamins.

That's another thing that's wrong in the nutrition literature is you do have stores of the B vitamins. We have stores of B5, B6, there are stores of vitamin C, there are stores of thiamine, that literature exists in the 70s and 80s, but has been forgotten. And somewhere in the background, somebody took the dogma about B12 saying you can never hurt someone with B vitamins. And they generalize that to all of them. And that's not true. B12 it's pretty clear that it's likely that you're not going to hurt anybody with B12, you've been getting shots for 50 years, in a really high level, there are occasionally people

who are really sensitive to it, but the dogma that you can't hurt anyone with B vitamins because they're water soluble and we pee out the excess, that is wrong. You can really hurt people with B5 just like you can with D.

Sara Jackson - [00:27:07]

Because of the neurology connection there.

Dr. Stasha Gominak

Absolutely, we won't have time to talk about it. We can do it in a separate lecture but, the background behind inflammation, why so many people who have the wrong microbiome have an inflammatory state. It may manifest as mast cell, it may manifest as rheumatoid arthritis. It may manifest in multiple different ways. Each unique human either has a genetic risk that leads them to autoimmunity or they have another gene that leads to mast cell activation.

So when you lose your microbiome, you're losing hundreds of thousands of things that most of which we don't even know about yet. And so, the important part is when you start D, the second thing you have to do is start something that's called B-50. B-50 means 50mg of each of the 8, B vitamins.

So now we step into another discussion, which is, gee, what about my probiotics? How come they haven't worked? I've just spent 60 bucks a month for the last 5 years and they don't work. How do we know they don't work? Because you're still taking them. If they really worked they would restart a self-sustaining four phyla group and they would be there the rest of your life because every other animal on the planet has a self sustaining foursome of phyla of these bacteria that were meant to be there. In fact, they've been here for billions of years. They were here millions, billions of years before we came along that foursome exists as a foursome because they feed each other B vitamins.

One of them needs thiamin, the next one needs riboflavin, they trade. And then because they're a happy foursome, they're making these 8 chemicals that are washing around in your belly. The reason why humans can't make those 8 chemicals is they never needed to. And they really don't come from the food. That means, oh, there are vitamins in food. And ironically, when we learn about nutrition or diet, we're taught that, oh, if you take off the skin of a potato, you take vitamins. If you take off the skin of the whatever, you're really taking off the bacteria that are producing the vitamins.

Sara Jackson

Yeah. And it's all about the prebiotics as well, we need to have those prebiotics to feed all the bacteria.

Dr. Stasha Gominak

It turns out that the bacteria have always seen what we've now gone through about 100 years of thinking the bacteria are bad and they're coming after us. We have to kill them. We have to wash this food three times, OK. So now our vegetables are so sterile that they don't even have any of the vitamins that the bugs would make on them.

That was not always the case. And there was a historical, there has to be a historical knowledge of the fact that these four phyla bacteria make the B's, because the weird part is why would there be 8 things called B?

Like, if you think back to when you were trained, there's A, and then there's 8 things called B, what. Why would there be 8 things called B? It was because they were all discovered floating around in brewer's yeast and baker's yeast. And what you do when you make that culture to make your bread is you put the yeast in there and you let it sit in a nice, warm environment. Not too hot, it'll screw it up. Not too cold. It has to be the perfect temperature so that the bacteria in the water and in the air start to grow and they make 8 chemicals that we use that same culture to make bread or beer. We poured it into the petri dishes in 1900/1910 to start to grow bacteria. And those 8 chemicals were originally

described as bacterial growth factors.

Sara Jackson - [00:31:01]

And that's where beer came from. The beer is the bacteria. Yeah, it's incredible, isn't it?

Dr. Stasha Gominak

And in fact, what you have there is a symbiotic relationship. The yeast makes D2 not the stuff that any other thing that's on this planet. So yeast came before multicelled organisms, yeast and fungus are ancient. Then we start to make multicelled organisms like worms and we crawl out of the sea. And now those animals have poop bacteria inside them that are growing, bacteria that make B's. The yeast makes D2, this is very confusing literature, the yeast makes D2, those bacteria that grow in the water like the D2, so it selects for a certain group of phyla, or groups of bacteria. That means that preparation actually was used to grow bacteria and unwittingly, we had chemicals in that liquid, in the petri dish, that made the bacteria grow. When we boiled that liquid, we found out, oh, some of them won't grow now.

