197: Resiliency Radio with Dr. Jill: Iodine the Misunderstood Nutrient with Dr. David Brownstein

Dr. Jill 00:00
Hey, guys! I am so excited that the movie that you've been waiting for, the documentary *Doctor/Patient*, is now available for rent or purchase at DoctorPatientMovie.com. Check out the trailer here:

00:13
Dr. Jill: When I really knew something was wrong was when I started having trouble walking up the stairs. I was supposed to be grateful and happy and healing and well and thriving, but I did not feel that way. I was so sick. Like always, I wanted to find an answer, and I had to figure it out. And I had to figure it out to save my own life. So I dove in.

00:38
James Maskell: Jill is the leading voice in biotoxin illness and chronic conditions that are driven by toxicity.

00:43
Bree Argetsinger: Oh my gosh, you're dealing with mold? You have to work with Dr. Jill Carnahan.

00:47
Patient 1: Dr. Jill is the first person that actually began to shed some light on the problem.

00:53
Dr. Jill: What I do is listen to the patient, and we together talk about what else is possible.

00:59
Patient 2: I don't know why I'm crying.

01:02
Patient 3: She saved my life.

01:06

Dr. Jill: The deepest lessons and most profound insights come in the suffering, come in the dark moments. Self-compassion is the healing transition that shifts something inside of us. It's actually the thing that we need most in order to heal.

01:26

Narrator: *Doctor/Patient*—available now at DoctorPatientMovie.com.

Dr. Jill 01:36

Welcome to *Resiliency Radio*, your go-to podcast for the most cutting-edge insights in functional and integrative medicine. I'm Dr. Jill, your host. In each episode, we delve into the heart of healing and personal transformation. Join us as we connect with renowned experts, thought leaders, and innovators who are at the forefront of medical research and practice, empowering you with knowledge and inspiration on your journey to healing.

Dr. Jill 01:59

Today, I have an exciting guest, Dr. David Brownstein. He's a board-certified family physician who utilizes the best of conventional and alternative therapies. He's the Medical Director for the Center of Holistic Medicine in West Bloomfield, Michigan. Ironic, because I live in Broomfield, Colorado—West Broomfield. He's a graduate of the University of Michigan and the Wayne State University School of Medicine. Dr. Brownstein is a member of the American Academy of Family Physicians and serves on the board of the International College of Integrative Medicine.

Dr. Jill 02:31

He's the father of two beautiful physicians, Hailey and Jessica, and is a retired soccer coach. He has lectured internationally about his success using natural therapies. He's authored 16 books, including *Iodine: Why You Need It, Why You Can't Live Without It, Fifth Edition*, and his newest book, *A Holistic Approach to Viruses.* And today, we're going to talk about one of your favorite topics and one that you are a world leader on: Iodine. So welcome to the show.

Dr. David Brownstein 02:57

I'm glad to be here, Jill. I'm happy to talk to you.

Dr. Jill 03:00
Yes. I'm excited to dive into this topic. Tell us just a little bit, first of all: How did you get into medicine, especially the realm of integrative and functional holistic medicine?

Dr. David Brownstein 03:11
I didn't start off that way. I started off wanting to be a conventional doctor, modeled after my family doctor. I grew up with a severe case of asthma. Multiple ER trips, multiple asthma medications—asthma and allergies and things. So I went to the doctor a fair amount. We grew up in a conventional household. We didn't take any vitamins. We didn't talk about diet. We went to the doctor when we were sick. We took whatever the doctor said. We never questioned anything. So I went to medical school with those parameters just to be a conventional doctor.

Dr. David Brownstein 03:45
I wanted to be a family doctor, modeled after my doctor. I went to the University of Michigan, the national champs—I worked hard for that, by the way—and Wayne State Medical School. Then I did a family practice residency and joined a busy conventional family practice office, not far from where I'm at now. That's all I talked about doing. I thought it was my calling.

