

EPISODE 228

[INTRODUCTION]

[00:00:10] AVH: Hello everybody, welcome to the podcast, thank you for being here, thank you for joining me yet again, week after week to learn with me and take in as much information as you can about health and wellness and I appreciate you doing that because it's a lot of work sometimes, right? To try to be our best and to fine tune our lifestyles that we're as healthy and happy and energetic and vibrant as we can be and I think that most of you listening, you're smart people I think and you know what the general guideline's are to be healthy, right?

It's not a secret, you don't have to pay for this information. Try and get some sleep and try to eat real food versus processed food and try to not be super stressed out all the time. These things are really basic and they're repeated over and over again and I think that we all get it, it's sometimes it's harder to implement than it is to just understand but we get it.

But, if you're somebody who really likes to educate yourself and learn all the fine details and really kind of take it to the next level, health and fitness and wellness can be kind of complicated and kind of overwhelming because our bodies are complicated and our lives are complicated and there's a lot of information out there, sometimes maybe too much information.

I appreciate you trying to find that balance and that fine line between educating yourself and getting as much knowledge and information as you can and not obsessing over it and not taking it too far and not getting overwhelmed and burdened with the amount of information that's out there.

Because that's something that I struggle with all the time, it's my job to try and ask questions and learn and reach out and find the newest and greatest information and all of that stuff and yeah, it can be kind of overwhelming but it's about taking that information and using it for your benefit and not to stress you out unduly.

Anyway, the reason I gave that meandering intro is because today's interview is with someone who is going to really deep dive talk to us about nutrition and not about macro nutrients. I'm so

tired of talking about keto, I'm sorry guys, I'm just tired of it. Today, we're not talking about paleo or primal or keto or any other diets specifically, what we're going to talk about today is something that I think we all need to keep in mind.

The ultimate goal of eating is yeah, it's enjoyment and it's weight management and it's looking good in all of those things. Most importantly, it's about nourishing our bodies so that they can function to the best of their abilities, we can have the best quality of life, we all get caught up in macros and avoiding things and these weird mono diets where you only eat fat or you only eat grapefruit or something crazy like that. I think that was a thing once.

We forget that our bodies are these incredibly complex machines and that for most of us a really diverse range of foods, give us the best chance to ensure that we're getting all those micro nutrients and minerals that our body literally requires to function.

Setting aside our obsession with protein and fat and carbs for a minute. Today let's spend some time thinking about things like magnesium and zinc and iron and potassium and all the very layered and complex ways that they interact with each other and work in the body for physical and mental and cognitive and sexual and digestive health and all the other ways that our body manifests health or the lack of it.

Deep breath, can you tell us it's going to be kind of intense one today? I mean, it's not too intense, it's a friendly conversation but there's a lot of information in this one. So anyway, I have asked Joy Stephenson-Laws to help us get through this today. She is the author of a book called *Minerals: The Forgotten Nutrient*.

She is also the founder of a healthcare company, Proactive Health Labs and if you follow us on social media, @paleomagazine, you'll see that she is going to give away one of her books to celebrate this podcast coming out. Definitely get in on that because it's a very useful practical book, not as overwhelming as maybe I'm making it seem but anyway, I think that this is a really information packed and good, useful podcast. Joy is awesome, I hope you enjoy it and you get something from it and that's it, enjoy the podcast.

[INTERVIEW]

[0:04:25.6] AVH: Joy, welcome to the podcast, thank you so much for being here and taking the time to talk with me today.

[0:04:30.6] JSL: Thank you so much for having me.

[0:04:33.0] AVH: Well, we're here to talk about your book, *Minerals: The Forgotten Nutrient*, and I have so many questions that I hope I don't go down too many rabbit holes. But I'm very excited to get into this topic because I think in the health and wellness world right now and maybe specifically in the paleo and fitness world that I'm into, it seems like people are really focused these days on macro nutrients, right?

Like on protein and fat and carbs and how much of all of those you should be eating and sometimes we think about that to the detriment of the micro nutrients and the real reason why we're eating, which is to nourish our bodies and to make our bodies work and I think that reading this book, it just struck me, what a complex system it is and how many layers and how many kind of things you need to know and be aware of.

I'd love for your help and kind of sort it out for us and help us not be too overwhelmed. I hope that you can at least start helping us with that today, I hope.

[0:05:32.9] JSL: Yes, I'll try my best here but no, you're totally correct on the overemphasis on macro nutrients because they are important, no question about that and we know a lot about them. But it's important to understand that there is six basic nutrients and they're carbohydrates, proteins, fats, water, vitamins and minerals.

Many of us hear a ton about vitamins, you know? I'm sure you've heard about vitamin C and D and B and A and all that good stuff and they're critical for health and so are the macros and of course, you know about water, I mean, you're not going to go in any weight program and they don't tell you not to drink a ton of water if you're working out et cetera.