So that was the very beginning of isolating what then became known as vitamins. They're grouped together because historically somebody had figured this out. It was just lost from memory. There are historical articles, that's where I got it from. That means bacterial growth factors are things that we should pay attention to. And D is a bacterial growth factor. So when your D goes below 30 and your units below about 70, then you start to not be supplying your happy, healthy bacteria. And then they go, uh-oh, I don't have what I need. I get pooped out. I never come back.

Sara Jackson

And you're losing that cofactor relationship. It's the cofactor with the B's that is so important, isn't it?

Dr. Stasha Gominak

Yes. So the bugs need two things in order to restart their cultures in your belly. They need this B soup. They need a B vitamin soup because as I was sitting there with my patients who have pain, I'm thinking, well, how come the IBS didn't go away if D is a cofactor? I had a theory that it was. 2020 is the first time we've actually seen a study come out where they questioned that and showed in humans that vitamin D determines the species that live inside it.

But at the time I wrote that I had no proof, it was a hypothesis. So if you give D how come the bugs aren't back? What is it those guys want? How come they're not happy? I need them to be happy. They want the B's that their neighbor used to supply. So they used to be a foursome that would completely fill the whole GI tract. If you give a combination of D and B50, which is all 8 of those cofactors, 50 milligrams or 50 micrograms of each. So it is a nonproprietary. It doesn't matter who makes it, if it says B50 on the front, it's supposed to have 50 milligrams or 50 micrograms of all 8 B's. Except for folate, which is [inaudible 00:34:03] that we don't have time to talk about.

So when you give both of those, you create the perfect environment for the healthy, happy bacteria to grow back. It takes three months, but every single human being out there that started taking D when COVID showed up and they read in the paper, you need to take B50 for three months and then stop the B50 and take one multivitamin. And this is why there's a workbook.

So the thing that I'm really paranoid about, which is why I'm doing all these interviews, they're going to be millions of people who just take D. Slowly over a period of years their D is going to get up to maybe where I think it's ideal. And for a brief period of time, they're going to feel better and then they're going to have terrible pain.

Because what happens as you sleep better is your brain says, wow, this is wonderful. I have all these repairs to make. We don't want to be just lying there unconscious. That's not why we want better sleep. We want to feel good. That means we have to make repairs. The repairs are linked to these

vitamins. You must have the raw materials there, the bricks of making the repair. The sleep is the actual brick layer that makes the repair.

So, people who do not have a normal microbiome, they start to take D, they feel better, they feel better. They're OK, now they're sleeping well. And now they just use up all of their B vitamin stores because they don't have a primary source.

And it doesn't matter what they're eating. All my patients were really pretty active about paleo and keto and they knew more about diets than I did. Their bugs did not come back.

Sara Jackson - [00:35:45]

So what you're saying is we need to have the supplementation, we cannot get this through food. You've got to have the B vitamin supplementation.

Dr. Stasha Gominak

Yes. You can look at it in a slightly different way, which was our D levels were never supposed to fall this low unless you were arrested and put in the Tower of London or unless you were actually about to die. So the only time that your D was so low was as you got elderly and your ability to make it on your skin started to drop off.

That means this has always been there in all animals' populations. First the D goes low, then the microbiome goes bad and then you have a sleep disorder and you get sick and then you die.

Sara Jackson

And this problem is magnified because we've spent a year indoors. So all our vitamin D levels have just depleted, haven't they? Because we literally have not been allowed to go out for long enough to soak up that vitamin D even if it's available.

Dr. Stasha Gominak

Exactly so that means that things that were naturally happening in animals as they were elderly and about to die are now happening in newborns. These are old old diseases, all the autoimmune diseases they've all been described in the 1800s. Diabetes, old disease, heart failure, the same. All of these are old diseases. It's not like a new epidemic, like COVID, all the diseases linked to low D and the raw microbiome have been there reported forever.

That's one of the reasons why it snuck up on medicine in the background. Is all diseases that are moving into younger and younger age groups. But they're all things that we've learned about. Now we all make legends, including medicine about why things happen. So the current legends, the current dogma is you eat wrong, you don't exercise, you watch television too much.

So we make these claims and we blame the patient. But in actual fact, I'm sorry, when I stop watching television and I start walking outside and I actually take some vitamin D, that's not a clear road to getting better. You must actually know a little bit more about it. You must know how to bring the microbiome back.