Dr. David Brownstein 04:17
Around six months into that, I started to get some anxiety pop up out of nowhere. I remember I didn't sleep for three nights or [had] little sleep for three nights out of the blue. I get up, getting ready to go to work after that, and tell my wife Allison: "I don't want to be a doctor anymore." We met at 18. We met at orientation at U of M. That's all I talked about with her. From that moment on, this was my calling. That's what I wanted to do. She said, "What's wrong?" I was like: "I can't do this. I'm not helping people. I'm prescribing all these drugs." Unless they had an infection, it wasn't treating the underlying cause of their problems. "I'm having to use all these other drugs to treat the problems from the first drugs." I said, "I can't do this for the next 30 years." She said, "What are you going to do?" I was like, "I don't know." She was pregnant with Hailey—very pregnant when that happened.

Dr. David Brownstein 05:10

The short version of the story was that a patient hooked me up with his chiropractor. His name was Dr. Robert Radtke. He was a functional chiropractor who knew functional biochemistry. I didn't want to meet him because I used to tell people: "Don't go see chiropractors. They're dangerous." In my anxiety and lack of sleep, I agreed to meet him. I remember that it was a Tuesday night dinner. I called him and we set that up. As I got home from work, I told Allison: "I'm not going. I'm not going to meet this chiropractor. It's a waste of my time." She said: "You already scheduled it. It's too late." As I was walking out the door, she said, "Be nice!" So I met him.

Dr. David Brownstein 05:47
He was super smart! He knew all this functional biochemistry I didn't know. I got an A in biochemistry at the University of Michigan. I got an A in medical school and biochemistry. I didn't find it very hard. You memorize pathways and spit them back out in the exam. You know why you're doing it, but what the clinical purpose was, you didn't know. So there's no clinical purpose to doing that. And Dr. Radtke is talking about the clinical uses of biochemistry, which I still utilize today. So I got home from that meeting. He brought a book with me, *Healing with Nutrition* by Jonathan Wright. I read long into the night, two or three in the morning, and I had to work the next day. I got up for work and I wasn't tired. I was excited.

Dr. David Brownstein 06:28
I called my dad before I went to work and said: "Hey, can you come into the office? I want to check a few blood tests on you." He had his first heart attack at 40 and his second heart attack at 42. He had a couple of bypass surgeries and numerous angioplasties. He was on 12 medications for cholesterol, high blood pressure, heart disease, and diabetes. He looked awful. He was pale and pasty. He looked like he was going to die at any moment. We were all waiting for the phone call—"He died." Continuous angina for 20 years, popping nitros like they were candy. Waiting for the phone call. So I called him and said: "Hey, Dad, can you come into the office? I want to draw some blood work."

Dr. David Brownstein 07:02
I drew two blood tests on him. I drew a thyroid panel instead of just the TSH, as I was taught in medical school. I drew a full thyroid panel. And I drew his testosterone levels, which no one had checked. His testosterone levels came back a

few days later as below detectable limits, near zero. His thyroid was in the reference range but in the lower part of the reference range. So I put him on two things: Natural thyroid hormone and natural testosterone.

Dr. David Brownstein 07:27
Seven days later, he calls me up and says: "I haven't taken a nitro today. My chest pain's gone." It was the first time in 20 years. He started to pink up instead of [looking] pale and pasty. His shortness of breath and shortness of breath on exertion went away. Thirty days later, I checked his cholesterol, which was in the 300s on medication. It was below 200, not changing any of his bad dietary habits, which he never changed. He looked better and reacted better. His friends were asking my mother: "What's he doing? He looks so much better!" He could do things now without shortness of breath and chest pain. I said: "That's what I want to do in medicine!"

Dr. David Brownstein 08:02
I went to my partners. I was negotiating a buy-in for a partnership. I said, "I need to leave." They said, "What's wrong?" I was like, "I want to go do holistic medicine"—I told them what I was doing with my father—and they said, "What's that?" I said: "I don't know, but I'm going to have to figure this out." And 30 years later, I'm still figuring it out and still learning. I've got a better idea of what it is now. But I left, and I did a 180 in my practice. That was my impetus.

Dr. David Brownstein 08:31
My experience and probably your experience has been for most people to switch from that conventional orthodoxy that they were taught, especially if they bought into it, like I did. It's either you or a family member who was sick that caused you to search. It's 30 years later now. It was the best move I ever made. I find medicine exciting and fun, and I'm glad I did it. The only thing I would change is that, I guess, I would have had the passion for this a little bit earlier. But it was fine the way it worked out. And now I'm working with my girls, and that's a pretty cool thing.