There's a lot of information out there about those nutrients. What I found out though was that the minerals were not really spoken about much except for calcium if we're women. We hear

that we need calcium for strong bones, which is not exactly true but, and I'll explain that a little bit later, we do need some calcium but it's not the only mineral that's critical for bones, you know?

Magnesium is also a good balance for calcium. There's so many others that – or doctors don't even test for, including magnesium, in fact, some doctors have no clue how to test for magnesium. As a woman, we probably get tested for iron because we lose it every month. Many of us tend to be anemic. That's something that's normally in our vocabulary but there's so many others like potassium, like copper, like phosphorous, like sodium.

Sodium we know a lot about because our doctors tell us not to eat that ton of salt because it might get high blood pressure which is not necessarily true but –

[0:07:19.1] AVH: I love that already, just in the intro, you're like, here are a bunch of things that you've been told your entire life and not necessarily true. This is a great place to start.

[0:07:29.1] JSL: Yeah, the bottom line with all these stuff is that we need balance with our nutrients and we need balance with our minerals, no different than you know, with water if you drink too much water, it's not good, if you have too much of one mineral, it's not good and if you have too little, it's not good.

It's about finding that balance with minerals and making sure that especially as women that we stay balanced because being balanced goes a long way to keeping us healthy and well. That's pretty much what we're striving for is to be as healthy as possible so that if down the road, we need to have surgery or if you know, if something happens to us, then we're in the best shape to withstand the trauma and recover from it because many of us see wellness as never getting sick but that's not true, that's not realistic, you know?

We want to keep ourselves in the best position possible and in the best health possible so that we can stave off depression, so that we reduce the likelihood of getting sick and if we do get sick, then we increase our chances of recovering fully from the illness and in a quick way without a ton of drugs.

[0:08:43.1] AVH: Right, okay, I actually love this distinction that you're saying, it's not even about never ever being sick or having challenges like that, it's almost like resilience in the face of the challenges that do arise, right?

[0:08:54.6] JSL: Precisely, yeah.

[0:08:55.9] AVH: If you're healthier, you can handle these challenges a little bit better and of course, it is not surprising at all to me that it is a more complicated issue for women because isn't it always more complicated for us? Of course it is. Okay, but I'd love to ask like a very high level question first that you can help kind of clear up for me.

What exactly are minerals and what do they do in the body and then kind of versus vitamins? Because you always hear people talk about the vitamins and minerals, almost in the same sentence. How are they different? What are they? What do they do in the body? If you could kind of like talk to us about that?

[0:09:30.6] JSL: Right. Minerals at a very high level is one of six nutrients that our bodies need to be healthy and they're found in a variety of foods, lots of fruits and vegetables have minerals, that's why we emphasize that you know, people eat, that's where you get the ton of your minerals from, a lot of spices, believe it or not has minerals.

These are critical nutrients that our bodies need to stay well, just like vitamins, just like water. They're responsible for a number of chemical reactions in our body. Let me give you an example as it relates to - for example hyper tension. There is a need for us to have the right balance of sodium and potassium. Two critical minerals in order to address hyper tension issues or to be proactive about hyper tension.

It's important for us to eat those foods that contain potassium as well as foods that have sodium. It's not correct to say that we should avoid salt, we need to eat the right type of salt obviously but we also have to make sure that we balance out the sodium in our bodies with potassium.

Minerals are responsible for preventing a many or making it less likely for many diseases to occur such as, we talked about hyper tension but there are many other diseases, even things like depression, there are studies that show that there's an association between minerals and depression.

The heart muscle is critical, it has electrical activity constantly running through it and minerals play a huge role in whether or not those electrical impulses fire with the right strength and at the right time. Mineral balance is very critical to good health and you know, we can talk about autism or cancer, there's tons of research out there that whether it's an association between minerals and illnesses.

Menopause, I dare to say that I was very keen on ensuring that my minerals were balanced when I was going through that period. It worked, it actually worked. My nutrients in general but especially minerals because when I did the test earlier, there were some minerals that I was deficient in and that made sure I balance them and I was fine. I did not have all the – I did not deal with all the symptoms that were associated with menopause.

The importance of balancing your minerals cannot be overstated. I don't like to emphasize any one mineral over the next. Because we tend to do that sometimes, where somebody will come out with a book about sodium or potassium or magnesium and then many people will run off to the pharmacy and say, or to their drug stores and just pick up a bottle of potassium or bottle of calcium or a bottle of you know, magnesium.

I hesitate to make any one mineral more important. We have to identify what it is that we're deficient in and then balance it. Because as I said before, too much can be just as bad as too little.

[0:12:35.3] AVH: Right, okay. Another thing as I said that kind of kept coming up as I was reading this book, there's so much information about the different minerals, how they work in the body from cognitive stuff to physical stuff, to treating disease and depression, all of these things that there is issues with maybe deficiency, maybe too much, with imbalances, making like some minerals, make other minerals not work as well and all this stuff.

How do you – if you suspect that maybe you're deficient in something or the other or you're not feeling right and you're feeling off and you're thinking, I need to test and see if I have any like major kind of issues or deficiencies. How do you go about doing that? How do you even start like, are there certain minerals that you should test for first, is there like some kind of panel you can get that will test for everything, how does that work?

[0:13:23.4] JSL: Right, that's such a good question. Yes, there specialized lab companies that do that where they do have a panel of nutrients which include minerals such as calcium, copper, iodine, iron, magnesium, phosphorous, potassium, selenium, sodium, you know, zinc, all those minerals. That they have a panel where they test for those minerals.

In addition to as I said before and in addition to other nutrients, and even amino acids et cetera. What's also important with those labs, the good ones is that they also test for the bad minerals or toxins. We have like lead or cadmium or mercury and if for example if you eat a lot of fish. You know, like tuna and stuff like that.

It might behoove you to test for mercury because there's a good chance that you could have high mercury levels. What mercury does, as a mineral, it blocks the site for the good minerals so you might be deficient in all the minerals because you have this bad mineral blocking the ability of all the other minerals to work.

As important as it is to test for the good ones, it's also important to test for the bad ones so that you can take steps to address the levels in your body.

[0:14:41.2] AVH: Okay, it seems to me like it can be kind of overwhelming for people sometimes to try and pinpoint the cause because there's so many like, wide ranging issues that could have so many different culprits like depression or low energy or weight gain, all of these things, it could be a mineral deficiency, it could be, like you've said that there's too much of something bad.

And I know that a lot of people, while you said it's not a good idea to kind of run out and just like, grab the latest sort of, I need to take an iron supplement or whatever and I know there are a lot of people who don't want to take that route.

They don't want to just take a bunch of vitamins and supplements just in case which could be a waste of money, it could be problematic, you could end up unbalancing things that were already balanced.

I guess, do you think that we can get most of our minerals and keep a good balance just from diet or are there some key things that we kind of need to supplement with in the modern day?

[0:15:32.4] JSL: Right. Yeah, that's an excellent question and as a general rule, we should be able to get most of our minerals and nutrients for that matter for more diet. The problem is that as we get older, our body's ability to absorb certain nutrients is reduced. Just by the mere fact of age, it doesn't work, our bodies don't work as efficiently as they did when you know, if you're over 50, it doesn't work as efficiently as it did when you were 30.

As we age, these are some of the things that we have to keep in mind and perhaps be more proactive about testing for deficiencies than we would have to be if we were younger. That's one thing, the second thing is that many of the foods that we eat may not be as mineral rich as they used to be. There could be many reasons for that.

If we start having symptoms even if we're younger, we might want to ask for a comprehensive nutrition test, just to ensure that we're eating properly and that we're actually absorbing the nutrients from the food that we eat, there are also genetic issues that may affect or be able to absorb food. For example, I've written about this, I have some difficulty absorbing vitamin C which is one of the nutrients and I eat a ton of fruits and veggies. So I was shocked when I did my nutrient test years ago and found out that my vitamin C was constantly low.

Because that just could never happen, it turns out that I have this crazy gene that does not do me any good and it doesn't allow me to absorb vitamin C. What I do is I take a special form of vitamin C and also I go get vitamin C injections ever so often and to make sure that I'm optimal and I test for it constantly because vitamin C is so critical in a number of bodily functions. It's really important that mine was optimal.

There are many reasons why you can be low in nutrients and you just have to know your body and have a good relationship with a doctor who is experienced in this area. So that you know, you can address issues before they become problems.

[0:17:52.9] AVH: That's key, I think also, books like this and podcast like this that are helping people empower themselves to ask these questions too because some people would never even think to ask that question. With your issue with the vitamin C, what symptoms were you having before that led you to test for that and then how did you know that you're like, your health and everything was improving when you started taking those extra measures?

[0:18:16.5] JSL: Right, there were a couple of issues, one, I had, no matter what I did, my gums would bleed. I went to the dentist a lot, I had my teeth cleaned, it didn't matter, it just, they would bleed, it wouldn't be crazy bleeding but I would have – my gums would bleed and the other issue too was there was some interestingly – I read somewhere where vitamin C has an effect on the heart and stuff like that.

I did not have any heart issues but I'm from a family of – that has a ton of cardiological issues. Heart issues. I was just a little bit more proactive than the average person, where I took the time to figure out, okay, what are the nutrients that I need to make sure that my heart stays healthy because I have these bad genes that tell me that I'm going to have a heart attack after a certain point.

[0:19:08.1] AVH: That's fun, okay.

[0:19:10.2] JSL: Knowing that what my propensity was, I was just a little bit more proactive. I would get nutrient tested at least once a year to make sure that I was on the right path and that was how I discovered it was consistently low and made the connection between the gum issue and to be honest with you, since I've started taking it, my gums - I have had no problems with them.

I find that interesting too because I wonder as I'm talking to you, how many dentists would bring that up as an issue if they have patients with this problem, you know? If they would even recommend that?

[0:19:43.2] AVH: Right, yeah. That's the thing that makes it even more complicated is that so many of the doctors and medical professionals that we trust to know more than us may not even go in that direction either.

I have another personal example is – my mother for a long time has been suffering with very low iron and it's seemingly the inability to absorb iron from the food that she's eating and she eats, I've gotten her on a really good clean paleo diet and she's been on that for a long time and other areas of her life seem to be pretty sorted out but there's something going on where she is not absorbing iron at all.

That's what my diagnosis is, well, if you're eating it and you're still having these issues, you're not absorbing it. It seems like her doctors are at a loss too, they just want to keep like either like injecting or giving her iron and hoping that she takes it in.

Rather than figuring out like, well, what could it be that you're not absorbing it in the first place, right? It's frustrating because we don't know where to go from there, you know?

[0:20:42.1] JSL: Precisely. Like with iron also, they took vitamin C component there that help with absorption. Hopefully she's okay with that and she's optimal with that as well because that has a lot to do with getting your iron absorbed.

If you're lucky enough to have a good practitioner, who is aware of this issues, it helps a ton because I've gotten through the point where I'll go in and at my annual physical, they'll do my testing and they'll say, have you been stressed lately because your Bs have been low.

Your Bs are low. I said yeah, I've been a little bit stressed, the kids are driving me nuts. Okay fine, I'll go do something to avoid the stress. But they know by looking at your panel, what you've been going through, it's great.

[0:21:28.7] AVH: That's so interesting. Okay, going back to what I was just saying. I painstakingly got my mom on this paleo diet, do you have a recommendation? I know that it's different because people have different needs and different challenges but is there a general

sort of dietary recommendation you have that you think that supports people getting the necessary minerals, that they need?

[0:21:49.9] JSL: Sure, it's nothing new to be honest with you. A diet full of fresh fruits and vegetables as a start is critical and if you're vegan, you must understand that there are certain nutrients that you're going to be missing at that you have to put back like B12 or whatever.

When it comes to minerals, fresh fruits, vegetables, fresh seasonings, you know, like thyme and all those seasonings, if we understand that we get minerals from these foods then we'll make an effort to find them, so that we can absorb them and get them into our bodies. It's also important not to overcook the food as well so that we can reap get the benefits from it.

But, there's really no magic. It's what they've been telling us all along that we need to avoid processed foods and make sure we eat whole foods and where possible, fresh or properly frozen.

[0:22:42.4] AVH: Okay, now on the other side of that coin though, isn't there also, that if you're eating foods that have sort of inflammatory properties or things that can work against like your gut health or your digestive health then you're going to have issues with absorbing the minerals, right?

[0:22:59.5] JSL: Absorbing, yeah, well if you have an underlying issue, that will prevent you from absorbing it, then you may have to take supplements, you may have to – some people get their minerals injected because they have difficulty picking through their digestive tract.

If their underlying issues, then it makes it even more incumbent on you to get tested, to determine whether or not you're able to get the nutrients from the foods you're eating.

[0:23:24.8] AVH: Right, okay. I'd like to go back because you mentioned earlier in our chat about the connection between sodium and possibly high blood pressure and how that actually isn't really like a, A plus B equals C, sort of equation.

Can you talk a little bit about why sodium is so important and why we don't have to be as overly concerned with that causing high blood pressure as people think?

[0:23:49.0] JSL: Right. We need sodium in our bodies to make it work properly and that's as simple as I can put it. It's a critical new trend that our body needs to perform the reaction that it need to perform. I think sodium gets a bad rap because many people don't have enough or don't include enough fruits in their diet which has potassium.

Potassium comes from - you can find potassium in a wide range of vegetables and fruits. Because many of - much of the diet of many people don't include fruits at all or enough fruits and vegetables, There's not enough balance, they're unable to balance their potassium intake with sodium. It's easy to get sodium.

Sodium is found in a ton of processed foods, it's added for taste, we probably cook with it as well and we probably use too much salt sometimes. There's no balance to that excess salt that we use. It's really important that we be aware of the potassium rich foods and ensure that we are getting a good balance of sodium to potassium because the ratio should be, I think in the book, we said that the study show that the sodium-potassium ratio should be less than one and most of America has an inadequate ratio.

So only about 12% has that ratio, the proper ratio of sodium and potassium in their bodies. So it is really important to ensure that that we have that good balance but it's definitely not because sodium is bad for us. Sodium is great especially if you are an athlete and you do a lot of physical activity and sweat.

So I think the stigma that sodium has gotten is probably not warranted. We need to step back and understand that it is about balancing the sodium with the potassium and it's the same thing with calcium. You know we talk about we may need strong bones, etcetera. We get a lot of calcium from the foods we eat. What we don't get a lot of is magnesium and calcium needs magnesium to balance out and do and work properly. So when you think about it, it's all about balance.

[0:25:54.9] AVH: Right, okay and yeah, it seems more like with the sodium issue it is less about sodium being a problem and more about processed foods and processed foods that are loaded with sodium that really you are getting negative result because you are eating this crappy food not because it just happens to be loaded with sodium too because I know a lot of people who go from a standard process food diet to something that is a lot more whole foods based.

They have to physically think about adding salt back into their diet because when you are not eating processed foods, you are not eating a lot of salt really. So yeah.

[0:26:27.1] JSL: Yes, it's totally about the balance.

[0:26:30.2] AVH: Yeah and it is interesting because we do keep going back to this idea of balance and you talked about a couple of here and as I am looking through your book, there are some that come up over and over again, right? There is calcium, magnesium, potassium, iron, zinc and I don't want you to go through your entire book. People can buy it and read it but can you talk a little bit more about some of these key minerals that have to really work in tandem.

They aren't just working on their own, there's always they're working in balance with each other. Can you get into that a little bit more?

[0:27:00.6] JSL: Sure. If I am going strictly off memory, I think it's zinc and copper if there is too much of one it could affect the other one so they need to be in balance. The other critical ones would be the ones that we spoke about, sodium-potassium and then magnesium-calcium. I don't recall the other ones out of the top of my head and even without for example the specific sodium one or whatever, any excess, any mineral excess is not good.

And so it's really important that our audience doesn't go out and just go, "I just need to get some calcium," and go pick some calcium up at the drug store, okay? It's such a bad thing to do because too much calcium can make me [inaudible]. So it is important to recognize that before you go and pick up some minerals perhaps get tested or just make sure you identify the foods that you can get them from and if you don't have absorption issues you should be perfectly fine getting them from the foods.

And our body processes the minerals that it gets from foods a lot differently than it processes the minerals that we get from supplements and I have nothing against supplements. In fact, I take magnesium supplements because I need them but I just don't go out and I would never go purchase a potassium supplement unless I got prescribed by a doctor and I don't need it because I am able to absorb it from the foods I eat.

So it is really, really important not to just go out and let's say you buy the book and you figure, "Oh this is going to help me with depression. I am going to buy some." No, don't do that. Get tested first and see if you are really deficient and just be aware of the foods. The book is great in the sense that it identifies the sources of the various minerals from the foods that we eat and it tells you how much you really need to eat if you are an infant, if you're a child, if you're adolescent, if you're pregnant, if you're breastfeeding, et cetera.

It explains how much you need and where you can find it. So I would identify the foods first that has those minerals and make sure you include them in your daily diet and at some point get tested and then you can identify specifically what it is that you are low in and what you're not absorbing and at that point make an informed decision to get a good quality supplement.

[0:29:12.8] AVH: Got it, okay. I like that you are telling us not to freak out and go buy a bunch of supplements. Mostly that is going to save us money, right? That's a good thing. You don't want to go out and buy because I mean worst comes to worst, as you said, with some things I think iron is one of them. If you take too much that can be really health threatening.

[0:29:30.7] JSL: Constipation and all sorts of issues, yeah.

[0:29:33.3] AVH: But at the very least, you are wasting your money and you are peeing out the extra stuff that you are paying for but I am curious, you mentioned that our body absorbs minerals differently when it comes from food versus supplements. Can you explain why that is?

[0:29:48.4] JSL: Because in foods it is in the right ratio. It's in the right form that our body is able to absorb it in a way that our body can absorb it seamlessly. With supplements, these are made so it is not the same as eating an orange to absorb your vitamin C from as an example or potassium.

You know the way your body absorbs potassium from a food or veggie is not going to be the same as it does from a potassium tablet and it is unlikely that you'll overdose on oranges. You know getting potassium from your oranges as oppose to taking potassium tablets because it is highly concentrated and it's not the same. It doesn't get into your body the same way as an orange or a fruit is.

[0:30:31.5] AVH: Got it, okay that makes sense. Another topic that I think is pretty important, I know we have to speak in general terms about this because it is obviously very individual but the idea of different medications or prescription drugs that people might be taking for whatever issue that may be causing problems with different mineral absorption. Is that something that people need to maybe ask about or question when they are taking new medications or drugs? Is that a valid issue that people run up against?

[0:30:59.4] JSL: It is so valid. If you take any medication, any medication, there is a high likelihood that medication will be affecting certain nutrient levels including minerals and so that's one of the first questions that anyone should ask when they get prescribed medications, what is it doing to my nutrients. Because remember, with any medication comes side effects whether or not you are immediately aware of them. They do great work, the medications are good and they solve a lot of issues.

However, you have to also be aware of the downside of medications and prepare for the downsides. So if you know for example that the medications are going to leech out calcium or magnesium from your system, then it is important to talk to your doctor about putting those nutrients back and ask him if it is okay to eat certain foods with those nutrients during the time that you are taking the meds so that you don't interact with the medications.

And maybe he will suggest or she will suggest that after you take the medication, after you've completed the course then you need to go back to eating specific foods but this is a discussion that everyone should have with your doctors if you are prescribed drugs and that includes something as simple as antibiotics, which we all take.

[0:32:22.8] AVH: Yeah, I was just going to ask you about antibiotics specifically because that's something that I think people are concerned about a lot in our community. Where people are maybe more aware of them normal about gut health and digestive health and how much antibiotics can mess with that.

So can you speak at all, even in general terms, about what antibiotics can do in terms of absorbing minerals and the health issues that can result from that? What should we be aware of if we are going to take antibiotics?

[0:32:49.1] JSL: Sure, antibiotics can – when it comes to minerals, certain types of antibiotics may affect your calcium levels, your iron levels and your potassium levels. We are just talking about those not too long ago and so maybe one of the reasons why you feel a little bit tired after you have been taking antibiotics for a while, maybe it's because your iron levels are low or these are issues you might want to address with your doctor.

So that you can identify those foods that have good calcium concentration or iron or potassium or maybe he will prescribe a supplement for you that you can take soon after you complete that course but this is what antibiotics does.

There are a variety of antibiotics and certain types may create certain issues and if you don't replace them, if you don't replace the nutrients then you probably will end up having side effects which that's why they call it side effects in essence because of the low nutrient level that is caused by taking the meds.

[0:33:52.6] AVH: Okay. So we did talk about the different minerals and how they can affect all kinds of physical issues in the body but you've also mentioned, you talk about in the book how much of an effect it can have on your mental and cognitive health and how well your brain's functioning and even things like depression and brain fog and I think that is important because we are all looking to be obviously as physically fit and healthy as possible but we want our brains to work and we want to be happy.

And I think sometimes we don't think about all of these little tiny pieces that go into making that work. So can you talk a little bit about the minerals that is specifically can affect mental health and things like depression?

[0:34:33.1] JSL: Yeah, one of the minerals that we spoke about before which most people don't think about is iron that if you are low in iron, it may cause depression and many women are as you know, depressed during their childbearing years and one reason for this is probably because we lose a lot of iron during menstruation. So iron is really critical especially for women. The other one that's good for depression is magnesium.

Magnesium has been associated with improved symptoms for depression and that's a mineral that tends to be out of balance strictly because the soil may not be as magnesium rich as before. So even if we eat the magnesium, supposedly magnesium rich foods, we may have difficulty getting enough of that mineral especially as we get older. The other one that is also relevant for depression I think is zinc. There is some clinical studies that show that there is some relationship between zinc and depression.

And zinc levels tend to be pretty low and people with major depression. So to the extent that zinc is associated with depression, it behooves us to be tested for these minerals that is relevant to depression to make sure that we're optimal and if we are not then work with a competent medical expert to get those minerals optimal. Another one, I think it's chromium. There is some studies that show that it has some relevance to depression and selenium.

So there are quite a few minerals that are good for brain health. Calcium is associated with depression. They have identified low calcium levels in people who are depressed and in some cases, they found elevated calcium levels in depressed people. So clearly, if calcium is out of balance it may have some effect on your mood. So these are all minerals that are involved in multiple bodily functions and going back to the whole concept of being balanced, it is important for us to identify.

Whether or not we are balanced with any of them because I am sure there are way more minerals that affect our mental state and it's important for us to identify whether or not we are

out of balance and get them back in balance so that we can be balance because they play such a critical role in our health.

[0:36:52.8] AVH: Another thing that is making me feel better as we chat because as I said before, it can be overwhelming right? There is a lot of complex systems going on, there is a lot of different elements but one thing that is besides the idea of balance which we are all trying to work towards in every area of our life especially with nutrition but I think one of the things that's coming up that is going to make me feel better is that while there are a lot of different moving parts, there also are – there is a key bag of minerals that we all need to keep our eyes on and they keep coming up over and over again that are associated with like you said, a lot of different bodily functions and we don't have to – it is not so intricate that we can't get to the bottom of it.

There are places to start and to look that it seems that it would affect a lot of people. So there is iron, magnesium, potassium. These key players that keep coming up over and over again. So it is doable, it is not something to get too overwhelmed about because we are not all so different that these things aren't affecting all of us from some level or another, right?

[0:37:58.5] JSL: Precisely and remember, a lot of these are trace minerals. So it means you just need them in tiny proportions. It doesn't mean that you need a ton of them and if you eat fairly decently, it is likely that you'll get many of these minerals from the foods you eat. You don't eat a ton for many of these minerals. So it is not that difficult but if you eat primarily macro nutrients then it is going to be difficult for you to get all of the critical minerals you need.

So it starts with eating a balanced diet or trying to have a balanced diet and then testing from there to figure out, "Okay, am I doing it okay? Let me see, what should I be supplementing or What should I do better?" And I think we all can do it. If I can do it and I am probably one of the worst when it comes to stuff like this, I have to be forced to do it.

[0:38:48.7] AVH: Well if you are one of the worst then we might all be in trouble because you wrote a book on it so.

[0:38:53.7] JSL: Yeah, that is why I wrote a book on it because I realized, "My gosh, there is nothing out there on this stuff and they say we need it. So let's go figure it out."

So that is exactly what caused me to write the book because I am looking out there and I am not identifying what is it about minerals that we need to know because so many people confused minerals or vitamins. When people tell you to take a supplement, they will tell you sometimes what you'll get. All these vitamins in it like calcium and they immediately think that calcium is a vitamin or something and there are differences.

So it is important for us to separate minerals as a new trend and focus on it not entirely that it's the only nutrient but identify it as an important nutrient that we need to be aware of.

[0:39:32.8] AVH: Right, well thank goodness you did write the book because you are helping a lot of people but another question that I wanted to ask you and I'll put you on the spot here. So it is okay if you can't really speak to it but you did mention in addition to a variety of fresh fruits and vegetables and I think animal protein and things like that that will give you a lot of these minerals that you need, you mentioned spices too.

Can you say off hand any of the particular spices that have some good minerals that we should be adding to our cupboard and to our cooking?

[0:40:02.5] JSL: Sure and just for edification, on our website we go into quite a bit of that on the website at phlabs.org and I love to talk about spices because things like rosemary, mint, parsley, turmeric, sage, cinnamon, all those things they have – you can substitute a lot of that for sodium by the way for people who are told to eat less salt and stuff like that but they may have magnesium, calcium and many people don't think that spices have nutrients but they have a ton of nutrients and I wrote about thyme, are you familiar with thyme?

[0:40:42.6] AVH: Yes.

[0:40:43.2] JSL: Yes, so I will give you an example like thyme. Thyme has calcium. It has fiber, it has about a cup of thyme has about 405 milligrams of calcium. It has fiber, it has iron, it has magnesium, it has phosphorous, it has potassium over 600 milligrams, it has folate and it has some vitamins as well.

So I don't think many of us are used to thinking about seasonings or herbs as things that have nutrients but they do and they're there for a reason. And somebody put them for us to eat and use the spice to season our foods because they knew that we are going to get some nutrition from it and that it is helpful to our bodies. So there is –

[0:41:25.4] AVH: It's not just that they tastes good, right?

[0:41:27.0] JSL: It's not that just it tastes but it is so good that it tastes good, you know?

[0:41:30.1] AVH: Absolutely, okay but here is another thing though. You mentioned that there is this much minerals in a cup of thyme and obviously we are using this in sprinkles and sprigs here and there but it doesn't have accumulative effect. If I am putting turmeric in stuff a couple of times a week and I am putting cinnamon in my coffee every day and things like that, does that add up or is it I've got to be using way more than I think I need?

[0:41:54.8] JSL: I think you have to be using way more than you think you would need. Obviously, nobody would be using a half a cup of cinnamon, you know?

[0:42:02.9] AVH: Right, okay but does that mean that we are not going to be getting what we need from the spices we are using because most of us aren't using that much stuff on a daily basis.

So are we not getting what we could be getting out of the spices just because we are not using enough of them? I mean what's the answer?

[0:42:15.5] JSL: Well you wouldn't be getting, for example I talked about thyme before, you wouldn't be getting all of your calcium from thyme. You will be getting some of it from thyme, so we are not thinking that you are going to use a cup of thyme, you know?

[0:42:26.8] AVH: Right it is just supplementary.

[0:42:28.2] JSL: But it all adds up, maybe you'd drink some milk in the morning or you have some thyme or you have some almonds during the day. So these are things that is cumulative,

these are all sources of nutrients and we are not advising you to go to one particular source to get all your nutrients because obviously you can't just eat thyme.

[0:42:52.4] AVH: Right, got it. Okay, all right so what I'm hearing from this conversation is that there are a couple of key themes, you can speak to this and tell me if I am missing some stuff but it seems to me that it is about eating whole foods and making them delicious by seasoning them with a lot of different spices, getting a lot of variety and also listening to your body and if you are feeling off, if there are things that aren't working properly.

Getting these necessary tests, checking specifically for different mineral deficiencies and working with your doctor and really asking those questions and paying attention and then when you do feel like there might be imbalance so you are working towards something to try and answer those with a whole foods diet versus running out to get supplements unless there is extenuating circumstances where supplements are but that's a plan B. That is not a plan A and you're working for balance of diet first.

[0:43:46.2] JSL: Precisely.

[0:43:47.9] AVH: Okay.

[0:43:48.3] JSL: And remember too that there are many studies too that show that for example, once you are over 50 that there are certain supplements that you may more than likely need like B12 if you are over 50 or 55 because we are going probably have some absorption issues at that point.

So if you know for example that you are going to be running out of certain nutrients by the time you hit a certain age or your body is going to have some difficulty absorbing those nutrients, then it may very well be that you can probably hedge your bet and say, "Okay maybe I need to get some B12." But there is some basis for it. If there is no basis for it, I would not encourage anyone to run out and just go buy some supplements just because yeah.

[0:44:30.1] AVH: Okay, I love that. All right, I don't want to keep you forever because I probably could. I could ask for a million more questions but I do want to reiterate that this book is really

useful because it is accessible, someone who is not a doctor or a scientist can read and understand this and I really like the way that it's laid out in the beginning for – there are literally chapters on the minerals that are involved in anything from PMS to menopause to digestion to anxiety to blood pressure.

Everything so that you can skip ahead and if you have specific challenges or issues, you can go and learn about those individually and really educate yourself. So I think that this is a book that is important for anybody who cares about their health or has somebody in their life that is struggling with different things.

So I would love if you can, as we end here, if is there anything else, any parting comments that you want our listeners or people to know and then where they can go to learn more online.

[0:45:25.5] JSL: Sure. So they can go to our website. We put out daily articles on health and nutrition at phlabs.org and we try to make it non-medically so that everyone can understand it and like the book, it was written with three medical doctors and the goal was to make it easily understandable because it is tough picking up a medical book and trying to work your way through it and try to make it relevant to you if you can't understand it. So that is what the book is about it is to make it understandable to consumers.

Now on the website, we talk about all the different foods and what nutrients you can get from foods, how nutrients affect your health and tons of stuff about nutrition and family health and in general, I just think it's important for us to as consumers or health care consumers to really educate ourselves about what our bodies need to perform efficiently, what the nutrients are because those are the driving forces of health.

And just to have a basic understanding as to how important these nutrients are to make us stay healthy and understand that we may need to adjust our nutrients at different periods in our lives and we owe it to ourselves to be educated so that we can have that discussion with our doctors because sometimes, they don't even know. So when we bring it to their attention sometimes they're very happy. They will send you to somebody who can perhaps have that discussion with you.

So that you'll feel better because it's one thing to live a long life, it is another thing to live it healthily. I would prefer not to be here if I can't live a healthy life. So what is the point of living to a hundred if I am going to be sitting in a room, you know? I need to be out and about.

[0:47:15.6] AVH: That is such a good point and that is a spectacular way to end it because I think that's absolutely true. It is less about the years and the years that you are on the earth. It is more about how you are spending them and how much you are enjoying it and I think that again, you touched on something good there about we can't rely on other people to know what is going on in our bodies. We obviously can have experts that help us and doctors and people who know these things.

We need to do our own research a little bit and pay attention to our bodies and ask those questions and empower ourselves and I think that this book is going to help a lot of people do that.

So Joy, thank you so much for taking the time and walking us through this and making me less afraid and I am going to go into my spice cabinet tonight and make something good in your honor.

[0:47:57.7] JSL: Please, thank you. I appreciate it and thanks for having me.

[0:48:01.9] AVH: Okay, take care.

[0:48:02.6] JSL: All right. Bye.

[END OF INTERVIEW]

[0:48:08.4] AVH: All right guys, thank you for listening. That wasn't so bad, right? Helpful, useful, some good walking away points like eat delicious vegetables and season your food so that it is healthier and tastes better and don't think that buying a bunch of supplements is going to sort out a crappy diet. I know, we all like the shortcuts but guess what? They don't really work so anyway, I enjoyed it. I got a lot from it and I hope you did too.

If you did, let me know on social media. Leave us a nice review on iTunes that would be great and join me next week on the podcast as I speak with fellow type-A badass and short woman, Elle Russ, who wrote a book called *The Paleo Thyroid Solution*.

She is a super smart woman. She has basically been Mark Sisson's right hand woman as long as he had been the godfather of the primal movement. So maybe I will get her to dish some secrets about uncle Mark guys. Or maybe she'll just give us a ton of good information about thyroid health. Either way, you're winning. So join me next week and as always, thank you for listening.

[OUTRO]

[0:49:22.8] AV: Paleo Magazine Radio is brought to you by the Paleo Media Group and is produced by We Edit Podcasts. Our show music features the song *Light It Up*, by Morgan Heritage and Jo Mersa Marley, and on behalf of everyone at Paleo Magazine, thank you for listening.

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