And then you must also understand that once the bugs grow back, they were the only source of B's that we ever had, especially this one thing B5. Yes it's true, there are vitamins from the food, but the thing that's a major controller of our sleep, our ability to move into sleep, move through the phases and get paralyzed correctly doesn't come from the food at all, it comes just from the bugs.

That means after you take three months of B50, you better stop it, because now the bugs are taking over and you are on double the dose. You're on the stuff I told you to take, plus the normal amount that the bugs are making and then the pain and sleeplessness comes back again.

Sara Jackson - [00:38:35]

Your body is starting to do what it should be doing. You've triggered the switch. Yeah.

Dr. Stasha Gominak

So, one of the reasons why this particular set of stories, and this is really a belief system, it is a way of looking at how our bodies were originally made to live independently without a nutrition store. All the animals are out there. They're not going down to the local pharmacy and buying. They have the same biology we do.

This explains how we can have a normal lifespan to age 75 before having these medical problems. But it also gives you a way of entering back into what has been our norm, our natural state. And it turns out that's a little bit complicated. I'm sorry about that, but that's what it turns out to be. Therefore, I have a website dedicated to that because this is a piece that's been left out of the bigger puzzle. This is not the whole story. Keto is still important, paleo still important. Exercise is still important. But if you don't have this little piece, you will not have the dramatic results that some of your other friends have when you're trying to get around your fatigue by the various interventions that you guys are using. What you'll get out of this is, oh, that's Mr. So and So that's why I did all these things but it didn't work the way it did for other people.

So this is just one part of the puzzle, once you get that piece back, then you follow all the other recommendations, then you actually make it a point to sleep longer and put down your phone and put down the television and your body's able to repair normally.

Sara Jackson

I think a lot of people just don't know how important that B vitamin connection is to the vitamin D picture. And actually a lot of people just don't know the relationship that that has on your sleep. And that really underpins everything, doesn't it? Especially when we're thinking about COVID and the immune system in the gut. I mean, it ties everything together so beautifully.

Dr. Stasha Gominak

There are several things at work in the background, if you do not have this B5 stuff that's coming from your bacteria, then the vitamin D effect has a ceiling.

The vitamin D is making a particular enzyme in the brain that's called choline acetyltransferase. So it's making a neurotransmitter. And it turns out that B5 is the raw material that's used by that enzyme. So it takes B5 plus D to equal the neurotransmitter that we're all missing.

Now, here's really something more important, which is, that particular neurotransmitter is used for sleep and getting paralyzed in sleep, but that same neurotransmitter called acetylcholine is what allows us to stay focused and direct our attention during the day.

That means that chemical is responsible for ADD, ADHD in the day and bad sleep at night, it's one chemical that usually stays at a specific dose every single minute of 24 hours that allows us to do very important things with our day and very important things at night.

So when the D went low, we lost our microbiome, we lost this particular neurotransmitter. There are now many diseases that are described as acetylcholine deficiency diseases. Alzheimer's disease, Parkinson's disease, ADHD, autism has a documented acetylcholine deficiency in the background. It's not the only deficiency because most of those kids also have cannabinoids deficiency.

And it turns out when you lose your microbiome, the microbiome makes the bricks that become the endocannabinoid system and the nervous system. So that means a kid who doesn't have a normal microbiome during development because their D is too low, because their mom's D was too low. That kid does not have the building blocks to make a normal nervous system.

And the good thing about knowing that is you can put it back together, these developmental problems, the brain still knows what it wants to do, but it hasn't had the time in deep sleep because paradoxically, the building blocks it was missing are tied to being able to sleep. Endocannabinoid system is all about being able to affect sleep inflammation, multiple neurotransmitters, the hormonal system, it crosses all those systems and attaches them.

Sara Jackson - [00:43:00]

And I guess it prepares itself and it replenishes during sleep. So if you've got to sleep problem in the first place, you're missing that essential piece of the puzzle. Yeah.

Dr. Stasha Gominak

So that means our path to get better is really not about vitamins. Our path to get better is perfect sleep. That means vitamins are only part of it, there are multiple other things that help.

Sara Jackson

Can you tell us just a few of those things? So someone that's listening, what else can they do aside from looking at the vitamins?

Dr. Stasha Gominak

Sure. It turns out that our sleep is directly linked to a couple of vitamins. Vitamin A is a retinoid. It's called that because it's related to the retina. So sunlight entering the eye goes into the pineal gland, which then links us to the 24 hour cycle of our planet. It tells our body that it's dark and it's light, it's dark, it's light. The more you go outside and let your eyes be exposed to the sunlight, the more your brain gets linked to the planetary cycle of day, night.

So exercising outside every day a whole hour, if you can, is as important as anything else. If your D is very low and you don't have the right microbiome, you won't be able to completely fix yourself doing that.

Sara Jackson

Some of our clients, some of our clients are suffering really debilitating fatigue and a lot of our clients are bed bound. So would someone that is in that position if they were just able to move themselves to a bright window when they first wake up in the morning, is that going to have the same effect on the retina?

Dr. Stasha Gominak

You need to go outside.

Sara Jackson

No, ok.

Dr. Stasha Gominak

Let me tell you what I really do with this. I personally feel that it's not tiredness, it's not laziness. OK, so when you're so fatigued, you can't do anything. The first thing you do is you get your D and your microbiome back. And I don't talk to my patients about exercise or diet until they come back and they look perky and they say, hey, I'm feeling better. You know what, I'm exercising. I didn't tell them to exercise. They felt well enough to have the energy to go outdoors and do it.

So there is a stepwise way to do this. I don't think it really, it's not even me saying it doesn't help. They know it didn't help. They're not stupid. They read all the stuff about daily exercise. They feel so bad

that they can't. That means you enter into this with what you can do, which is to get your sleep better. And then you sleep as much as you can and then you stay on that path until you feel good enough to go outside and start exercising.

But you really do have to be outside. That means that the original articles that came from the nurses about putting people outside on the patio, outside in the sun for TB and for rickets and for everything else that ailed them were actually correct because they help them sleep.

Now, what you did ask was, what are the other things they can do once they've got all these other, the D and the microbiome back. And there are multiple things you can do, but daily exercise, actually outdoors is one of the best.

And then there were all sorts of other bits of literature about prebiotics. So what we eat, so the other literature about the microbiome that is absolutely on target is what you eat really feeds your bacteria and then your bacteria feeds you. So the missing piece is if you have the wrong bacteria, it doesn't matter what you do with the diet because you aren't going to get the right guys to come back again just with diet. Once you do bring the right four phyla back, however, you can then fine tune that and also fine tune your sleep by diet. There's no question about that. But you have to be, have a healthy microbiome in order to see that effect.

So I would really recommend that the people who are sickest try to concentrate on getting their sleep better. If you're bed bound, get your sleep better. The frustrating thing for the person who is bed bound is they're in that bed all the time. Yet they're tired all the time, yet they aren't sleeping normally.

Sara Jackson - [00:46:55]

It's a difficult cycle to break, but I guess everyone needs to go back and look at your workbook and you've laid everything out so clearly there, haven't you?

Dr. Stasha Gominak

The other thing I would say is the most difficult part about this program is that you have to be patient. Like if you're bed bound, if you've been sick for 15 or 20 years, you are trying to repair the actual sleep switches that have been slowly falling apart. They're falling apart while you're falling apart. And the vitamins are not fixing them. The vitamins are giving them the raw materials they need. They're putting those blocks in their hands. But you're trying to repair a mechanism that's frayed or rusted or partially working.

That means you have to be patient enough to realize that if you can sleep 2 hours instead of none, or if you can sleep 4, two days in a row and then 3 for three days. It's very patchy and jagged in terms of the improvement that is very difficult for someone who is really sick, really depressed and has been doing a million other things for a long time. It's really hard. I'm putting out another, a version three workbook right now that has an entire journal for a whole year.

You have to write the stuff down that you observe. You must be able to look back and go, well, I feel like crap but compared to the way I felt two months ago, according to what I wrote down, I'm actually doing a little better. We are not really wired to say hallelujah, I slept for 4 hours. We're really wired to say 4 hours, that's nothing. I want to sleep for 8. How come I'm not out there planting my flowers?

We are dissatisfied because we aren't where we want to be. When it's a long road, which for some of your patients is going to be two years in life not one year. When it's a long road it becomes very difficult to hang in there and still keep your eye on the prize. OK, I'm still getting a little bit better. Once the pain in your feet go away, you then focus on your headache, back pain, and you don't say, oh, but I don't have any pain in my feet.

So that is a very difficult thing to do. And now, really, I think the most important thing for everyone who does this program is they have to journal once a week and they have to sit down once a month with

themselves, look at what happened, really celebrate the little movements that they have in the right direction and be respectful and be patient with their sleep switches. The sleep switches are trying to repair. You're here listening to me because you want to sleep better and feel better.

But really, your brain is saying, well, what about your liver and your lungs and your heart? And it's repairing hundreds of thousands of things every night. And that really means it has two seconds to dedicate to the sleep switches, which, you know now are important. And you're focusing on. But you really have to give a little room to the fact that the brain actually triages and repairs things in a certain order. It knows better than anything.

And you have to give it the benefit of the doubt and say, OK, this is a long steady path that I'm walking along. I'm trying to get back to a place where I'm better. It won't take the 20 years that you've deteriorated. That's a good news, OK, but you really have to stay on the course for quite a long time.

Sara Jackson - [00:50:22]

I love that idea of journaling. I mean, that's a great place for somebody to start. And I think even from a gratitude aspect as well, that can just help enormously. I love that idea. It's free. Everyone can start doing it immediately.

So just to kind of recap a few of the main points that our audience could start off doing is looking at the vitamin D levels that they currently have. You know, testing is so, so important, getting the vitamin D, getting the B50 vitamins in and then giving that a good couple of months and making sure that you're on top of the testing.

Now one thing, I know we're running out of time, but I just want to just very quickly, how do people monitor their B vitamin levels? So you're saying we go too high, that's dangerous. How do we know where we are?

Dr. Stasha Gominak

Very good question. And it's a little difficult. Let me just parenthetically say B12 is the only B I ask you to measure. The reason for that is it turns out the blood levels of the other B's are not relevant. They have nothing to do with where your stores are or the amount that your brain is using. And that is well documented in the literature. That means doing blood levels of the other B's is a waste of time, in my view, for what I want to do with it.

Now, I do tell you, you have to check your B12 level if it's low and I give you parameters for that, you have to be on an extra B12 pill. All the other B's are done under the direction of either, you're going to do this, I just tell you, you're going to take B50, I tell you when to take more if you need. It's based on what your symptoms are. So it's usually based on pain levels.

So most of the people have chronic pain, have B5 deficiency, the pain that comes from that is of many different types and has different pathways, but most of the time the B's are being dosed by your pain level. So I give you instructions on, for the first three months you take B50 and a multivitamin that has a specific amount of B5 and little tiny doses of B's. And then during month 4, 5 and 6, you take that multivitamin only, you're still watching your D.

And then at the sixth month, you will start to have to turn up your B's again. And all the B's are dosed based on my recommendations, based on your physical symptoms, the amount of pain you have, that is very difficult. That is confusing. It's a totally different way to think about this.

And as far as I know, I'm the first person, except for that book I told you about with rheumatoid arthritis, that really didn't talk about sleep or acetylcholine. It was really about, gee, B5 becomes cortisol. So cortisol is what allows our inflammatory system to adjust. It's the hormone that runs multiple things that are linked to the inflammatory system. So the cortisol is always off in people who have an autoimmune disease.

So your question is a really good one. I don't follow any B levels over time. I haven't found them to be useful. You do the B12 at the beginning. If you're low, you're low, we take supplements for the next 5 years. If you're not low, you never have to think about it again. So the only level you have to measure over time is D and the rest of it is education. The rest of it is OK, here is a belief system. Here is you following that belief system, watching the pain that you have, educating yourself by watching these interviews and watching and looking at other things on the website.

What are the different kinds of pain and how are they mechanistically? What are neurotransmitters? Why did that cause pain? How is that different than autoimmune disease? And what's the mechanism for that? It turns out it's a bit complex, but I give you very direct, OK, here's what you do once the pain comes back, sort of stepwise way to manage [inaudible 00:54:04].

Sara Jackson - [00:54:05]

Honestly, I could talk to you about this all day. I just find it so fascinating. I'm so grateful, we're all so grateful that you've done the studies and you've joined these dots between something that we just didn't know before you put these studies together.

Just to remind people if they'd like to find out more about you and your work, how can they do that?

Dr. Stasha Gominak

drgominak.com

Sara Jackson

I thank you so much for your time today Dr. Gominak. I just find it so fascinating. And I really appreciate you being involved in the Super Fatigue Conference.

Dr. Stasha Gominak

Thank you so much for asking me to come, Sara. It was my pleasure.

Sara Jackson

And maybe we'll hook up for another part two, because I think there's lots more that we'd love to speak about.

Dr. Stasha Gominak

I'd be glad to go into it in more detail.

Sara Jackson

Thank you. Thank you so much for your time.