Dr. Jill 09:05
Yes, that's an amazing legacy. And what your story shows so true to so many of us in medicine is that we go in wanting to be healers and solve problems and solve the medical mysteries and pathways. We learn the pathways in medical school. But

many of our patients and those listening may not know that we don't use those. We're given: "Here's the diagnosis"—ICD-10 now—and then "Here's the drug." That's the mechanistic approach to medicine. That's why a lot of our listeners and patients are a little frustrated with medicine because they also want to know the why. Like, what's under the hood of the car that went wrong? And when you got that book from Jonathan Wright, which I know well, we both found the mechanisms behind disease fascinating. And like you, I love what I do every day because it gives us a chance to solve problems and reverse what used to be considered irreversible.

Dr. David Brownstein 09:56
It's interesting; I liked biochemistry. Chemistry I got. I did well at undergrad. I did well in medical school in biochemistry. I thought: "I was pretty good with biochemistry." Man, I didn't know a thing until I learned how to apply it to the patients in front of me. Now every supplement, every drug, every diet, everything that I look at, I think about: How does this impact human biochemistry and physiology? Am I going to support these pathways or am I going to block them? It's a different paradigm and way of thinking, unlike how you and I were taught. As you just said, we're taught how to diagnose pathology and how to prescribe the one drug to treat it, and that's it. Monkeys could do it.

Dr. Jill 10:38
Right. And it's so fun when you do the kind of medicine we do because we get to think about problem-solving every day. What I find fascinating is that we can use nutrients almost as a drug to shift pathways. It's not the drug; it's much more natural. But we're using the right doses to shift the mechanistic biology of the human body. And we can do it with nutrition.

Dr. David Brownstein 11:02
We're not poisoning enzymes and blocking receptors by doing that. We were designed pretty well. If we just give it the basic raw materials it needs that we were designed for, the human body can do pretty cool things through [inaudible].

Dr. Jill 11:15
Yes, yes, yes. Amen!

One of our topics today is iodine. You have been the leading author. You've written a fifth-edition book now. I don't know how many you've sold, but it's a lot. I read

your book years and years ago, when it first came out. One reason this is very close to home is because I think you know a little of my story: 25 years old on a farm with chemical exposures and probably competitors for iodine. I got breast cancer, which, of course, is related. And this is interesting; I don't know if you know this part: I was 25 years old [with] my own breast cancer diagnosis and several years later, my sister at 28 had thyroid cancer. So two girls—the same environment. I'd love to know, and you can talk personally if you want as far as why that might be related to iodine with the thyroid and the breast and two sisters. You know the whole story there, don't you?

Dr. David Brownstein 12:04
Iodine is an essential element. We can't live without it. Every cell in the body needs and requires iodine. It's concentrated in the glandular tissues. The glandular tissues consist of the thyroid, ovaries, uterus, breasts, prostate, and pancreas. Think about the problems we're having today. The fastest-growing cancer in the United States is thyroid cancer. Breast cancer affects about one in seven adult women across the US. Prostate cancer is thought to affect one in three older men. We've got epidemic increases of ovarian, uterine, and pancreatic cancer.

Dr. David Brownstein 12:36
When I was in my training 30 years ago, people who got pancreatic cancer were older alcoholics and older people. I never saw younger people with pancreatic cancer. I have patients now in their 40s getting diagnosed with pancreatic cancer. I never saw women in their teens and 20s getting diagnosed with breast cancer, ever. I just went to the funeral of a 28-year-old patient of mine from breast cancer. Ovarian, uterine—I mean, it's unbelievable what's happening!

Dr. David Brownstein 13:08
It's been my premise that iodine deficiency is a large part [of it]. I don't think it's the 100% answer to it, but it's a high percentage of the answer to it. The reason is that iodine's job in the glandular tissue is to maintain the normal architecture of the glandular tissue. If we call this the normal architecture, it's normal. There's nothing wrong with it. It's as it should be. That includes all those glands: The thyroid, ovaries, uterus, breast, prostate, and pancreas. Iodine deficiency has been shown in animal test tubes in human studies to start a progression: First, cysts start to form in those tissues.

