

Transcript

Podcast:

[#38: Dr. Jill Interviews Dr. Joel Rosen on Adrenal Fatigue](#)

Text:

Dr. Jill 00:11

Hey everybody! Thanks for joining us again for Facebook Live and Dr. Jill Live with Dr. Joel Rosen today. A lot of times, I've had guests that I know really well. Joel and I know of each other, but we're going to get to know each other even better today, and I'm really excited about that.

Dr. Jill 00:30

Just a little housekeeping: If you want more videos, you can find them on Facebook here, on my Facebook page, Flatiron Functional Medicine. If you're on YouTube, you can subscribe to the channel under Jill Carnahan. We've got lots of great interviews, and this will just be another one of them.

Dr. Jill 00:49

So, Dr. Joel—I want to introduce him first, and then we'll dive into a story of how you got into what you're doing. He's the founder of TheTruthAboutAdrenalFatigue.com and an expert in repairing the broken stress response system in the body and resetting the circadian rhythms of the body. He's a chiropractic physician and a certified functional medicine practitioner. He utilizes his undergraduate degree in exercise, physiology, and psychology. What a great combo. We need that nowadays, don't we?

Dr. Jill 00:49

His private practice is located in Boca Raton, Florida, but his coaching clients reside all over the world. Joel hosts his podcast, Your Adrenal Fix. He is passionate about

impacting the practice of healthcare versus sickness care and has made it his personal mission to educate doctors and patients alike on the truth about adrenal fatigue and how the impact of stressors impacts more than the adrenals, right to the cellular level. Joel suffered from his own adrenal fatigue health crisis and now educates tens of thousands of clients around the world. We'll have to talk a little bit about the adrenals, which I'm sure you have talked about on many of your podcasts as well. Welcome Joel. Thanks so much for joining me today!

Dr. Joel Rosen 01:56

Yes, thanks for having me. I'm really excited to get to know you in front of everyone and be able to bounce ideas and somewhat nerd out on the information so that we can ultimately help people get over whatever health and challenges they're dealing with.

Dr. Jill 02:13

Yes, I love that, and I clearly hear in your bio that you have a story. Do you want to tell everybody a little bit more about how you got into... I'd love to hear the pre... I'm assuming that maybe the adrenal stuff came into [play] after your degree, but tell me your story about how things transpired for you.

Dr. Joel Rosen 02:29

Sure. I'm from a traditional approach family. My sister is a family practice doctor. My mom's a public health nurse. My cousins are surgeons, and I was always sort of the black sheep member of the family. I was into athletics, so my undergraduate degree was in exercise physiology. When I graduated, Jill, I hurt my back, and everyone wanted me to go for surgery. I had graduated from a rehab program, so that's where I was introduced to a chiropractor. And it was like an epiphany. I was like, "Okay, this is what I want to finally do with my life."

Dr. Joel Rosen 03:06

However, when I went to undergraduate college in Canada for my first two years, I really didn't exert myself with my GPA, so I actually had to go back to school to get my GPA up. And that's when I got my second degree in psychology. I loathed that degree because I had to go back to school. I just wanted to go to graduate school, and I thought, "What a waste of time to do psychology," only to know so many years later that it's that ace in the hole that makes a huge difference with people who are

suffering with problems—that psychological component.

Dr. Joel Rosen 03:42

I ended up going through chiropractic college and was probably on a permanent IV with caffeine to be able to get through the long hours, the study, the stress of the exams, the lack of sleep, and really the brain fog, focus, and concentration. When I graduated, Jill, my wife was pregnant with twins. We had to go on bed rest at 19 or 20 weeks because of an incompetent cervix, and we were going to almost lose the twins. At that point, every single day my mantra was: "Happy, healthy babies." "Happy, healthy babies." "Happy, healthy babies." And we made it to 36 weeks. Our OB kept saying, "I had a pager, and I thought it was going to be the Rosens—that they just went into labor."

Dr. Joel Rosen 04:29

So when I graduated and moved to Florida, I was exhausted and burned out. I have this profession, and I re-injured my back, and I had a patient of mine who's an acupuncturist bring in a book called Why Do I Have Thyroid Symptoms When My Blood Tests Are Normal? And I'm like, "I don't have a thyroid problem." So I looked at the book, and inside the book, there was a section on adrenal fatigue. And if there wasn't a picture of me in that section, it described me to a T. I thought: "How do I not know about this? I graduated in chiropractic. I have a psychology degree. I have an exercise physiology degree." So that really led me to [wonder], "If I don't know about this, how many other people do not know about this?" only to learn how controversial the term is. It's not accepted, it's not researched, and a lot of the baby gets thrown out with the bath water when someone is suffering from exhaustion and fatigue but doesn't fit the medical diagnosis of what it is.

Dr. Joel Rosen 05:37

So that's been my journey, Jill, and ever since then I've incorporated so many other things along [the way], which we can talk about today with the genomics and the environment and all of these epigenetic factors that create a perfect storm in your body. And even though objectively the blood tests may not capture exactly what's going on in the set algorithm, it will still result in fatigue, exhaustion, and burnout. And that's in epidemic proportions nowadays.

Dr. Jill 06:07

Gosh, thank you so much for sharing your story because a lot of us in medicine have been through your exact same journey where we go and go and go and go. And I love that you also said this is controversial because you and I know, whatever we call it, adrenal fatigue absolutely exists, 100%. We treat it every day. I completely agree with you. But I'll tell you, as an allopathic medical doctor, that it's very similar to leaky gut. Years and years ago, 'leaky gut' was a term that wasn't science-based. So if you talked to a gastroenterologist or anyone like that, they were like: "Oh, that doesn't exist; there's no science." If you talk about it as hyperpermeability syndrome or LPS-induced endotoxemia, they know it. There's research. It's the same thing with different names. And if anything, it's just said in a way that's more palatable for the average person to understand, "Oh, my adrenals are tired." That makes sense, right? But I love that you're saying this because I know there'll probably be someone listening and saying, "Adrenal fatigue doesn't exist."

Dr. Jill 07:06

And I want to clarify because I am on board with you 100%. With patients and myself, we've experienced those fluctuations. I've shifted a little to HPA axis dysfunction because, at least at this point in the journals and stuff, it's easier to get people to understand, listen, and be on the same page. How we name things really does matter. But the truth is, I've used that term. I've written about it. I know you've written extensively about it, and it had a whole platform on your website on it. It's real, and it exists. And in medicine, all that we're taught is Cushing's and Addison's—the two extremes where you have excess cortisol with Cushing's or no production at all.

Dr. Jill 07:46

And again, you probably know this well—even more than I do—but in the types of testing they do with an ACTH stimulation test, they give 100 to 1,000 times the physiological dose to stimulate your pituitary hormone to induce adrenal secretion of cortisol. I always say, "It's enough to wake a dead horse." [laughs] I always say that because unless there's no function left at all, like in Addison's, it will most likely come back negative, and you still have dysfunction. So while we're on this topic, tell me more. Again, you're the expert in this area. You had this personal experience, and now you teach a lot of people and help a lot of people with it. What are your

comments on those nuances and then on the ways that they're testing currently for Addison's and the difference?

Dr. Joel Rosen 08:31

Yes, you had a lot of great things to say in there. There are many shades of gray. And I think most research shows that 80% to 90% of the dysfunction occurs outside of the adrenal glands. So you have the psychoneural, immunological, endocrinological, and gastrointestinal—they're all in crosstalk. Ultimately, I don't even think 'HPA axis' is a sufficient term because it's really mitochondrial-based fatigue. I break it down into simplicity, Jill. I tell people: Just think of it in terms of cell danger—that we like to talk about—and healing cycle. For those who aren't aware of that, simply put, it's supply and demand. At the 30,000-foot view, if you have more expenses than income, you are going to have to make some tough choices. You're not going to go buy new pairs of shoes. You're hopefully just keeping the power on and maybe having one or two creature comforts, if that. The same thing in your body. Your body prioritizes what's most important.

Dr. Joel Rosen 09:39

And I think when you look at POT syndrome, where you have autonomic dysfunction with heart rate, temperature, blood pressure, and respiratory rate, and those are failing and are not doing well in the few stressors that we impart on the body, that's a pretty good sign that supply and demand are not equal. Ultimately, your body is prioritizing the functions that it can do in order to meet the stressors on a day-to-day basis. Then we tend to mask the symptoms with stimulants, sugary foods, and a lack of vitamins and minerals, so it creates a very slippery slope.

Dr. Joel Rosen 10:20

And I would say you're right: The ACTH stimulation test is a poor test to see those shades of gray because, at the end of the day, 80% to 90% of adrenal dysfunction occurs outside of the adrenals. So they're not on the beach chilling out with a soda because they're so exhausted and they can't output any cortisol. There are feedback loop issues. There's mast cell activation. There's an overproduction of histamine. There are genetic susceptibilities. There's the analogy of multiple windows. It's like someone on a computer that has 25 different windows open, and they don't have a lot of depth. They're very wide in their tasks, and they have an incomplete, repetitive healing cycle that doesn't get fixed, and your body makes priorities. So I think that's how we have to start looking at it.

Dr. Joel Rosen 11:12

And it's not a mitochondrial-based disease that most allopathic doctors look at as very problematic. It's subclinical mitochondrial problems where your demand and supply are not equal, and you start to prioritize important points of the body at the expense of other physiological reactions in the body. It results in fatigue, brain fog, [poor] focus and concentration, crashing in the middle of the day, and not handling stress appropriately. Your circadian rhythm is disrupted. It's everything. Everything is involved in the body.

Dr. Jill 11:48

Yes, I love that big view because that's really what we're dealing with with most of our patients on some level. And I love that you clarified, because years ago, 'adrenal fatigue' was the term—we use it. It describes what we're describing, but it's way bigger than that, isn't it? It's like this thing that can affect so many different levels. It does often, though, affect cortisol, ACTH, and the direct physiology of this HPA axis.

Dr. Jill 12:11

Even personally, I remember before COVID, I was traveling every other weekend. When that stopped and shut down, I really felt relief. But then, in a whole different way, the clinic got busier. And I remember earlier this summer, when, for the first time in my life, I wasn't waking up without an alarm. I would have just a little bit more trouble getting up in the morning. I'd be up, like, wired and so productive at 11 p.m., and that was not me for most of my life. Normally, I'd be in bed by 9:30 or 10:00 and up by 5:00 without an alarm. So this shift happened.

Dr. Jill 12:41

I remember just observing curiously. It wasn't in crisis. There was nothing awful happening. [And I remember] being observational and curious about myself and saying: "What's going on here? This is not my typical..." And the fatigue was a part of it in the morning; at least it was a little bit harder to get going. And again, even for me, it wasn't too bad because I still pop out of bed pretty easily. But I could tell I was on the verge of something that was shifting in the physiology, and it had to do with the adrenals.

Dr. Jill 12:11

Now, here's the interesting thing: You might think of hormone dysregulation, stress, infection, or something. What happened with me was that there were some dynamics in my office and then shifts in relationships. When I got through those emotional and psychological stressors, I started waking up again with no problem. And it was... not funny to me, because we know this is real. But for me, it wasn't so much the physical travel, which I wasn't doing at all. It was actually these relational, emotional stressors that we have that were affecting me more than anything else. So, anyone who's listening there, I'm sure you can relate because we sometimes think of the workload, the lack of sleep, or the poor diet.

Dr. Jill 13:41

I was doing all those things right. And again, right now—timing is more important than ever—there's a 600-fold increase in prescriptions for antidepressants. And instead of saying that, with the average adult population, there are about 20% that are depressed at any one time, the numbers now are around 40%. So what's happening in our society is massively affecting our psychology, our physiology, and our mood. What are you seeing in practice with the pandemic, people struggling, and the adrenals and fatigue? Does that reflect your experience?

Dr. Joel Rosen 14:17

Yes, absolutely. I mean, it's hardwired. It's hardwired into our brain, our limbic system, the amygdala, the prefrontal cortex, and everything that puts meaning on stress. And that can create reflexive HPA axis stimulation. So the brain will then signal the adrenals when there isn't commensurate stress. People will say to me: "You know what? I'm aware that my response is inappropriate. I shouldn't have gotten that physiological reaction." And that was one of the things I was always aware of. [It was] like I was a criminal. If I was driving a car and there was a police car behind me, my heart rate would go crazy, [along with] my blood pressure. I'd get shortness of breath. And that's inappropriate. That's not an appropriate response. That's tied to emotion. And that's where that psychology degree came in.

Dr. Joel Rosen 15:13

Even if we go back to the original 'godfather of stress' theory with Walter Cannon and Hans Selye, they talk about how the body doesn't know the difference between a real threat and a perceived stress. And that's what's really great—that you can

harness that. I'm sure that's what got you back into getting up at the right time and not having those surges toward later times of the day because you did address those elephants in the room.

Dr. Joel Rosen 15:44

And sometimes we want the shiny object of "I'm doing all this research, and I really want to know. My doctor is not telling me." But it's always like: "Okay, what's the elephant in the room? How are your relationships? How is your job? How are your finances? And what is your perception of those things?" Those can really be harnessed in your favor if you put a different spin on it or have some celebration and gratitude so that you realize: "Okay, this isn't fair." Or "I do have this, but how am I going to harness how I allow the mobilization of the stress response in my body to help me or hinder me?"

Dr. Jill 16:22

Yes. And just thinking back to my own experience, I eat really, really clean. I'm pretty strict with my diet. I keep good hours for sleep. So even if I was going to bed later, I'd get good hours of sleep. I actually track it with my Oura ring. Most of us now have some [kind of] device. So I'm probably getting two and a half to three hours of deep sleep and an hour and a half of REM. So, really good sleep.

Dr. Jill 16:44

All that to say, those kinds of basics are where we start with patients: Getting good sleep, good relationships, and connection, which right now are impaired because of our isolation and the pandemic itself. And then food. I always say: Clean water, clean food, and clean air [are] some of the basics.

Dr. Jill 16:59

For me, I had all that going. But what was more important was energetically. And you mentioned mitochondria. Some of the things that I found that really took me out of that—number one: Just practicing quiet meditation and prayer in the morning, making sure that I was centered before I went into my day. No matter what chaos came, I was in a good spot. Number two: Making sure relationships were in good, healthy order and condition. And actually getting rid of the negativity in the inner circle, so making sure that the people that were closest to me were those that were positive and encouraging. They don't have to be perfect. But the

really, really downer, negative, toxic kinds of people—it was really hard on me to have those close in the inner circle. And then some of the other things, like PEMF and red light therapy, and all these things that actually address mitochondria directly, I started using my PEMF mat and using red light therapy, and those things really made a difference. What have you seen make the most difference for you or your patients?

Dr. Joel Rosen 17:54

Oh, that's a great question. A lot of what you're talking about is just reframing, understanding stress, and getting baselines. Understanding: What are those big elephants in the room?—for one. And then coming up with a strategy to chip away at the old block, so to speak. As far as what works the best, I'd say establishing a circadian rhythm consciousness.

Dr. Joel Rosen 18:22

The best example is if you go camping and get really acclimated to the earth pretty quickly. It's not glamping; we're camping, right? So you have the stars, the moonlight, and maybe a campfire, but you don't have your cell phone. I say you don't have a plugged-in refrigerator. You don't have your TV. You go to bed fairly early—when it gets dark out. And then you don't lay around in your hot tent the next morning because the sun's up. I think we've lost communication with that "woo-woo" frequency vibration of the earth, and I think we need to establish that. That's where proper nutrition, proper hydration, and proper oxygen is the frequency that's contained in that to be able to help ourselves resonate in a more holistic way. So, those are the most common things I would tell people.

Dr. Joel Rosen 19:20

And then, as far as the Oura ring [goes], I love the Oura ring. They have three buckets: The sleep bucket, the activity bucket, and the readiness bucket. And the activity—so movement—I mean, we do need to move. We're sitting down a lot of the day, and it's a catch-22 for a lot of people because if I'm exhausted, how am I supposed to move? The paradox is that you're exhausted because you're not moving, and I think that the more we can get them moving, or at least have a baseline of a little bit and then a little bit more and a little bit more, those are really, really key.

Dr. Joel Rosen 19:55

And then, of course, as much as you possibly can—proper nutrition. It is tough on the go-go-go society to be able to get sit-down meals that are nourishing and that are complete with great vitamins and minerals, but they make huge differences. And cheap is expensive in those ways. I know a lot of people are stressed with their finances and changes in their income. But I've always loved this saying: Instead of wondering why that expensive food is so expensive, try to think about: Why is that cheap food so cheap? I think that's a great saying.

Dr. Joel Rosen 19:55

So those are just the key things that people can do: Getting their circadian rhythm established; going to bed at the same time every night; waking up at the same time every day; having good quality movements; [having] good quality mental thought processes; [and having] good quality nutrition. Then go from there. If you're not addressing those things first, then don't pass go. Start on those things first.

Dr. Jill 20:58

Great, great advice! So we're going to shift just a little bit. We've obviously got the pandemic going on. Immune system—what are some of your favorite things for supporting the immune system? I do think it correlates because stress and the immune system are connected. Do you want to talk just a little bit about your thoughts on that?—immune system, stress, and tips for the immune system.

Dr. Joel Rosen 21:19

Yes. And you did not prompt me to say this because you didn't, but I do love Dr. Jill's mold kit—I really do. And I think it's unfortunate that it's called a mold kit because it should be just 'the immune kit,' because I really do feel like what's in there is a baseline for someone who's overwhelmed.

Dr. Joel Rosen 21:42

And I know you've talked with Dr. Miller about the whole histamine, the mast cells, and the NOX enzyme. If I had money and NAD was a stock, I would put it in NAD because, ultimately, it is so depleted. I think that it's a necessary ingredient for those who are overwhelmed. Maybe they have a cytokine consideration going on, or they're stealing away that NAD that could be used for antioxidant production or detoxification things. So those things are key, Jill.

Dr. Joel Rosen 22:20

I think that the minerals that you get in there... For people that are very sensitive—you've seen these people all the time—no matter what you do, if you throw fairy dust on them, they're not doing well with that. Minerals are really good—the isotonic minerals that basically match your osmolality. That's key too. And then it also has some really good B vitamins in the liver stuff that it has, as well as glutathione.

Dr. Joel Rosen 22:46

Again, we didn't talk about that before we got on here. I just think that it shouldn't be called the mold kit. I think it could be called, you know, whatever, fill in the blank, kit. I like those things for sure, and potentially the other things that I like are things that can help with mitochondrial health. And NAD is such a thing. CoQ10—I do find that, in a lot of ways, the dosing of 100 milligrams recommended is too low. If we're looking at repleting some of that mitochondrial health, 400 to 800 with their doctor's advice, making sure there are no contraindications for that. Sometimes we're doing the right things, just not enough of the right things. And then other things for mitochondrial health can be d-ribose if someone's really fatiguing.

Dr. Joel Rosen 23:40

So I look at it in terms of that—mitochondrial health, reducing inflammation, getting your basic minerals. From there, you can't really play around anymore. And say, "Okay, let's customize exactly what you have going on here and prioritize what you have going on here." So now we're not just throwing stuff at the wall to see what sticks, but we're actually making a customizable recovery plan for what's not working for your health.

Dr. Jill 24:07

Oh, what a great overview. And that's very kind of you to mention the Mold Detox box. You're right. That core stuff: Glutathione, liver support, minerals, and then NAD—I can't get enough of NAD. NAD—we'll talk just a little about that because NAD repletes NADPH, which is a key currency to make your cellular ATP. So that's like the money that we run on. It's depleted by toxins. It's depleted by stress. It's depleted by Lyme disease or co-infections. It's depleted by other infections. It's depleted by mold. So all of these things that come at us and insult us, even viruses,

will deplete our NAD. So, many people are walking around deficient. And it's a fine line because you need methylated donors like methyl B12, methyl folate, riboflavin, P5P, or B6 in order to use the NAD appropriately. So usually, it works best if you're taking some methylated B vitamins with it. That tends to make a really good combination as well. But it's funny because now they have IV NAD, subcutaneous NAD, liposomal NAD, and oral NAD. They're all great sources, but they're really popular because they work.

Dr. Jill 25:17

Ironically, hot off the press: I just came out last week, Joel, with an NAD face cream. This is going to be so hot because it's for the skin—women and men too. But it's amazing, as you can imagine, for cellular regeneration or whatever. So we'll see how that goes. But I'm a huge fan of NAD. And that was kind of you to mention. So thank you. I know we didn't talk about it. CoQ10—I love that you talk about dose because you're right. The classical 100 milligrams aren't enough for many people. And then things like R-lipoic acid and acetylcysteine. Even d-ribose, which is a sugar that can be for the mitochondria. Acetylcarnitine.

Dr. Jill 25:56

Shift just a little bit, and let's talk about adrenal-specific There are a ton of nutrients, adaptogens, and otherwise. And my perspective is this, and I'd love your comment: I always want to know their cortisol curve. So instead of doing a serum cortisol [test] at 9 a.m., what I'll typically do is [monitor] urinary or salivary cortisol levels throughout the day because then we can see if they're low in the morning and then high at night, if they have an inverted curve. Or if they are flatlined, that's a whole other issue. But depending on their cortisol curve, we'll choose different nutrients. What are your thoughts on that, and [what are your] comments on testing?

Dr. Joel Rosen 26:30

Sure. So the best test is historical. And what we talked about in terms of being the old doctor that came with their little doctor's bag and made the home visit and actually talked to the patient to get an idea of what's going on because that's going to give you two-thirds or more of your diagnosis or impression. I do like the salivary cortisol [tests] because studies show that they really relate better to the actual circadian rhythm. And now they have the awakening response, as you know. So you

can see that within 30 to 60 minutes after they wake up, they should have a doubling. And a lot of research shows that if they're not getting that nice jolt of cortisol awakening, there's more of a relationship to chronic health issues.

Dr. Joel Rosen 27:20

I'll tell you what: I really like the DUTCH test for the different urinary metabolites because of this. I'll give you an example. It has metabolized cortisol and free cortisol, and you could look at the ratios of those together. But I really like to look at the metabolized cortisol because that can give me an idea of: How long is this person running the race at the pace that they're able to run? If it's really high and they're in their 30s, 40s, 50s, 60s...

Dr. Joel Rosen 27:50

Today I had a 61-year-old that was really high. And she says, "I was surprised to see my cortisol levels being so good." And I said: "Well, wait a minute; it's actually too good. It's producing way too much cortisol. To me, that's a stressful event. That's your HPA axis continuing to signal to produce. And while it may not be hitting the ground, it is still running that race, burning through the reserves of your B vitamins and mitochondrial health. So I'd look at that one first, Jill.

Dr. Joel Rosen 28:23

And then, a couple of pages later, now I want to look at the 11 beta-HSD, which is more at the cellular level. So you have the brain level at the HPA axis, the metabolized cortisol. And you could look at the free cortisol; we won't get into really talking about those two relationships. I'm just talking about the brain level, the HPA axis level, the metabolized cortisol level, and then making a decision based on the cellular level, the 11 beta-HSD. The way I explain that to the clients is: That is the field general. That isn't really at central command. Central command doesn't really have their ear on the battlefield. They just know that there's a war and you need to output, and your brain's really outputting. But the field general, the 11 beta-HSD, decides: "Okay, come on in. Make those troops deployed. Put them into the battle, keep them in the tents, or keep them in active reserves."

Dr. Joel Rosen 29:21

And if we see the cortisone level favoring and it's going in the right direction, then I know that at the cellular level, it's like: "Slow down, brain. We have too much

cortisol, too much catabolic activity, too much breakdown going on here." Or if the 11 beta-HSD is favoring cortisol and that metabolized cortisol is really high, the body is still under so much stress. So it's really important, I think. And that's more of a, "Hey, I've done a lot of testing to kind of get that nuance in there." But I think that's a really key strategy for practitioners to look at those two ratios and then make decisions about them based on the history.

Dr. Joel Rosen 30:03

So if someone is not sleeping and they have that 11 beta-HSD shifted towards cortisol and are squeezing that sponge and getting whatever juice you can out of that cortisol, then I want to down-regulate that. Things like honokiol, zizyphus, and magnolia can be really good at deactivating that cortisol. Or if the 11 beta HSD is low and it's favoring cortisone and the metabolizing is not super high, the brain is slowing down, and you need some field generals to put some troops on the battlefields, that licorice root can be very helpful. It extends the half-life of cortisol, provided they don't have high blood pressure. So you can make better decisions on that.

Dr. Joel Rosen 30:48

When you start getting into the pregnenolones, the DHEAs, that will depend on what your other metabolites look like in terms of estrogens. But as far as just throwing adaptogens [at it], the truth about adrenal fatigue in that aspect is that I'm not a fan of that, because it's just so random. It's like, "Hey, if you don't have a lot of things going on, it could be helpful."

Dr. Joel Rosen 30:48

So you could pulse that and think: "Okay, I'm not so bad. I'm going to try some holy basil and some rhodiola. I'm going to try some other adaptogenic herbs. And if it gives me a little bit of balance, and I feel less stressed when I'm more stressed, or I feel a little more up when I'm low, great." But usually, as you see in today's day and age, it's more complicated than that.

Dr. Jill 31:33

Yes. I love that you're talking about [the] DUTCH [test]. It's another one of my favorites. And if you don't mind, I'm going to share—without any personal data of a patient. Can you guys see my screen here?

Dr. Joel Rosen 31:42

Yes.

Dr. Jill 31:42

Because I wanted to show this to those listening. I do DUTCH [tests] all the time too. It's my favorite test for this. So those of you listening out here, if you have a doctor who's open-minded, this is by far our favorite test. Look at this. This is just the simplest page I thought we could show. And I have two examples I can show you—one that's fairly low. And again, you can comment. I'll just kind of summarize and then let you take over. But this one has pretty low levels of both cortisone and cortisol. Cortisol is still more dominant, so this person probably still feels okay. They're not running through it quite as much. But they're pretty flatline, wouldn't you say? Any comments, seeing this one right here?

Dr. Joel Rosen 32:19

So their cellular level is saying, "Okay, get into the battlefield." It's squeezing the sponge as much as it possibly can to be able to put that cortisol level up. Licorice root may not necessarily be helpful because the 11 beta-HSD is already giving them that extra deployment. But we can see a little bit higher up that the metabolized cortisol is very low. So this person is in that fatigued [state]. It's been going on for quite some time. I'd maybe want to look at some of the other hormones. But the DHEA being high—I had this talk with the client this morning—is that the DHEA-cortisol relationship dances around, and there are genetic realities that make it different from everyone to everyone. So you can't just come up with conclusions of: "Okay, here's the basic conclusion of how they dance around." But what I would be saying is that unless they're not taking DHEA—I'd want to maybe know that—their HPA axis and their signals from the pituitary are still hitting the adrenals. The adrenals are thereby producing a hormone that will help to balance the cortisol-catabolic nature of that stress response by releasing DHEA.

Dr. Jill 33:37

If this helps, this was a woman in her 50s on 10 milligrams of DHEA. I believe. That's the story here. So [she's] probably perioposmenopausal or postmenipausal, and maybe just a little bit of DHEA. But yes, that makes perfect sense to me too.

Dr. Joel Rosen 33:51

Yes, I would be thinking they're taking some, perhaps.

Dr. Jill 33:55

It's so fun. I'll see if I have any. Oh, you know what? I have one more here that's a really high one just to show people because this is so fun. I'm like you; I probably have hundreds of these that I could pull up and share. So for this one, DHEA is a little bit more normal. This is a different patient, but you can see really high levels. What comments [do you have] on this one here? The stress response is probably about to burn out in a year or two.

Dr. Joel Rosen 34:20

Yes. What's sitting on the pituitary? That's what I'd be thinking about. I mean, the psychological stress that we talked about earlier. Is there mold? Is there Lyme?

Dr. Jill 34:34

Bingo, Joel. You know I deal with mold issues. This is a patient with mold. I'm going to talk about that because it's so important and people don't realize it. I remember years ago when I first started functional medicine and did a ton of thyroid and adrenal [work]. I'd see these [patients with] high cortisol. Now I look for a toxin infection first. Would you agree? She had a lot of psychological stressors, and there certainly were with the mold situation. I didn't mean to interrupt you, but I got excited because this one is related to mold.

Dr. Joel Rosen 35:00

Yes. Well, another good thing that I think that we as practitioners need to be aware of is that the body is super intelligent, and a lot of the time, if not all of the time, it's doing what it needs to do to deal with that stress response. So I wouldn't necessarily say: "Okay, your 11 beta-HSD is favoring more cortisone, which is deactivating it." That's what it should be doing. Here's what drives me crazy; we'll make recommendations a lot in the profession of, "Okay, let's just take phosphatidylserine," because it's the default reflex of: "You've got high cortisol. So if you have high cortisol, you take phosphatidylserine, and if you've got low cortisol, you take a glandular or you take licorice root." It just doesn't work that way. So I would be saying in this case, there's mold, there's the NAD steal, and there are all of the other things that deplete your minerals.

Dr. Joel Rosen 35:58

The analogy I use, Jill, is that we're the karate... We're Mr. Miyagi, and it's like, "Well, why are we not learning how to go fight yet?" And we're waxing on, and we're waxing off, and we're not really doing anything that we think is preparing us for the

battle. But we are—by addressing the core competencies and the foundational stuff. I say: You're paying your expenses. If I'm a business consultant and you have an income problem, pay your expenses first before we bring on any more sales. Once you control those expenses, you'll have a little more disposable income to be able to use for other things. So that would be the analogy I would use for that.

Dr. Jill 36:40

Gosh, thank you. I've done this for years and years, and I feel like I know it really well, but I love your insights and the simplicity with which you just went through those two scenarios. I'm sure even for listeners who aren't into deep biochemistry, that was super helpful. So just give us a summary. If you're favoring cortisol, you're still doing pretty well physically and feeling okay, but you're going to probably head towards burnout if you're not careful. Is that correct?

Dr. Joel Rosen 37:08

That's correct, yes. That's correct. But you also want to come back to that first page and see where you are on the side of metabolized cortisol to put it into reference. Is the body doing the right thing? But you're right; if it's in 11 beta-HSD, which favors cortisol, your body is spending the cortisol, whereas if the 11 beta-HSD is more towards cortisone, it is deactivating; it's not wanting to spend it. And there's a reason for that. Does that make sense?

Dr. Jill 37:43

Perfect. Well, I'm wondering because I see a ton of women, and I'm sure you do too. I see men as well, but the women [who are] in their 50s or 40s or perimenopausal, and in the stress response, probably the number one thing is: "Gosh, I can't lose weight," right? And this is definitely related to that because if you don't have any expendable epinephrine or norepinephrine—those are in the tank—and your cortisol is in the tank... Talk just a little bit about how this relates to women or men. But let's talk about women for a moment and difficult weight loss, because I see that as part of the puzzle.

Dr. Joel Rosen 38:12

Oh, for sure. I was just thinking [about how] it's amazing when we talk about it like this. But yet, you're negative on your ACTH test, so you don't have any type of adrenal problems.

Dr. Jill 38:23

Exactly! Exactly! That's perfect. Or their morning cortisol in the serum is like 7 or 8. It's okay. It's normal. I consider that kind of low, but it's not like 3.

Dr. Joel Rosen 38:34

You just don't get that qualitative information. So what I look at first and foremost with weight loss resistance is blood sugar stability. And again, I don't tell the women: "I think you're in front of the fridge eating cupcakes." I know you're not doing that. But if cortisol—which we just looked at for the mold people—is through the roof, then you know that's going to dump a lot of glucose into the bloodstream. Then that is going to spike your insulin, and then that's going to create more storage-like things. So that's one of those things: Being aware of the stability of blood sugar. It makes it uncomfortable for people, but I really do like the glucose/ketone testing just to be able to know the difference between physiological hunger and psychological craving.

Dr. Joel Rosen 39:31

So many people, I'm sure, tell you this, Jill: "Oh my goodness, I'm hypoglycemic." And like, "Well, how do you know that?" And then, "Well, I did a blood test that I was fasting for 12 hours for. And my glucose was 80." And even in that range, it's not hypoglycemic, but we're talking real-time. Test your glucose at the time you feel shaky, lightheaded, and jittery. I would put money on it: If you're in your 30s, 40s, or 50s, it's going to be on the slightly high side. Why is that? Well, because you're not getting the glucose uptake into the cell. And then, to your point, you can release more adrenergic, more sympathetic, or more adrenaline-like things that are only going to create more overwhelm. So I think that really getting a good relationship with your blood sugar [is important]. And then that comes down to the circadian rhythm.

Dr. Joel Rosen 40:31

So you have certain times when you can have your meals when you're getting exposure to light, and when you're getting no more exposure to light. Those will have synergistic impacts on how stable your blood sugar is for women—men too—that have weight [issues]. Get a good relationship with your blood sugar—to test is to know—and really be able to see how that's changing before you say: "Oh, I

can't lose weight." I think if you don't have those answers, Jill, then you can't say you've done everything to lose weight, but it's not working.

Dr. Jill 41:08

Oh, what a great point, because cortisol and blood sugar go hand in hand. One of the things I see frequently is this nighttime awakening with adrenal issues—usually at 2:00 a.m. Not always, but that's a common adrenal time. If we look at traditional Chinese medicine, they know the adrenals are right around 2:00 a.m. And what happens for many people is that they eat their dinner at 7:00 p.m., they go to bed at 10:00, and they're fasting overnight. When your adrenals are strong and robust, the stuff that's secreted—the mineralocorticoids and cortisol—will help regulate blood sugar. It actually creates the release of glucose from the liver when you're fasting appropriately.

Dr. Jill 41:48

So, hypothetically, if the adrenals are dysfunctional and they're not optimizing what they're producing, you go to bed and fast, and around 2:00 a.m., your blood sugar drops. You don't know it; you're sound asleep. But our body's compensatory mechanism for that low blood sugar is a rise in cortisol. That rise in cortisol will then wake you up. You're wide awake and can't get back to sleep, and you wonder why. And for those patients, if we test and find out that's the issue, often a small fat and protein snack before bedtime—sometimes even a little bit of wild honey—will actually keep them sleeping because the blood sugar will be stable. And then we work on the adrenals to regulate [them] so that they don't have that low blood sugar. I'm sure you've seen that as well. But it's interesting. And then what they'll do is, because that cortisol is spiked, if they measure blood sugar when they wake up, it'll be high. It'll be in the 90s or 100s, right?

Dr. Joel Rosen 42:35

Yes. They'll have a dawn phenomenon where a person jumps out of bed; ideally, they're ready to go and take on the world. They have that cortisol awakening response where it doubles. It's already starting to come up when dawn hits. That's going to pump a little bit more glucose into the bloodstream. So don't get discouraged if you see it in the—I have that—96 to 97 [range]. I think the key takeaway is the glucose ketone index, where we like to see that it is less than 10. That gives people who may be on that frustrated level of 95 to 99, when they start to measure their ketones and they divide the two into each other and they're less

than 10, now they don't have to stress so much about, "Oh, I just can't get my glucose down." It's because there's a certain microbiome. There's so much complication. There's microbiome stuff.

Dr. Jill 43:30

There are lots of players, right?

Dr. Joel Rosen 43:31

Yes. Right. Exactly.

Dr. Jill 43:33

Well, on ketones, I'd love your opinion a little bit on this one. Say you have someone who is in stress response. A woman in her 50s [who is in] stress response, can't lose weight, and is on the higher end of cortisol. She's having trouble losing weight. And you mentioned this—is it the glucose/ketone ratio? Or do I have that backward?

Dr. Joel Rosen 43:50

Yes.

Dr. Jill 43:53

Okay, glucose/ketone. And I'm assuming that means that you're recommending some sort of fasting or intermittent fasting. What would you tell that woman to do as far as intermittent fasting or anything [else] to help? And is there a time when intermittent fasting would not be good if your cortisol is too low?

Dr. Joel Rosen 44:11

Those are great questions. I think the best thing would be a 12-hour fast. And I think that's doable for everyone.

Dr. Jill 44:19

Yes, agreed.

Dr. Joel Rosen 44:20

Like, 6:00 p.m. to 6:00 a.m. or 7:00 p.m. to 7:00 a.m. I do think the more you shift it to the left, so your last meal is at 6:30 or 6:00, you will start to wake up with your glucose a little bit lower. For some people, that's the difference. So as far as the glucose ketone index goes, glucose is in millimoles per deciliter. If you divide that

by 18, now you're converting that to moles. Then you measure your ketones; they're in moles. So typically, they say 'therapeutic ketosis'. It doesn't mean, "Okay, I'm full-on keto." It just means you're metabolically flexible. Your body is producing ketones because maybe you're not exceeding your carb threshold or your protein threshold. You are in a state of cortisol stress—fight or flight. You have higher activity levels. You're burning off your glycogen. You have a lot of things going right in your body. So what you do is measure those two together. And usually, it will say that 0.5 is the zone where you want to see a little bit of therapeutic ketosis. And then if you multiply that by 18, then you're going to get somewhere in the 5, 7, or 7s where that's going to be your millimoles of glucose.

Dr. Joel Rosen 45:40

It's a little complicated what we're talking about, especially about doing the math. But to answer your question, the other things would be activity and movement. A lot of times we'll have a meal, and maybe we had a little bit too much in terms of absolute calories. Or maybe we had a good, nice starchy-based food—the comfort food, especially this time of the year. That is going to cause a spike in your glucose levels and a spike in your insulin levels. And if we can do a little bit of movement so that we take away that extra difference in stored glycogen, it's only going to help you. I mean, it's that important. Of course, I don't want people to be neurotic about calorie counting, knowing their carbs, and being under 20 grams.

Dr. Joel Rosen 46:31

I think that does a disservice. And then what I'll tell a lot of women too, who do intermittent fasting or diet variation, is that when they're still having their cycle, it's very important to re-bring in those carbs in those early phases of menses so that when they do have their period and they're depleted, they can bring in a little bit more carbs to replete themselves and not necessarily think about: "Oh, I've got to be like the textbook... keto, intermittent fasting. I can't have more than this," because we really are cyclical people. We have the different phases of the cycle where it's preparing and then sloughing off. And that's when you can pick your spots. So it takes a little more sophistication, but there are some good clinical tools in terms of movement, in terms of 12-hour fasting, in terms of being aware of good, healthy carbs, proteins, and fats, and then really figuring it out for yourself where you feel better with certain percentages.

Dr. Jill 47:36

This is so helpful. And even though it's complex, my listeners love the science and the depth, so thank you for bringing that and your knowledge. It's interesting because we had an idea of where this might go but went in a different direction, but I think this was really, really valuable information. I really enjoyed it. Like I said, I always learn things from my guests, and it's no different with you, Dr. Joel. It's been a pleasure. I have a question for you before we go. COVID's been crazy for all of us—family, kids, our clinics—all these different situations. What would be the one lesson or thing that you've most taken away so far from the pandemic and the changes in our lives? Has there been anything that's really impacted you?

Dr. Joel Rosen 48:19

Yes, and there have been so many. That's a great question. I think it's in terms of how important relationships are because we are mandated to restrict and be isolated. And I do think that's important. I don't think we should be having mass gatherings. But we are really, as the theme underlines the whole talk today, Jill, ancestrally speaking, we have programmed environmental stimuli in our body, and connection, touch, and socialization are really, really important. A lot of people have the blues. They're depressed. They're overwhelmed. And a lot of it has to do with just not having that social interaction, and it's that much more important to do that. And it really also gives you an idea of how to prioritize what's important in life: Having great relationships.

Dr. Joel Rosen 49:23

You talked about that when you were having challenges on your own, and it wasn't so much the metabolic thing; it was the psychological thing. I think the more we realize how much we have control over our physiology through thought processes, especially healthy thought processes, and socialization... I'm one to always hold things in, and I always know that's not a good thing. [inaudible] things. So I think that's probably the best take-home advice for me at least: The socialization, the things that are important in life, and then control of the response of your mind as to the reality of it and putting a favorable, healthy spin on it.

Dr. Jill 50:09

Yes. Gosh, I love that. I love ending there. I love being grateful and [having] gratitude, but I've just started really deliberately writing them down every day. So if you're listening, one little simple tip if you journal or have a notebook: Write down

what you're grateful for, because no matter how bad a day you've had, there are always a few things you can be grateful for. And it really shifts, like you said, the mind and the way we view things.

Dr. Jill 50:32

I find that starting my day that way is a wonderful way to just get that framework so that I'm looking for the good in the day that's coming up. Dr. Joel, it has been my absolute pleasure to have you. Thank you so much for your time today. I'll be sure to put links to your clinic, and we can both share this. But thanks again for your time. I appreciate it!

Dr. Joel Rosen 50:53

Yes, thank you for having me. I enjoyed talking with you today!