

[244: Resiliency Radio with Dr. Jill: Joint Hypermobility: When is it an Issue? w/ Dr. Bluestein, MD](#)

Dr. Jill 00:00

Hey everybody, welcome to *Resiliency Radio*, your go-to podcast for the most cutting-edge insights in functional and integrative medicine. I'm your host, Dr. Jill, and with each episode, we dive into the heart of healing and personal transformation. Join us as we interview renowned world leaders in medical technology, biohacking, and all of the things that make us a better human and how to transform our lives in general.

Dr. Jill 00:24

Today, I have a guest who I was on her podcast, so I wanted you to be sure to check that out. We'll leave all the links and talk about that. It's *Bendy Bodies*. We had so much fun, and I am super excited today to introduce her.

This topic, you may not realize how relevant it is to you, your family, your friends, or if you're a doctor listening, [for] your patients. It's something that wasn't on my radar until the last decade or so, but understanding it's had a huge impact on my practice and the kinds of patients I treat. So I know you're in for a treat. So let me introduce my guest, and we will get to the interview.

Dr. Jill 00:58

Dr. Linda Bluestein, MD, is a leading expert in hypermobility disorders, offering specialized care at Hypermobility MD. She also runs *Bendy Bodies*—I love the name—a coaching practice that empowers those with hypermobility. As host of *Bendy Bodies with the Hypermobility MD* podcast—which I was on, so be sure to check out that episode—she shares insights and fosters community. Dr. Bluestein is active in advocacy and research, serving on multiple boards. And you can learn more at HypermobilityMD.com. We'll be sure to repeat that at the end of the show.

Welcome, Dr. Bluestein.

Dr. Bluestein 01:32

Thank you so much for having me. It's so great to see you again.

Dr. Jill 01:35

Yeah, it was so fun.

First, I always love to start with your story because we all have a story of how we got into medicine and then eventually to our little niche of where we landed. But tell us a little about it. Did you always want to be a doctor? How did you get into this field?

Dr. Bluestein 01:50

It did start very early for me. I had a sister who had a lot of medical problems, so I went to a lot of doctor's appointments starting at a very young age. She had some heart surgery, so I was in intensive care to go visit her. I remember—well, maybe it's partly that I remember, but my parents also telling me—that I would see the people in the ICU walking around very quickly and doing all the different things with the drips. I was immediately intrigued by that. I knew from a very, very young age that I specifically wanted to be an anesthesiologist, which I think is probably not something that a lot of people even know what it is, much less that you want to do it.

Dr. Jill 02:36

That's really cool. So you kind of knew: This is my thing; I want to know more. Do you remember where that idea for anesthesiologist [came from]? Had you seen one or heard of it? Or how did you find that as the goal?

Dr. Bluestein 02:48

That's the really funny thing about what I'm doing for work now because what I liked about anesthesia was the fast-paced environment and the fact that basically every medication that you were administering was intravenous. It wasn't like, "Here, go work on this mold situation at your house" or prescribing different supplements or medications and waiting to see if it worked or not. It was completely different in that regard. So it's ironic—what I'm doing right now—because it is so completely different. But I knew that I wanted to do something that was a mix of a lot of procedures. Of course, you had to understand all the medical conditions that people would present with, the different surgeries, and how all of those would interact.

Dr. Jill 03:37

That's really cool. It is interesting because there's always a little thread through even if we think we're going to be an orthopedist and then we end up in family medicine or whatever. That's really neat. And it's almost like fast medicine, slow medicine, right?

Dr. Bluestein 03:48

Right.

Dr. Jill 03:51

How cool. Obviously, now you're in this really specialized area that I think is so needed. That's why I was so excited when one of us reached out. I can't remember if I reached out to you or you reached out to me. But either way, [with] this area, so many patients either don't know that they have it or they know there's something different about their sensitivities about how they are in the world, about even their collagen and vascular [system]—the whole system—because it affects everything.

Dr. Jill 04:16

Let's first frame. Hypermobility is a symptom of EDS and some other things. But do you want to give us a framework of: Where does hypermobility fit in? How many people do you think have an issue with this? And just give us a little background so that people who don't even know they might be suffering with this or having this condition can have some enlightenment.

Dr. Bluestein 04:34

Sure. Joint hypermobility just refers to a joint or a group of joints that have a greater than expected range of motion. It affects a very large percentage of people. I think a very conservative estimate is 20% of adults. But if you look at high-risk populations like ballet dancers... And that's what I really wanted to do: I wanted to be a professional ballet dancer. But I started to have too many injuries and things, so I had to come up with a plan B. But if we look at those types of populations, you can see [that something] like 90% of people have some hypermobility. And it can be acquired through training; it can be something that they're born with.

Dr. Bluestein 05:12

There are different types. Localized joint hypermobility is when you just have it in a couple of joints. Peripheral joint hypermobility is when you have it in your hands and your feet but not other parts of your body. Generalized joint hypermobility is when you have it in multiple joints. And historical joint hypermobility is when you were hypermobile in the past, but you're not anymore. And of course, rates are higher in children as well. And in general, joint range of motion goes down as we age, so that's also a factor.

Dr. Bluestein 05:44

But amongst the people who have joint hypermobility, I like to think of a few different groups. There's the group that is pre-symptomatic. They don't have symptoms yet, but they'll develop them in the future. And then there's the group that is already symptomatic. And it could be a small number of symptoms, or they could be polysymptomatic. They might have symptoms in, as you know, just about every bodily system. And then there are the people who are never going to develop symptoms. We don't know how large or small this is. But I started to say small, but actually, we don't know. We don't know how large or small the asymptomatic people are because if someone is in their 20s, say, and they're asymptomatic, we don't know if they're going to stay that way or not. But if they're in their 60s and they're asymptomatic, then that's a pretty good indicator that they're in good shape.

Dr. Bluestein 06:40

And it's very possible that up to 3% of the population is affected by hypermobility spectrum disorders and hypermobile Ehlers-Danlos syndrome. That amounts to about 225 million people. So it is very possible that a vast number of people are impacted by connective tissue disorders, which are a type of symptomatic joint hypermobility that, as you know, can impact every bodily system.

Dr. Jill 07:05

Wow, that was a really, really great and clear overview. Thank you for doing that. Because even for me, I'm like, "Okay, where does this end and begin?"—with all the different things that can happen. And that was really nice and clear.

So how would someone present? Say, a 25-year-old athlete. What kinds of things would those with hypermobility notice as far as injuries or even other systemic symptoms?

Dr. Bluestein 07:28

This is a great question. I'm thinking of a 25-year-old professional ballet dancer that I just met with a couple of days ago—who I'd met with several years ago—and was just checking in again to see how she was doing. I think it's so often that a person might be athletic, or maybe they're a dancer, and people assume that: "Oh, they must be fine. If they're doing their sport, they're doing their athletics, they're dancing, they must be fine." But in this dancer's case, it's very typical. So that's why I'm bringing her up. Of course, I'm not going to mention her by name.

Dr. Bluestein 07:59

But she's having pretty widespread pain. She's having a lot of orthostatic symptoms. She gets dizzy when she stands up. Not just like, "Okay, you're behind on fluids," but on a very regular basis, feeling presyncopal, maybe even some syncope episodes or losing consciousness, or some temperature dysregulation issues. So heat and cold intolerance. Not as tolerant of temperature extremes as you would expect for an athlete at that level, especially. And you also see a lot of mast cell-type symptoms. So allergic-type phenomena, whether it be maybe allergic rhinitis, you might see asthma, eczema, or rashes. This person did have urticaria hives that just came out of nowhere. Sometimes I'd be able to associate it with certain things, and other times it was like: "Wow, I have no idea where that came from."

Dr. Bluestein 08:56

And it's so interesting because we talk about the joint hypermobility and how that's one of the core features of connective tissue disorders like EDS. We think of joint hypermobility, weak tissues, and changes in the skin. But really, the joint instability is probably more significant and probably more impactful in most people's lives. So it's the dislocation, subluxations, and things like that that, in this dancer's case, they're experiencing and are impacting their ability to dance. And at age 24, this person is thinking: "I may need to retire after this season."

Dr. Jill 09:31

Wow. I love that you started talking about all the other things. We talked on your podcast about the triad, which you just described. For those listening, it's so common to see these things in groups. One thing that comes together is this triad

of mast cell activation, the hypermobility piece with or without EDS, and then also this dysautonomia, which can present with POTS or some sort of vascular thing.

Dr. Jill 10:00

Now, my thought is that because the collagen system is so endothelial-related and we have dysregulation of our blood vessels opening and closing, that's probably one of the things that develops the dysautonomia. But I'd love your insights because this is such a fascinating area. I see so many patients with that dysautonomia, whether it's running low blood pressure or changing positions. I always tell patients it's like a water tower, and you're not getting the water back up to your head. But do you want to describe physiologically maybe how that's related or how you see the dysautonomia/POTS with the hypermobility?

Dr. Bluestein 10:31

Right. Just backing up to make sure that everyone is clear about what we're talking about: The autonomic nervous system—we call it autonomic, but you could think of it as automatic—is everything that we don't think about. It's regulation of your heart rate, your blood pressure, your temperature, the size of your pupils, your digestion—all of these things. We're all on a spectrum of how well or not well this functions. If you're in bed even for a few days with some kind of virus or whatever, your autonomic nervous system already starts to function less well.

Dr. Bluestein 11:06

My dad, who's an aerospace engineer, when he was working with astronauts back many, many years ago, they would put them in bed—perfectly healthy young men—because they had to see how they would tolerate being in space. So they would put them in bed. He said it was so challenging because, of course, they wanted to get up and walk around. So that was really hard.

Dr. Bluestein 11:25

But it doesn't take much in terms of your ability to exercise before you start to see those kinds of changes. So I think that it's probably multifactorial. Whether you have POTS (postural orthostatic tachycardia syndrome), (which is one of the most common forms of dysautonomia), or if you have neurocardiogenic syncope, (which is another common form of dysautonomia where people are more likely to faint, whereas people with POTS often feel faint, but they don't faint as much as those

with neurocardiogenic syncope) or a different type of dysautonomia—maybe it's orthostatic intolerance, orthostatic hypotension—we see these things so commonly with connective tissue disorders. And I think it's definitely related to the endothelium and the actual connective tissue itself.

Dr. Bluestein 12:16

I think that there's a component of the deconditioning that happens when everything is painful and we get afraid to move. We get a lot of kinesiophobia, which I had when I was very early in my understanding of my own personal hypermobile EDS. I was afraid to move because everything hurt. So we get a little bit of deconditioning on top of these other physiologic processes that are going on. And then I think it's also the mast cell activation piece, where we get vasodilation, we get the histamine release, inflammation, and things like that. So I think it's a combination of those mediators, the actual vasculature. And I think it's probably a multifactorial process that's going on. [With] the immune system playing a big role in there as well.

Dr. Jill 13:05

That makes so much sense. I love that you brought in the mast cell piece as a thing in and of itself because we know that that causes permeability on all tissues and vasodilation. I do believe that some of our patients, like where you started in the ICU, who are really sick or septic—you're seeing some of that, severe hypotension and everything—it's an extreme state of some of these lesser extreme states that we see in the same hypermobile patients.

Dr. Jill 13:32

I'd love to know, and you mentioned it, and if you don't mind sharing, I think people would really love to relate to your own journey: How did that happen that you found... You probably didn't know about it until you found it in yourself. But tell us more about your own experience.

Dr. Bluestein 13:44

It was years before I knew. I had medical problems starting when I was very, very small. I had chemical intolerance. I had severe asthma as a baby. And my parents were dealing with my sister, who was way sicker than I was. My parents took very good care of me, but it wasn't like I was taken to the doctor a lot to deal with these

more minor things. It wasn't until I was dancing a lot and really putting a lot of hours in that I started getting a lot of injuries, and they just weren't healing very quickly. Nobody suspected anything out of the ordinary, though. I started getting a lot of migraines. And like with a lot of our patients, at the onset of menstrual cycles at menarche, that's when I really started to have more and more problems. I started to have more gut issues. My asthma got worse. My allergies were horrible.

Dr. Bluestein 14:40

I literally remember telling my mother that I wanted to die. My allergies were so bad. At that time you had a choice of a first-generation antihistamine—which would totally knock you out—or nothing. We didn't have second-generation antihistamines. There was no Zyrtec or Claritin or anything like that.

Dr. Bluestein 15:00

At that time, I was just trying to muddle through and realized I needed my plan B. So I went ahead and went to college. I still danced all through college and was pre-med and everything. And then I was having more and more health issues. When I was in my residency in anesthesiology at the Mayo Clinic, I remember having so many GI problems. They were working me up for porphyria and all kinds of other things and couldn't get any answers.

Dr. Bluestein 15:29

I remember when I was working telling my internal medicine physician: "Something is wrong with me. I don't heal well. I get injured so easily." I was running into more and more problems. I collided with someone on a dance floor, and I subluxed my ulnar nerve. I ended up with a huge cyst inside my lunate, which is a bone in your wrist. I ended up with a Tarlov cyst in my spine.

Dr. Bluestein 15:55

All of those things were starting to accumulate. And it was the Tarlov cyst. I was doing some reading about that, and I came across the sentence: "Tarlov cysts are more common in people with connective tissue disorders." And I went, "Huh, that's interesting." I started googling about connective tissue disorders and came across EDS. I found an article about hypermobile EDS, and I thought: "Oh my gosh, this literally explains my entire life."

Dr. Bluestein 16:25

And I'm sure there are people listening to this right now who are like, "Oh my gosh, she's a physician and her story is exactly the same as mine in that regard," because that's how a lot of people find out about it. They stumble across something, and then they realize that that explains everything.

Dr. Jill 16:41

Thank you so much for sharing. I'm literally getting goosebumps as you're talking. So often our own journeys of these aha moments—I've been through many myself as well—are transformative. And then they really change the trajectory of who we help, who comes to us, and how our practice is. I see that for you. And I remember seeking you out because I knew about what you did. I had so many patients who needed to hear your message. So it's so exciting to hear, even as a fellow physician, what you did—and sorry you had to suffer—through that to find that and then to realize there's a name for it.

Dr. Jill 17:13

That's why diagnoses are so powerful, but they're not the end, because we have these sufferings that don't make sense. And when a doctor can look at us and tell us our story and give us a name for it, all of a sudden it validates the experience of what we've had. It's so interesting.

Dr. Jill 17:28

I don't know where I am on the spectrum of EDS, but I know I had severe allergies as a child. As I look through my history with the severe allergies—and then my brother had severe asthma, so there's a family thing there—and then breast cancer and Crohn's disease, and then lots of POTS/dysautonomia and mast cell issues my whole life, I think the core thing is not just that I was on a farm with chemicals, which we can talk about exposures and how they affect it. But when I looked back recently, I gave a lecture, and it was like: "What if mast cell was really the core thing that led to all the other things?" My story made a lot more sense when I thought, "Oh, I'm one of those who definitely have mast activation and it came out in different forms." And just like for you with the dancing. It's so fascinating because I think that I have dealt with that too, and it's been an understanding along the way to help patients.

Dr. Jill 18:19

You talked about some of the symptoms that you experienced and then a patient that you treated. How might someone listening know that they should look into this more? We've given these ideas of the POTS and the mast cell [activation]. Maybe give us a checklist of the common things that you see the most often or how you see someone who has maybe been gaslit by the medical system. Not intentionally, but they don't know what's going on. And then they talk to you and are like: "Oh my goodness, this is it." How does that happen? What does it look like?

Dr. Bluestein 18:43

I'm going to start out with the overview sentence—I think it was Dr. Heidi Collins, one of our colleagues, who said this first—"If you can't connect the issues, think connective tissues."

Dr. Jill 18:55

Brilliant.

Dr. Bluestein 18:56

Yeah, it is brilliant. If you have multi-system processes that are going on—of course, there are other explanations, there are other things that connect all the different systems—I think that it's really important to consider connective tissue disorders as one of the possible causes.

Dr. Bluestein 19:13

And I totally agree with you: I did not appreciate at all in the beginning—when I first opened my clinic, which was only in 2017—I did not understand how important mast cell activation syndrome would be. I thought there was this pool of people that have hypermobile EDS. I understood a little bit about POTS because I had a family member who had quite significant POTS. But I thought: "Okay, there's going to be a small subset of people that have mast cell activation syndrome, and I know a little bit about what to do about that." But now I totally agree with you that I think that mast cell activation syndrome does underlie at least a significant portion of cases of hypermobile EDS, including possibly my own. So by stabilizing the mast cell [activation], we could make so much more headway in terms of our treatment options.

Dr. Bluestein 20:01

But getting back to your question, in terms of systems, if we think about the musculoskeletal system to start with, it's the subluxations and dislocations, which I should back up and explain... A subluxation is a partial dislocation. We are often going in and out of proper alignment with our shoulders, our neck, and our patella, which is the kneecap. It could be sliding in and out of proper alignment. We often don't realize. I remember only after I started understanding these conditions [that] one time I was taking off a smaller-ish tank top and realized: "I'm probably at least subluxing, if not dislocating, my shoulders when I take this on and off."

Dr. Bluestein 20:45

We only know what our own body feels like, so we don't know what is and isn't "normal"—if there even is such a thing. So the musculoskeletal things are, like I said, the subluxations and dislocations. We tend to get more sprains, strains, tendinopathy, bursitis, and a lot of different micro-injuries and things. So it can be microtrauma or it could be macrotrauma, like in the case of the subluxations and dislocations.

Dr. Bluestein 21:23

So that's the musculoskeletal side, which also, by the way, can involve early osteoarthritis and/or osteoporosis. And osteopenia can also be connective tissue-related. And then there are the non-musculoskeletal things. For example, with the gastrointestinal tract, it is very common for us to see dysphagia or difficulty swallowing. We'll see GERD, or gastroesophageal reflux. We'll see SIBO, small intestinal bacterial overgrowth, gastroparesis, or delayed gastric emptying. And of course, the challenging thing is [that] a lot of those things can be related to dysautonomia and mast cell activation.

I don't know if you're familiar with the interlocking three circles.

Dr. Jill 22:07

Yes.

Dr. Bluestein 22:07

I feel like a lot of us put that in our presentations because it's such a good way of quickly explaining the Venn diagram of those three conditions and how there are a

lot of overlapping symptoms. We don't know with some of these symptoms how much is related to the actual connective tissue and how much is related to dysfunction in the autonomic nervous system or dysfunction in the mast cells and their mediators.

Dr. Bluestein 22:34

And then we can also see things like constipation. That can be related to pelvic floor problems. That can be related to difficulties evacuating the stool. It can be due to the stretchiness of the colon. We can also see diarrhea, though. So those are some of the GI things that are very, very prevalent in this population. Studies show up to 77%—or maybe even higher—of people with hypermobile EDS have gastrointestinal-type symptoms.

Dr. Bluestein 23:02

We also see constitutional symptoms. So fatigue is a very, very common complaint. I really didn't appreciate this until I opened my practice, that 90+ percent of people with these conditions—hypermobile EDS and HSD—have chronic pain. And I should have mentioned that as part of the musculoskeletal part. It's so natural to think of it. But yeah, chronic pain is a huge, huge problem for it. And it could be all types of chronic pain.

Dr. Bluestein 23:32

Getting back to the other things, fatigue is, I would say, the second most common concern that people have. It's first pain, then it's fatigue, then it's gastrointestinal problems. And then we see other things like migraines and abdominal pain. We see all kinds of immune dysfunction. Again, things related to mast cell activation syndrome. We see a lot of neurodivergence. So we'll see ADHD, autism, dyscalculia, dysgraphia, and dyslexia. So difficulty with reading, with writing, with math, and things like that.

Dr. Jill 24:08

What a great overview! Thank you. It's so important and so fascinating because I think people listening can relate. Especially if they had these serious symptoms, at least they can think about [how] maybe this is a piece of the puzzle. I also love that you talked about mast cell [activation] because that's been a big aha for me as far as how big of a deal it is.

Dr. Jill 24:27

One thing we talked about when we talked on your podcast too, I'm sure you see that some people are genetically prone to this. Most people are. But there are also environmental triggers. Do you want to go through some of the things you see? Of course, mold is a big one. That's one of the things I like to talk about. But there are other things too. Are there things where you see people with environmental exposures or infections or other things where they get worse with those exposures just because the mast cells can be a little irritable?

Dr. Bluestein 24:54

Definitely. I'd say infection is a huge one, whether it's a vector-borne illness or it's a virus. COVID especially. I have so many people that, as I go through their timeline with them, they were doing fairly well, and then they get COVID. And that changes their health quite significantly. So that's a really common one. Sometimes it is a car accident or a concussion or something like that. But it's very, very common for people to have. They kind of putter along and are doing pretty well, and then something like that happens, and it vastly changes their health.

Dr. Jill 25:31

Yeah, that's what I've seen. And I came in through the other door. I deal with environmental toxicity, mold-related illness, and lots of tick-borne [illness], vector-borne [illness], viruses, or infections. But then all of a sudden I saw: "Oh, many of these people have the hypermobility triad and the mast cell" [activation].

So where would you start? Let's transition to treatment and assessment. Maybe we first talk about: How would you diagnose? Clinically, it's huge. But are there tests for people? Give us what your workup would be for the patient who sees you who's not sure if they have this.

Dr. Bluestein 26:04

I like for people to have a basic rheumatologic type panel, which every rheumatologist orders a little bit different labs. Every PCP orders a little bit different labs. But I think it is important to rule out some of the rheumatologic conditions because if somebody doesn't meet the stricter criteria for hypermobile EDS—which was introduced in 2017 by the International Consortium on EDS and HSD—or they don't have another condition to explain their symptoms like lupus or

an acquired connective tissue disorder, then the default diagnosis would be hypermobility spectrum disorders. And for that, we have the ICD-10 code for hypermobility syndromes. We don't actually have a hypermobility spectrum disorder ICD-10 code at this point in time, even though we have a bunch of different codes for all the different subtypes of EDS.

Dr. Bluestein 26:57

We start with that, making sure that they have either seen a rheumatologist or if their PCP has done those labs. That's okay as well. If their PCP has evaluated for those things, that's fine. And then I go through the 2017 checklist, which is being revised as we speak. They call it the 'Road to 2026.' I was part of the team of people who were asked to fill out... What's the word for it again? Darn it. I shouldn't have brought it up if I couldn't remember the... There's a certain method of doing that where they add... Anyway, so they are working on the new criteria, and that should be released later, I believe in 2025. Actually, the new criteria for diagnosing hypermobile EDS, because as you pointed out, it's a clinical diagnosis. It's the one type of EDS that we do not have a genetic marker for yet. So start with those things. Go through the criteria.

Dr. Bluestein 27:54

And then basically, at the end of the evaluation for most of my patients, I either say you have HSD or you have hEDS. Or if I'm not sure what type of EDS they have but I think they have EDS, sometimes I'll put EDS, type unspecified. Sometimes I recommend genetic testing, but definitely not always. It just depends on what I'm seeing and what I'm hearing them describe in their history, because for a lot of the other types of EDS, we're not necessarily going to have a different treatment plan. It is validating if they have a genetically defined type of EDS. So if I think that they might, then I usually do order the genetic testing for that.

Dr. Jill 28:32

Oh, that's so helpful. And especially for those physicians listening, I want to know that code afterward. But just to clarify for those listening, we have the hypermobility not otherwise specified that's not EDS that has no genetic markers. Then we have the hypermobility variant of EDS. And then we have EDS, whatever listings there are under that criteria. That would maybe have a more genetic

component. And the first two would typically not have any genetic component, whereas the EDS would actually have... Am I correct on that? Or correct me if I'm...

Dr. Bluestein 29:02

It's a very good question if HSD is genetic or not. At first, I thought the way it was being defined, HSD was not a connective tissue disorder. But it is, I think, still considered a disorder of connective tissue. Not necessarily a hereditary disorder of connective tissue, an HDCT—a hereditary disorder of connective tissue. EDS is the most common type of hereditary disorder of connective tissue. And under that umbrella also fall Marfan syndrome, Loeys-Dietz syndrome—those kinds of things.

Dr. Jill 29:33

Okay, that makes sense. Yeah, thanks for clarifying because it's like a map that you guys use that all the experts are creating, especially now that there are more and more people. So that's a diagnosis.

Do you have on your website the criteria? If not, we can link to the paper.

Dr. Bluestein 29:50

I do have a link to the checklist, yes.

Dr. Jill 29:52

Perfect. I thought so. We'll make sure people have the website at the end, and it'll be in the show notes if you guys want to look into that or see Dr. Bluestein. So that's how you diagnose this.

Treatment—this is complex because there are so many layers. But do you want to give a stab at that as far as how you start with treatment? Where do you begin with that? And maybe not only drug supplements or things there but also the movement is huge in how they move their body. So I want to go to both aspects.

Dr. Bluestein 30:19

Sure. First I look to see, not just do they have an HSD or hEDS diagnosis, but where are they complaining of pain? If their pain is really, really widespread, then I'm going to take one different tactic than if their pain is localized into a couple of different joints. But most of my patients have central sensitization; they have nociplastic pain; they have pain that's quite widespread.

Dr. Bluestein 30:45

The acronym that I developed for that type of approach to calm the entire nervous system is MENSPMMS. And I published about this. I guess now it's two years ago, in April, that I published these two articles in a CME journal. The letters stand for movement, education, nutrition, sleep, psychosocial, modalities, medications, and supplements. So that's what the letters stand for. So yes, movement is critically important.

Dr. Bluestein 31:18

I don't care if you do gyrotonics, gyrokinesis, Pilates, working with a physical therapist, or videos on your own. Paying attention to your body, feeling your body, and trying to move a little bit more, a little bit more. Just start slow. Start low, go slow. But it's really, really important to increase the amount that you're moving if you're somebody who's not moving a lot because that can really contribute to your symptoms.

Dr. Bluestein 31:45

And then a lot of people misunderstand the 'E.' The 'E' for 'education' refers to neuroscience education related to pain processing. That was a really big aha moment for me when I learned about central sensitization and nociplastic pain because I literally went: "Oh, that's what's happened to my body! I can feel everything that's happening." I was getting very light-sensitive. When I was in the OR in the final months and years when I was able to work, I was so sensitive to the lights. I would try to look into the open wound and figure out how much longer they had in the surgery, and I would really, really struggle with that. Lights are really bright in the OR. So it's really important to understand that the nervous system plays a significant role in this. You know how important sleep is and how important the psychosocial aspects [are] and everything.

Dr. Bluestein 32:40

As I was coming up with my own treatment plan and realizing the different components that I was incorporating, I thought: "Okay, I need to come up with an acronym for this to help me remember when I see patients initially or in follow-up. Am I addressing at least a significant portion of these various components that can help them improve their quality of life and their functional capacity?"

Dr. Jill 33:01

Oh, that's so important. And I love that you're talking about that because we do have a lot of these patients who are so sensitive. There's a documentary, *Pain Brain*—have you heard about it?—which is addressing this very issue about how much pain is centralized. And this is insane. It's in your head, but there is a component that you become more and more... well, sensitized is the best word, I guess, we can come up with where you experience things more. And we've seen this with patients with IBS. There's clearly a correlation with how they feel their gut peristaltic waves more than someone who doesn't have IBS. So for them, it's way more painful just for the normal peristaltic wave to happen. So this is a real phenomenon. I love that.

Do you use things like DNRS, vagal stimulators, or all those kinds of things? What are some of your favorite limbic kinds of things?—because I feel like that too is a big part of my practice.

Dr. Bluestein 33:55

Oh, that's huge. That's absolutely huge. I love the Gupta Program. I also love DNRS. I have patients who have done Primal Trust. I have a whole list of ones that people have tried. And I love getting these kinds of resources from patients. When they share these things with me, I immediately write them down, and if they seem helpful, I share them with other people. I think that's such an important component.

Dr. Bluestein 34:20

The other thing is [that] psychological stress activates mast cells. Mast cells release mediators that not only degrade connective tissue but also increase sensitization both in the periphery and in the central nervous system. So mast cells are extremely important for the initiation and maintenance of chronic pain. They're involved in migraine, IBS, vulvodynia, CRPS, endometriosis, and all these pain disorders. Mast cells—I feel like I keep going back to that—are big culprits in a lot of this.

Dr. Jill 34:58

That's so interesting because in the presentation I did a few months ago, I can still see the diagram for the paper we probably both have read recently, and it's literally

at the circle of all the ones you mentioned. Even suicidality is in there. It's shocking. Self-harm was how they described it. But it's pretty impressive to see the psychiatric manifestations of this as well: Depression, anxiety, bipolar, schizophrenia. Again, I'm not saying all those are related to this, but there is a mast cell component to many psychiatric symptoms as well.

Dr. Jill 35:29

Years ago I was like: "I wonder if most depression and anxiety is not organic but there's actually another secondary cause." I don't know what the percentages would be, but the more I go into these fields of functional root cause medicine, the more I'm like: "I don't know when [was] the last time I've seen someone with a psychiatric diagnosis that didn't have a root cause that we could actually change." It's fascinating how this all connects. And the brain is not a separate organ.

Dr. Bluestein 35:56

No, it's absolutely not a separate organ. And if you think about it, between our ears is where we feel everything. People think, "Oh, it's in my head, so therefore someone thinks I'm making it up." But it literally is inside our brain, which is inside our head, of course. So that's where we feel everything. So for me, understanding about central sensitization was such a big game changer because I realized that if I could change my thoughts and if I could change my nervous system and try to calm my nervous system... And of course, I still need to work on that. It's definitely a work in progress. But it's really important to understand all of these different variables because I think it's really empowering. It gives us things that we can work on.

Dr. Jill 36:44

I love that.

When I first read Susan Cain's book, *Quiet: The Power of Introverts in a World that Can't Stop Talking*, and then the work of Elaine Aron on the highly sensitive person—not everybody with these symptoms has highly sensitive traits—what I realized was [that] the things that made me super susceptible to pain, mast cells, illness, sensitivities, and all that childhood stuff that you and I both experienced (probably related to the mast cells) made me really sensitive to my environment. But on the other side of that, it gave me a skill as a physician where I can really be

empathetic and be very sensitive to who I'm seeing in my office and maybe sense things that I wouldn't necessarily sense with my analytical brain. There's a sense of where I should go—an intuitive sense that we then prove with science.

Dr. Jill 37:37

It's like the gift and the curse—the sensitivity. And in your realm, I think there are many patients who have EDS, hypermobility, mast cell activation, dysautonomia—all the stuff we're talking about—that are also highly sensitive-trait individuals. Would you say that is true as well?

Dr. Bluestein 37:53

Yeah, definitely. And I think understanding for me that pain does not equal damage and that we can have damage in our bodies... When I was younger, first of all, if I was offered a surgery for anything, I always jumped on it. I thought surgery fixed everything. I was an anesthesiologist. I spent my entire life in the operating room. And now I try not to have any surgeries if I can avoid them because you see complications and things like that. And then you realize too that people are walking around with damage in their bodies that don't necessarily have pain. So I realized that pain and damage are two different things.

Dr. Bluestein 38:33

A lot of times people come to me and they're like, "Oh, but the XYZ practitioner told me that I have the worst spine they've ever seen," for example. And that plants a real seed. I have a family member who, I would say, as far as the sensitivity spectrum, is totally on the opposite end from me. I'm on that very, very sensitive end for sure. This person is on the opposite end. But they had imaging of a part of their body and were told it was really, really bad. And that night, the pain was so much worse. So we're all susceptible to that, even the people who are not as sensitive. And I think those of us who are really sensitive have to be very careful about how we word things. So, physicians who are listening to this, our words matter so much. That's such an important thing to think about—every single word that you use and how it's going to impact the person in front of you.

Dr. Jill 39:27

That may be the most important thing you said. And this is all such great information. I could not agree more because words have power, thoughts have

power, and our beliefs have power. We think a thought long enough [and] it becomes a habit, which becomes a belief that manifests in our bodies because our subconscious doesn't know the difference. So even though this seems non-scientific, it's quite based in science in how we think and how we process. And I really, really love [it] because, to our credit, it's not all in our heads. But if we have pain, it gives us the hope that we can change that by how we think about the damage.

Dr. Jill 39:58

And I would say the same thing. Years ago, I did have some significant low back pain, and my MRI looks horrendous. I have no pain now. I would never get a surgery. But if someone looked at that, the wrong practitioner, who's like, "Oh, you definitely need to have..." whether it's PRP stem cells or surgery. That's the kind of damage that someone might say that. But I don't have pain. And you and I know too [that] if someone does enough MRIs and does enough imaging, you're going to find stuff and it may not be real. This is so helpful.

What do you think? If you would go back to your younger dancing self before you knew all that you know now, what bits of advice would you give her that you know now that maybe some young woman could hear?

Dr. Bluestein 40:45

I would say the biggest thing is don't gaslight yourself. I had so many of my colleagues that gaslighted me, and I then gaslighted myself. Just because someone else doubts you, you don't have to doubt yourself. I'm thinking of one particular incident that happened. This was when I was not a young, young dancer; this was when I was working. But I think it's so important to trust ourselves, trust our instincts, trust how we're feeling in our bodies, and understand that pain is the body's way of asking for change. And we don't have to be afraid of it, but we should pay attention to it.

Dr. Bluestein 41:26

And like you said with your back, you paid attention to it. I'm sure you did some different things, and you were able to get it to go away. So we should approach it with an inquisitive mindset, not an anxious mindset, and be curious about it—"What is my body trying to tell me right now?"—and respond accordingly.

Dr. Jill 41:44

I love that. So it's like a message versus a fear thing because most of us spiral into fear. Like you said, it's so common. So there's nothing wrong with you if you're afraid of pain. But we can shift that and say, "What is this trying to tell me?" instead of running down a pathway to doom and gloom and surgery.

Dr. Bluestein 42:00

Yeah. And that fear and anxiety tend to have this feed-forward cycle that can be really, really harmful. And then, of course, anxiety makes the pain worse, and then the pain makes the anxiety worse, and then we really end up in a lot of trouble. And that's what happened to me back in 2009/2010, [which] is when I was at my worst. And I didn't have surgery for a lot of those things. I did have Tarlov surgery in 2011, but there were a lot of other things that came up that I never had surgery for—like what you're describing with your back—and I don't have pain there now.

Dr. Jill 42:32

Yeah, it's totally possible to heal. And then if you can just catch yourself if you're out there and you're afraid.

And obviously, you have a website with resources. So maybe that's the next step. I said in the show notes we'll link to all of your social media and everything. But if people want to know more, are you taking patients? Are you coaching? How can people find you?

Dr. Bluestein 42:51

I have a couple of different options. I do have a very small number of patients that I see, and I also have what I call coaching. If I am seeing someone in a different country and they can't fly here to be seen, which of course is really, really expensive... I have had people from other countries fly out here to see me, but if they can't do that, that's totally fine. I can see them on this coaching platform. So those are two options.

Dr. Bluestein 43:17

If they can come and see me in person either in Colorado or Wisconsin... As you know, medical licenses are state-dependent, and those are the only two licenses that I have, so they have to see me in person in Colorado or Wisconsin in order to

become a patient. So that's one option. And then the other option is to see me as a coaching client. And if I see them as a coaching client, then I give them suggestions and things that they can work with with their own local healthcare team.

Dr. Bluestein 43:43

I also have my podcast, which you mentioned earlier. I was so thrilled to have you on as a guest. That was such a fantastic conversation. It's called the *Bendy Bodies* podcast. Through that podcast, I offer tons of information for people to take back to their own healthcare team and to use themselves because, to me, the most frustrating thing about the triad is all the low-hanging fruit—whether it's doing DNRS or the Gupta Program or something like that, or taking some supplements, working on your nutrition, starting to move more, educating yourself about neuroscience. There's so much that we can do that we don't even need our doctor for. So it's really, really important to inform ourselves. That's why your podcast is so important and my podcast is so important. These are things that people can use to improve their health no matter where they're at on the spectrum of their ability to pay for things.

Dr. Jill 44:42

Yeah. I love that so much because I feel the same. The more information we can get out there that's free that someone might find... And it might be in another country. And I'm sure you've gotten emails and things from people like I have who will never ever be able to see me, but they heard something from a guest or from me. And you're making a difference, which is so exciting. From one HSP to another. [laughter]

Dr. Bluestein 45:07

Yes, definitely.

Dr. Jill 45:09

Yeah, truly. Thank you for the work that you're doing. Thank you for putting it out there. Thank you for coming on today. It has been an absolute pleasure to get to know you better.

Dr. Bluestein 45:18

It has been such a thrill to get to talk to you, and I really enjoyed getting to connect on my podcast and now on your podcast. And, of course, we're actually now in the same city. I just moved to the Denver area a couple of—

Dr. Jill 45:32

I know! We're neighbors, which is so cool. So I can refer to you and all of that. I don't know what number that was, but if you're driving, don't worry about taking notes. We'll put her podcast episode in my show notes as well so that you can find that easily. Awesome. Well, thanks again. And as you know, we do a new episode each week, so stay tuned for new information. And thanks again, Dr. Bluestein.

Dr. Jill 45:58

Hey everybody, Dr. Jill here at the end of another great episode. Wasn't that awesome with Dr. Bluestein and *Bendy Bodies*? I think there are so many patients suffering with hypermobility and not really understanding how it links to mast cell activation and dysautonomia. And I really loved that overview. I hope it was helpful.

Dr. Jill 46:19

As you know, we have new podcast episodes out every week. You can find us on iTunes, Spotify, or wherever you listen to podcasts. Please stop by. Leave us a review. That would help us reach more audience. And if you haven't seen, I'm so excited to announce that we have hit over half a million subscribers on our YouTube channel. Please go there—if you're not subscribed—to hit subscribe, and hit the bell so you'll be notified of new episodes every week. And as always, thank you so much for your support. I am so grateful that we're able to reach that many people on these platforms and educate them on all the things related to empowering ourselves and becoming healthier.

Dr. Jill 46:56

If you haven't heard, I'm going on a retreat this spring, and you're invited. If you want more information on the retreat, I'm going to be in Mexico at SHA Wellness. The dates are starting April 26th for five days or starting April 30th for five days. You can find all the information at JillCarnahan.com/wellness-retreats. All the information is there. And if you can't come this spring, don't worry, I'll be coming back probably in the fall. So stay tuned for future dates.

Dr. Jill 47:34

Also, if you don't know, surely you've heard by now that my movie Doctor/Patient is now streaming on Amazon Prime for free if you have the account or on YouTube or Tubi with commercials. It's also available on Vimeo. So go to DoctorPatientMovie.com. If you haven't seen it, check it out. Leave me some feedback. I would love to hear how it has inspired you or your family, who may have been suffering from chronic illness.

Okay, I will see you next week. That's all for now. Take care.