Dr. David Brownstein 13:44
Right now, an autopsy study showed 88% of U.S. women have fibrocystic breast disease, which is a precursor to breast cancer. Fifty to sixty years ago, it was 3% of women in an autopsy study. The first thing that happens with iodine deficiency is that cysts start to form in those tissues. If it goes on longer, the cysts become hard and nodular. If it goes on longer and we take a biopsy of them, they become hyperplastic, which is a precursor to cancer—a disordered structure of the cell. And then cancer is the end of that road.

Dr. David Brownstein 14:14
In animal test tubes and human studies, it has been shown that iodine repletion can not only halt this pathway wherever it catches it but [also] reverse it. I've seen that happen in my patients. The human body—we were designed by our maker to get enough iodine in so we don't get cysts, nodules, hyperplasia, and cancer of our breasts, ovaries, uterus, pancreas, thyroid, and all that stuff. I think we're facing the consequences.

Dr. David Brownstein 14:44
Our iodine requirements now are more than our predecessors were because we are exposed to chemicals, as you were on the farm. These toxic halides—when we were in undergrad or high school, if you took chemistry—are group 17 of the halides on the right side of the periodic table. There are five halides now. There was a fifth one discovered, but I don't think there's any human interaction with that one. The four halides that have human interaction are fluoride, chloride, bromide, and iodine. I gave them in order of molecular weight. Two of those halides are essential. We can't live without them—iodine and chloride. And two of the halides are nonessential toxic elements we shouldn't be exposed to—bromide and fluoride.

Dr. David Brownstein 15:37
Fluoride, we can argue. It helps with cavities, but it poisons hundreds, if not thousands, of enzymes in the body. It's been associated with osteosarcoma and other cancers. It's an extremely toxic electronegative element that shouldn't be in the human body. In the four common halides—I gave them in order—bromide and iodine are closest to one another. Bromide is very similar in size. It's a little smaller than iodine. But we have iodine receptors all through our body. Every cell in the

body needs and requires it. It's concentrated in the glands, as I said before. All those halides are competitive inhibitors of one another. If you get too much of one, it can kick out another one. And if you get too much bromide, it's going to tend to kick out iodine. And bromide combines where iodine receptors are.

Dr. David Brownstein 16:31
It's been shown in animal studies that you can brominate iodine receptors in the thyroid gland. Instead of thyroid hormone, such as thyroxine, which is T4—or four atoms of iodine attached to thyroglobulin—those four atoms can be brominated. You could have T4, but it could be brominated T4 instead of T4 iodinated. We were designed for T4 iodinated. We don't really know what the consequences of the brominating thyroid hormone are. You'll see in animal studies that they just say it, but they don't say what the consequences are. But it ain't going to be good because that's not how we were designed. There are other studies that show all these halides increase your risk of thyroid problems, including thyroid cancer, breast cancer, ovarian cancer, and so on.

Dr. David Brownstein 17:23
We're getting exposed to these toxic halides in our water supply and fluoride. We're getting exposed to these toxic halides in our drug supply as fluoridated and brominated compounds that are taken as common drugs. A lot of antidepressant medications have fluoride as [part of] their chemical makeup. A lot of asthma drugs have bromine in their chemical makeup. Bromine is in food and drink. There is brominated vegetable oil. Bromine is a fire retardant used all through the United States. It's in so many consumer goods. It's in these things. It's in mattresses, carpets, curtains, couches, and chairs as a fire retardant. Our exposure to bromine is so much higher than [that of] our predecessors. Therefore, it's caused a competitive inhibition of iodine.

Dr. David Brownstein 18:09
The National Health and Nutrition Examination Study, which the U.S. government does every 10 years, shows that our iodine levels across the country have fallen [by] over 50% over the last 50 years. At the same time, our bromide levels in my testing have gone up. It's created this double whammy of iodine deficiency and bromine toxicity. I think we're suffering the consequences of it in these cystic breasts and

cysts and nodules in the thyroid, polycystic ovaries, endometriosis, and the whole nine yards. That's what we're seeing right now.

Dr. