

Transcript

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Podcast:

[#108: Dr. Jill interviews James LaValle on Reinventing our Metabolism from Peptides to Nutrients](#)

Text:

Dr. Jill 0:13

Hello, everybody! Good afternoon, and welcome to another episode of Dr. Jill Live. I've got a wonderful special guest who's been a friend for quite a while in the field of functional integrative medicine—we both teach at A4M—Dr. Jim LaValle.

Dr. Jill 0:32

I do want to formally introduce him. James LaValle is an internationally recognized clinical pharmacist, author, board-certified clinical nutritionist, expert and educator in integrative and precision health. James is best known for his expertise in personalized integrative therapies, uncovering the underlying metabolic issues that keep people from feeling healthy and vital. He's a thought leader in drug-nutrient depletion issues and has published four books and three databases in his area alone. He has over 35 years of experience integrating natural and integrative therapies into various medical and business models [with his] latest research on drug-induced microbiome disruption. We'll have to touch on that.

Dr. Jill 1:10

There are so many areas we could go to, but our title [essentially] is how do we reinvent the metabolism, especially with nutrients and peptides? I know, Jim, you probably see a lot of patients who are really stuck, whether it's toxins or infections causing weight gain or just morphyic body images and things. First of all, though, let's start [with]: How did you get into this field? What was your start? How did you get excited about integrative functional medicine? Tell us your story.

James LaValle 1:40

Well, it was interesting. I was always into training. So at age 13, I made my parents take my weight bench and my barbells on vacation, and I refused to go on vacation without them. So I was a big advocate of training. I was a scholarship athlete, and I actually ended up qualifying for Mr. USA. I was bodybuilding. I looked incredible [but at the same time], I felt horrible. I had a rich history of antibiotic use. I thought amoxicillin was a part of my food plan—the bubble gum flavored stuff. And then Dimetapp was part of the food plan. So when I got to age 21, I was having rashes and wheels and all kinds of reactions going on, feeling tired [while] training.

James LaValle 2:27

I was going to a pharmacy school where we had a rich history in botanical medicine, so we actually got taught plant medicine in our pharmacy school training. So I ended up going to a doctor who put me on a rotation diet, cleaned up my gut, and helped to work on restoring the diurnal pattern of my adrenals. This was in 1982.

Dr. Jill 2:52

Wow! Lucky you, because there weren't many around then, right?

James LaValle 2:56

This doctor was amazing. Dr. Polin—God rest his soul. He was an amazing doctor. So immediately [after] I got out of pharmacy school. I was behind the counter. I was working actually in a clinical setting with the city and I just [said]:

"You know what? I've got to do more than just talk about medicine to people" because I felt the power of nutrition and how it changed my life. I literally went from being in a pharmacy program to walking into a doctor's office and saying, "Hey, I want to do integrative care and I want to start teaching people how to eat better and what nutrients to use." That's how it got started. I just jumped right in because the water was really good and cold.

James LaValle 3:42

Since basically 1985, I've been full-time. I had a practice where we did 300–400 patients a week. We have done programs where we worked on a quarter of a million people through Life Time Fitness. Obviously, I'm a little enthusiastic about it now. I'm turning 62 next week. I'm still feeling pretty pumped about this area of integrative care and functional health. and really working with people, understanding their chemistry so they can feel the best they can feel. That's all we're hoping for.

Dr. Jill 4:15

Yes. And like I said, I want to dive into nutrients and peptides and all that. I love your story though, and I remember personally, we met through a [mutual] friend probably. But in all kinds of other lecture areas, you were a mainstay even before I came on the circuit. So I remember listening to your lectures, probably at the beginning when you started speaking there. It's always great content. I've always, always, always enjoyed that, so it's been a pleasure to learn from you as well.

James LaValle 4:41

Oh, well, thank you. When you think about it, most people that we're dealing with, their metabolisms are stuck. I mean, 80% of the population is overweight; 50% of the population is diabetic. You've got all the folks that have the SIRS complex from their biotoxin exposures. It's this mix of inflammation, chemistry, hormonal shifts, and failures due to stress, sleep, overtraining, or whatever; and then hypometabolism.

James LaValle 5:16

I actually wrote a book on it called Diabetes and Cancer: Epidemiological Evidence and Molecular Links. [It's] great [for] bedtime sleep—one page [and] you're out. It was a textbook with Karger Press. I felt so fortunate to get asked to write a chapter in it.

James LaValle 5:35

The big problem with people—whether it's in SIRS or whether it's in people that are just flat-out insulin resistant—is that when you become inefficient with the way your body generates energy, everything slows down. And now I can't burn fat; I don't have energy. You could tell me to eat a lower-carb diet, but as soon as I leave your office, even though I really liked you, I'm not stopping at the broccoli shop. There are donuts and nachos on the way home, and pizza. When my ability to make energy is low, I'm going for the high carb energy. Man, I've got to have it because I feel so worn out and rung out. So I think for us, it's exciting when we get people to gain their vitality back. And at the cellular level, the mitochondrial level, we restore the 38 packets of energy coming through OXPHOS versus the two packets of energy that occur through glycolysis when you shut down the ability of your body to utilize sugar efficiently. So anyway, I thought I'd introduce, hopefully, how we can apply peptides and nutrients in that construct.

Dr. Jill 6:44

Perfect because I see so many people coming in. I obviously deal with a lot of mold and SIRS illness, so that's one big component; this chemical toxicity that poisons mitochondria and burning capacity and causes [inaudible]. But let's talk through [some things]. We have an average—could be male or female; but say just for an example—45-year-old female who comes in and says: "I've just gained 20 pounds. I've not really done anything differently. What could be the problem? Take us through the areas we might look at because one of the things I hear all the time, and I'm sure you do too, [is] "It's probably my thyroid." Well, probably 90% of the time—sadly, we wish it's that easy, right?—it's not the thyroid. That is one thing that affects us; it's like the gas pedal on metabolism. But usually,

with the stuff that we're talking about, that's not it. So what other things would you look at? Let's talk through that kind of case and how you would start.

James LaValle 7:29

So let's build up to the complexity of it. So the first step you look at, the very first step for me, is: What's your cortisol pattern like? And what's your sleep pattern like? So that's one, because when we flatten our cortisol curve... When we lose the diurnal pattern of cortisol—meaning for those out there listening, cortisol goes up, is supposed to go down in the middle of the day, go down some more in the evening, and then go down at night—when we keep stuck in sympathetic overdrive or excess sympathetic tone, too many fight or flight chemicals, what starts to happen is that the event of cortisol creates more inflammatory cytokines like interleukin-6 (IL-6), for example. And IL-6 turns off your insulin receptor.

James LaValle 8:16

So right away, your insulin receptors start to retract back into the cell membrane, and now you have to produce more insulin. And when I produce more insulin, lots of things start to happen: Chronic inflammatory chemistry starts to occur because more adrenaline pumps because of that insulin; I start to store fat beautifully; I'm getting really efficient at doing that. The other piece is that your cortisol is starting to flatten out. Now that you've got that person, you say, "Sir, are you craving carbs much?" They just look at you and go: "Oh, I'm fine until four o'clock." I get home and I look for the Lay's bag because I'm going to hug that potato chip bag and tell them I love it, right? That's because we've got 40% of the population with some sort of dopamine snip issue—at least one allele for dopamine. That means when I get under chronic stress, I'm going to need a reward. And reward is not broccoli, right? The reward is: "Oh wait, I'm going to eat one chocolate chip cookie. No wait, I'm going to eat two. No, wait a second. I don't like even numbers. I'm going to eat three." So we rationalize. We eat, and then we eat past being full, and we eat in order to placate that dopaminergic drive.

James LaValle 9:34

So stress causes issues around insulin regulation, fat storage, and obviously more push towards sympathetic tone and your immune system getting activated. But then it also starts to trigger things like appetite, and then that also pushes into how we get a disturbed sleep pattern. So when we have a disturbed sleep pattern now, that contributes to weight gain, obviously, because our brain doesn't get that rejuvenation cycle that it needs in order to reset the diurnal pattern for how the beta cells of our islets of Langerhans release insulin for the next 24 hours. A lot of people don't realize that. When your melatonin cycle is off, that is actually what creates the next 24-hour beta cell action from your pancreas to regulate insulin. So right away, cortisol, sleep, and insulin [are affected]. Very easy.

James LaValle 10:34

Now we can extend that. What's your diet like? Somebody comes in and says: "I'm 20 pounds [heavier]. I even changed my diet." Well sure. Maybe you weren't eating right all along, and now it's just caught up with you. So we have to talk about: How are you eating? I'm obviously on the advisory board. For folks with ProLon, I get the fasting mimic diet stuff; I'm into time-restricted eating. I understand all that, but in the end—we both know—I don't think there's any one diet that works for everyone. I think people should eat more plant food as long as they're not sensitive to it, as long as their gut is not broken down or they're not having allergies to it. So if I have to think through the next step of why [one] gained weight, well maybe your gut is broken down.

Dr. Jill 11:23

Jim, I want to say something really quickly here. I want to come back to the gut, but this is relevant. Like you said, first of all, there's no diet that's one-size-fits-all. So anyone out there who's saying, "This diet is going to work for everyone"—don't listen because it's not true. You and I personalize diets; that's so key because each person is different. Number two, I love fasting in the right person. But I want to actually make clear here that patients who have flatlined cortisol, or women who are in the changes of either post-pregnancy or menopause—with some of these

categories, I see women more than men—don't do well with fasting. They may already have disrupted [crosstalk] or they already have a low hypoglycemic tendency. So I love that you said that because I'm a huge fan of that for the right category. And I think men, in general, do the physiology better than women. But I've been speaking out more and more because I hear a lot of books and new things out there about [how] everybody should be fasting, everybody should be intermittent fasting. Not everybody should be, right?—because if you have a flat line like an almost Addisonian person, they are not going to do well on a fasting-mimicking diet.

James LaValle 12:22

Well, I always said, time-restricted eating, I think, is funny because when I was a kid I came up in an ethnic family—very Italian. You know: "Jimmy, we have breakfast at 7:00. We got lunch at noon. You have dinner by 5:30. And if you're a good little Italian boy, you get a cookie at 7:00." It's a 12/12 setup, and that's the way we used to eat. The Chinese knew this—if you look at Cheng cycles in Chinese medicine—it was clear that night was when your body repaired and you weren't to feed because the energy to utilize that food could not be utilized for repair cycles. Now we're finding out that that was completely true. The Chinese figured it out in TCM. So it's so right on. One of the big things I try to work with people is to try to get them to understand that it's not normal to have to be on... "I'm on a modified ketogenic vegan FODMAP diet and I use gaps on top. So basically I can have water and occasionally a twig."

Dr. Jill 13:32

I love that!—because our next topic is the gut. And you and I know that the FODMAP diet is starving the microbiome for a purpose for a limited time. But if you stay on a FODMAP diet forever, you starve the diversity in your microbiome, which is where you were headed before I interrupted you.

James LaValle 13:47

No, that's it! And I'm really big about trying to get people to understand that we need to get you back to as much

diversity as possible. Look, I'm somebody that can't tolerate cow's dairy. I mean, that's what got me sick my whole childhood, why I had ear infections and why I had sinus problems. [During] my whole childhood, I got a milkshake every night from my dad, who worked a 12-hour day to bring me a milkshake to show me he loved me. And I was sick virtually all year round. Oh yes, one big snot nose. They called me "snot boy." So I think it's important for us to help people understand that our goal is to get you back to normalcy. And the gut is important because there are a lot of ways that your gut can get permeable. A lot of drug therapies 24% of the drugs on the market are thought to disrupt the microbiome. That's our latest database that we're researching. We did all the research on drug-induced—

Dr. Jill 14:38

Wow, I had not heard that statistic. That's huge!

James LaValle 13:47

That's crazy and look, it's not just the antibiotics, it's not just neural contraceptives, it's not just the PPIs, it's statins, it's metformin. So everybody thinks, "Oh metformin! The greatest anti-aging drug!" right? I'm not saying it's not a fantastic drug and there's some value when you look at longevity medicine, but once again, when we look at people as individuals, we have to understand: Is it going to be right for me? What's it doing to my gut microbiome? Am I getting a loose stool from it? What's my methylmalonic acid look like when I'm on metformin for a year? A lot of times we don't do that. We just hear the highlights and then we start using it. We should be digging deeper to understand: Where am I going?

Dr. Jill 15:23

Jim, I had a very close experience with that. Twenty years ago, when I had breast cancer, I had three drug chemotherapy, which is no surprise that chemo drugs could induce impermeability. But Cytosan, one of the drugs that I took, the research shows that maybe its anti-cancer effect is by increasing permeability of stimulating immune function.

So I had that drug and I chose to, and that was the right thing for me for the cancer. But six months later I was diagnosed with Crohn's disease. We don't have to go into my story, but it's relevant because I basically induced permeability to a higher degree. I didn't know I had celiac. I was eating a gluten-full diet. I had NOD2, which is a high risk for Crohn's. So I had the perfect storm for permeability to create another autoimmune disease. And again, it's just relevant to what you're saying because I wouldn't have thought about that as creating a more permeable gut, but it did. And it's very, very real. Many, many drugs do that.

James LaValle 16:16

And there are a lot of people on PPIs. There are a lot of people on statins [or] antipsychotics. I just wrote a little ebook on that. I'll even share it with you because I've got all the latest research on it. I'll be glad to send it to you. The other thing is that you can get it from a TBI. So they find out that you hit your head, and within 10 minutes of a head strike, if you've had a TBI, your gut permeability changes significantly. People don't realize that these are the kinds of things that are happening; that yes, the gut bone is connected to the brain bone.

James LaValle 16:56

It's also [about] understanding that this is a really important thing. A lot of times, people go, "When in doubt, begin with the gut." I'm kind of good with that; that's what happened with me; it's how I got into this. But I also know that you can work on your gut forever, and if you're anxious or you're depressed or you persevere or you've got a lot of excess stress on you and you're not doing things to countermeasure that, you're going to stay with a leaky gut. You're just going to develop new food allergens as you rotate the old ones out, and you'll never get to the bottom of it.

Dr. Jill 17:26

I love that you said that. Again, just to reiterate for people listening out there, often a doctor puts you on an elimination diet. You take out corn, soy, gluten, dairy, eggs,

sugar, and alcohol, right? That's so common. Not a bad idea because what you're doing is taking the load off the immune system, temporarily giving your body time to rest and not be totally overstimulated so you can heal that gut. But what you and I are both saying is that you don't want to be on a completely restricted diet forever because you're going to starve some of those good microbiome components. And all these other things [such as] meds and chemicals... So how do the gut and metabolic function connect? You and I know the LPS story. Do you want to go into a little bit about how people could have tough guts and have weight gain? Like, how does that connect?

James LaValle 18:12

When your gut is starting to get starved, one, and when you're reducing blood flow, two, and you're killing off good bacteria—the gram-negative bacteria, in particular—what starts to happen is that you circulate endotoxins. Circulating endotoxin or lipopolysaccharide actually attaches to all your organs and triggers NF-kappaB. So it triggers cellular inflammatory signaling. So even for autoimmune thyroid, they're now showing that the lipopolysaccharide receptors on your thyroid are actually probably what's starting the triggering of autoimmune thyroid. So the gut gets leaky. Now your liver and your lymph are supposed to get rid of that lipopolysaccharide. The liver gets congested; it can't. The lymph is already overloaded with too much debris as byproducts of metabolism, and now the LPS goes around and it crosses the blood-brain barrier. So what they find is that you get microglial activation, neuroinflammatory response, and then a change in your allostasis of how your hypothalamus and pituitary are signaling all the aspects of your metabolism like adrenal, thyroid, and pancreatic relationships. That's kind of how the gut starts to really weave its way. It's a metastatic model for obesity, if you want to think of it that way. The chemicals are coming from the gut and are going everywhere. So that's why it's a big issue.

James LaValle 19:44

So when that woman is 45, it's: "Okay, we've got gut, cortisol, sleep, blood sugar, stress." And then we think about: What drug history have you been on? Have you been on oral

contraceptives? What's your estrone like? What type of estrogens are you making? Are there any other drug therapies that may have lowered or reduced the nutrients you need, say for example, for your thyroid to function? And it's not just: "Do I have tyrosine and do I have iodine?" Do you have enough chromium? Do you have enough ferritin?—because you need ferritin to make your thyroid hormone bind to the cell and cause that action of oxidative phosphorylation and burn fat. So it's always amazing to me because I think it's incredibly easy.

James LaValle 20:37

My brother was 476 pounds. My mother was obese. My father was a type 2 diabetic who was obese. So everybody looks at me and goes: "Wow! You look..." I'm the weight I was in high school. I train a lot; I'm into it. But if I didn't do that, if all I did was go out and eat what I wanted, I'd be kind of big. I think it's important for people to realize [certain things]. I think it's easier and easier, but because of what you said to start our discussion... Environmental burden. Look at pesticides. Pesticides disrupt the insulin—

Dr. Jill 21:12

That's the elephant in the room, isn't it? Jim, I know you see this as well, but that's the thing that's exponentially increasing. I really think [the reason] why we fared so poorly in the pandemic was because our toxic load was weighting our immune system and our metabolic system. Let's just talk a brief bit about that. If you are overweight or trying to lose weight, how do you deal with the toxic burden of that? That's a big piece of the puzzle, isn't it?

James LaValle 21:38

Yes, it really is. So I think, first of all, doing things like infrared saunas can be helpful; regular exercise, even walking, can be helpful. That's great. For some people, if they don't have the money or they're not going to someone, start out by cutting gluten and dairy out and counting your carbs that you're currently eating. Just try to cut it in half and see if you notice a change in your metabolism. That can be beneficial.

James LaValle 22:10

Now I understand that some people are hypoglycemic, so you always have to say: "Well, how do I feel when I cut down some carbs? Am I getting dizzy? Am I getting lightheaded? What's going on?" Well, in that case, I start to think about [how] your insulin receptors might not be working well. The number one nutrient associated with the development of insulin resistance is magnesium.

James LaValle 22:32

So a couple of the things I like to get on the nutrient side are: Get magnesium on board; get chromium on board; get B vitamins on board. Because those are all nutrients that can help you make that insulin receptor work better, just like alpha-lipoic acid can as well. Now, if you want to get into the world of peptides, there are a couple of very cool peptides, right?

Dr. Jill 22:54

Yes, let's transition into peptides. I love talking about that.

James LaValle 22:59

You're going to have me running around the world here. I think on the peptide side, MOTS-c is a mitochondrial peptide that helps with creating more mitochondria within your cell, which is what disappears. So when your thyroid hormone goes down and your insulin receptors are less efficient, you lose 40% of your mitochondrial capacity within your cell; 40% of your mitochondria go away. So that means you don't have any powerhouses. That's the first thing. So MOTS-c helps to boost and trigger getting those mitochondria back into the cell, driving energy production. And then, more importantly, it helps the insulin receptors to also start to open back up because, of course, when the mitochondria work, your cells start to work.

James LaValle 23:50

Now, it's really popular for people to use things like semaglutide nowadays. Semaglutide—or the trade name

Ozempic, but compounding pharmacies are using semaglutide—[is] a GLP-1 agonist which is going to help you with that glucose disposal and utilization. The trick on that one is that I like using Ipamorelin and CJC 1295, which is basically a growth hormone-secreting guide, because also, that ghrelin stimulus helps you to keep from getting nauseous from the semaglutide.

Dr. Jill 24:24

That makes sense. What I found is that leptin resistance with SIRS and mold is so tricky; I think it's one of the hardest ones to overcome. And that GLP-1 agonist is very effective for leptin resistance. It's off-label, so just know your insurance is not going to cover this—it's off-label usage. However, it works.

James LaValle 24:54

Exactly. If you get it from compounders, it's about a quarter of the cost of getting the trade name. Then using the Ipamorelin—why do I think that's important? As your free cortisol goes up, you inhibit gonadotropin-releasing hormone and growth hormone-releasing hormone. So Ipamorelin and CJC help when you've had people that have flattened their cortisol curve—they're hyper-vigilant, they're not releasing growth hormone like they should. I'm not a big fan of elevated IGF-1s. I'm a fan of effective IGF-1; 120-160.

Dr. Jill 25:21

Yes. I almost never prescribe growth hormone by itself because I feel like it's too suppressive on the axis. I feel like you can get a better job with peptides without suppressing natural production.

James LaValle 25:34

That's exactly right. And you re-kick-start it in people that have suppressed it due to their stress response, their allostatic load. Then on the other side, for gonadotropin-releasing hormone [is] kisspeptin. Now of course, you could use hCG, but kisspeptin is an interesting peptide actually in fertility. I've had a few women here

recently where we've used kisspeptin—[for women] that have had a very difficult time getting pregnant—and within three to four cycles they're pregnant, which is very, very exciting.

James LaValle 26:06

What I like about peptides is that I think for those of us that are really looking for another tool in our toolbox, it allows us to kind of reconnect those broken enzymatic communications that have stopped people from maintaining homeostasis. They're broken, so they can never quite get to homeostasis; they've always got a little bit of dysfunctional metabolism; they're making too many inflammatory compounds. Misfolded proteins are starting to aggregate. All this little stuff just keeps coming. I like peptides because we start to create this signaling ability for people's chemistry to remember: "Oh! This is how I was supposed to function!"

Dr. Jill 26:48

I love that. With the SIRS and the mold illness, it's real. First of all, I say we have to detox first because your body's doing what it's supposed to do. Dilution is the solution to pollution, so you put on some weight to protect [against] that excess toxicity. So if you are out there and you're in mold, you usually have to detox first before you're going to lose weight. It's just the way it is. I'd say about six months minimum. Would you agree there?—and then start the weight loss afterward. I mean, not that they couldn't lose weight, but it's hard to.

James LaValle 27:13

I totally agree with you. I've seen so many people where until you get their inflammation signaling down, whether it's their SIRS or whatever, [including] toxic metals... I have people come to me after their breast cancer and I find platinum in them. They're storing platinum in their bone. You've got to get it out. You've got to get that stuff out. It's almost as if when they hit this waterfall, you've got enough of the inflammagens out of their bodies and all of a sudden: "I lost weight this month." "It's been four months" [or]: "It's been six months. I'm starting to feel it. I'm not feeling puffy

anymore. They're not feeling all that histaminic fluid retention. I think, for sure, that that's a key thing.

Dr. Jill 28:00

I totally agree and I love that you say that. It's always hard to tell them because they come in [saying] they want weight loss, then we find mold illness or toxic metals, or there's another infection. I always hate saying: "I'm so sorry, but it's going to be almost impossible; it's actually not in your best interest to start weight loss before you detox." This might be some experience for those of you listening. I'd love to ask your opinion, Jim, on this. When you lose weight when you're very toxic, you can actually get much sicker because you have less dilutional effect. So your chemical load is actually higher per square inch of your body. People can get really sick, and then they often either gain the weight back or say, "I felt terrible." What are your thoughts on that? [What happens] if we lose weight too soon in the process when we're toxic?

James LaValle 28:43

I think there are several layers to that. I think, first of all, you're exactly right. Remember, the heavier you are, the more toxins are stored in your fat cells. So as you're dropping that fat fast, you're pushing those toxins into your circulation. Then, for example, if your urine is acidic, if you're acidotic, you're not going to get rid of that through your kidneys. You're going to actually damage your kidneys because you're going to increase the oxidative burden on those cells in the kidneys. So, I think there are several layers to it that you have to unpack for people.

James LaValle 29:23

For me, I always tell people I want to lose weight slowly and I want to do it so that we're restoring your health. [With] most weight loss programs [we find that] 30% of their weight loss is actually lean mass; muscle is our currency of metabolism. If we're going to age gracefully, we need to retain our lean mass. When you don't lose weight correctly and you create a loss of lean mass, you're going against everything that is going to promote your longevity and your

repair—if you've been obese, [for example]. I took my brother from 467 to 285. So we got 200 pounds off of him. It took us about two and a half years, but in the end, really, it served them well.

Dr. Jill 30:12

That's amazing!

James LaValle 28:43

So I think all of your points—you're exactly on spot, yes.

Dr. Jill 30:17

What else would you do? Say someone comes in and their primary goal is weight loss—we may see toxins, we may see gut issues, [or] whatever else—what would you do with a workup as far as suggestions for testing? Would you do stool [testing]? Would you do an organic acids [test]? What would you do for weight loss as a primary complaint?—but you're wanting to check nutrients and these other things.

James LaValle 30:35

Everything.

Dr. Jill 30:36

Yes, me too.

James LaValle 30:38

Look, whenever I can get a digestive stool, I like it, if they have any kind of complaint, GI tract at all, of anything. If they're pretty resilient and they're saying, "Hey, my bowel movements are good, I get absolutely no bloating or gas"; they stick their tongue out and it's not geographic, it's not coated; I look here (pointing to the area under the eyes) and they're not pale, they're not malabsorbing maybe; I don't do a stool test right away. I start with all the standard things you would do [such as] homocysteines and CRPs. I like getting things like MMP-9.

James LaValle 31:11

At times, I even like being able to get stuff like galectin-3 in older men because galectin-3 shows kind of a systemic inflammatory response; it can cause a lot of fibrosis. In addition to that, obviously, glucose and insulin—everything related to that. I like to look at red blood cell magnesium and red blood cell zinc.

James LaValle 31:40

Sometimes I'll look at CoQ10 if they're on meds that are depleting CoQ10 or if they're over the age of 45. I look at CoQ10 because if you're low on CoQ10, it's hard getting the mitochondria functioning. Obviously, [I look at] folate and B12. Then I love getting salivary or urinary cortisol [testing done] as well. Then, of course, all of their hormones including—for men—estradiol and estrone and yes DHT and yes testosterone and you [inaudible 32:10].

James LaValle 32:12

And then I actually like advanced lipid markers. The reason I like advanced lipid markers is that I can see how much metaflammation is taking place. So the term 'metaflammation' is dyslipidemia—loss of muscle mass. I like to look at ferritin and iron because you see where people have adequate iron but they don't store their ferritin. That's because of inflammatory signaling down-regulating ferroportin. So you'll see that a lot with people where they're [like]: "Wait a second. Your iron is really good, but you've got no ferritin." That tells you they have metabolic inflammation underlying. So I'm looking for those kinds of traits, even looking at mean platelet volume. Mean platelet volume—it's on every lab test you get. Nobody looks at it. When it's elevated, it's a marker for metabolic inflammation.

James LaValle 33:02

So I'm looking for all those kinds of things in my initial workup. And then I start to refine the process: Have you been in any water-damaged buildings? Is there a SIRS component? What do I think of toxic metal possibilities? Typically, if I'm looking at organic acids, I'm actually more

interested in what's going on in the 2, 3 IDO pathway and managing the mood of that person who's obese.

James LaValle 33:34

We did weight loss programs for a quarter of a million lives with Life Time Fitness because they weren't getting people to lose weight. I also interviewed a huge clinic—million patient charts. And they've always wanted to come back and get their biphphetamine. Why? Because their focus wasn't good when they didn't take the biphphetamine—so low dopamine—and their cravings were out of control. So I always like looking at that 2, 3 IDO pathway and finding out: "Hey, where's your kynurenic acid? Where's your colonic acid?" And then more importantly, if they do have candida, I know because of their aldehyde oxidase they're holding histamine and they're also making more phenols in their brain. So the aldehyde oxidase ends up creating problems. They make beta-carboline and salsolinol in their brains instead of dopamine and serotonin. So I'm big on getting that brain right so that they're clear-headed and not craving.

Dr. Jill 34:30

Oh I love that, because that's really one of the cores too, is this behavioral piece. Granted, we do have free will and choice, but there are so many times when the messed up metabolism and messed up neurotransmitters drive [things]. And they really are a victim of the neurotransmitters. So I love that you say that because some people can really be trying hard and have no dopamine or no serotonin and it's going to really mess with what they're eating, right?

James LaValle 34:55

That's exactly right. For the longest time, I would hear it over and over again. Especially women, because in my clinic in Ohio—we had a women's health center—we did preconception care and bioidentical hormones. My OB-GYN there wrote the Idiot's Guide to Menopause. So we had a lot of women going through. And [we noticed] the self-esteem issues around: "Oh, I just can't control that craving pattern. I'm bad. I just don't want it badly enough. " [Yet] it really

wasn't that; it was: "No, your chemistry is off and your brain is telling you to eat that in order to try to survive, but we need to change those signals."

James LaValle 35:37

I think it's really important for people to understand that most of the time, for me, if it's, "Okay, I've got an overload of toxins," [then usually] it's pesticides, it's metals, it's biotoxins. That's one category. Two, it's stress; three, it's diet; four, it's drug history; and a lot of times now, it's people that are overtraining.

James LaValle 35:56

I've got people that are overtraining and can't lose weight. So that's another area that didn't used to be the case 20 years ago when I was doing this. Nobody was overtraining; everybody was kind of on the couch. But now we've got: "I'm doing the Spartan." "I'm doing the Ragnar." "I'm doing the Ragnar and Spartan combined." All these people are training like professional athletes and—

Dr. Jill 36:18

Oh, I love that you say that because I always share just a little of my [personal experience]. One of my stories is that probably about four or five years ago, I was doing high-intensity interval running, like very high-intensity sports, and that was my whole life because I was like a dopamine-cortisol-driven kind of person.

James LaValle 36:33

Really?

Dr. Jill 36:34

Yes. Surprise, surprise!

James LaValle 36:37

I couldn't tell.

Dr. Jill 36:37

But then when I hit about 40, I had the mold and I was inflamed and things weren't working. I was losing muscle, gaining fat, and gaining inflammation. And literally, one of my really smart trainers told me: "Take 30 days off. I don't want you to do anything but walk." I was like, "No way!" But I'll tell you what, Jim, in the next six months I lost 8% body fat. I [got into] the healthiest shape I've ever been in by basically stopping my workout regimen.

Dr. Jill 37:01

Now I do weight training, I do walking, I do hiking. I don't work out like I used to anymore—not at all because when that shift in my hormones and cortisol and everything happened, it made me realize [what works best for me]. I was doing six or seven days a week—completely overtraining for me at that stage in life. None of this was taught in medical school. I should have had knowledge of that, and yet I had no idea. I didn't think anywhere from 20 minutes of high-intensity intervals to an hour run was overtraining. But for me, at that age in my life, it was over-training. So I love that you said that because I learned very clearly—

James LaValle 37:37

Absolutely!

Dr. Jill 37:31

It was driving the cortisol up.

James LaValle 37:42

Yes. I've got athletes in all five major league sports that work with SpecOps. I'm around a fair amount of [that]. That's half of my life, and then the other half is just dealing with everyday folks and their problems. A lot of people don't realize the difference between a professional athlete and someone who isn't; it's their nervous system. It's not how much muscle they have on them. It's how resilient their nervous system is to stress and if they can reset it. And for most of us, when we push ourselves that hard—just like what you said—your cortisol goes up out of control, you

start to lose lean mass, and you start to store fat. And I'm a big fan of trying to get people to just look, just start moving, be moderate. That comes from somebody like you. I'm a recovering 'exerholic.' I mean, I love to hit it hard. Now I'm just keeping it [to the point] where I can be healthy as I'm aging. I've got to get to 70; I'm eight years away.

Dr. Jill 38:33

Absolutely, you look great! I love that though, because it does change in our age categories too. [In my] 20s and 30s, that was perfect for me, but then when I hit 40, I really needed to change. I love that you mentioned that because at that time in life I was recovering from mold illness. I was running a full-time clinic because of all the other mass stressors in my life that were raising cortisol. I didn't need to exercise to do the same thing. So it was a learning [experience] for me. And now I really understand, "Wow, not everybody should be out there running 10 miles a day."

James LaValle 39:04

That's right. It's all about balance, right? In the end, it's: How do I create this chemistry that says 'adequate rest'? And I love that people are using loops. I mean, hey, aren't you happy that now we know what time it is to breathe?

Dr. Jill 39:19

Exactly. I check my aura ring. The moment I wake up, I want to know, "How did I sleep?" Duh! I slept great, but I have to know the data.

James LaValle 39:31

Honestly, I think it's unfortunate that people don't breathe; they're stuck in a sympathetic tone. But I love it when people do their aura or loops now or any wearable device because they're going: "Oh, I drank two cocktails; I didn't have a good night's sleep" or "Oh, I ate that piece of pie" or "Oh, I had that gluten." And, "Wow, look at the way it affected me." So I love that for weight management as well, because it gets people aware of what's keeping them in tune with themselves and what's getting them out of tune. I think

all those things are important when you're trying to get people to lose weight. Even when you're using a peptide, if you're using a peptide at bedtime and you notice your REM and your deep sleep are off, maybe you need to change that dosing time up, right? So I think it really is an effective tool that will continue to evolve in our ability to apply it. But it's pretty interesting.

Dr. Jill 40:28

It is. I love that. I just told a family member who's pre-diabetic to get a continuous glucose monitor and it changed his life as far as seeing: "Oh, when I eat this it does this" or "when I have an extra drink..." So it was really helpful. Wow, Jim, we have covered a lot—no surprise. I knew we would. What's any last bit of wisdom you would give to someone who's stuck? I mean, obviously, they need to find a good integrative-functional [practitioner]—someone who can really test and treat. But say they're on their own, is there a first step? You kind of talked about maybe sleep. Or what would be your first bit of advice for someone who's stuck out there?

James LaValle 41:01

My first bit of advice would be, first of all, don't give up and feel you're stuck; search for answers that can change your life. And those can come at the craziest places if you open yourself up to it. Obviously, I could say: "Hey, get on a treadmill; walk 21 minutes a day; get better sleep" [and] all of that. But I think it's so important for people to understand, and this is something I say to my clients and my patients all the time: "Your health—you're the one that's empowered to change it first of all, but most importantly, it's going to be work." It's work, but it's worth it because every little bit that you regain makes you appreciate what it's like to feel better rather than feel worse. I think it's so important for people. Even when you're feeling it, I know there are SIRS patients that, man, they're having seizures and they're having electrical shocks and they're anxious and they gain weight and they can't go into a building. I get it because I have those kinds of folks too. So it's just important, though, that we give them hope and that we give them something to anchor onto. And if you're that person, I went through that

when I was passing out after I ate, and I'd have wheels the size of a football on my leg. Look for those answers and don't give up. That's probably my number one step for people.

Dr. Jill 42:25

I love that! One thing I think we can both say [is that] I feel like I'm in my 40s and I am in the best health that I've ever been in, better than in my 20s and 30s. I feel like you could probably say the same thing where you're at. So there's hope that even as we age, we can be in better and better health and not decline.

James LaValle 42:45

Well, aging is a disease in my opinion. So let's fight back!

Dr. Jill 42:52

Yes, exactly! Thank you so much for your time. I know you're so busy, and we're honored to have you here! Thank you again so much!

James LaValle 42:59

Thank you, Jill. It was a pleasure!

Dr. Jill 43:01

It really was!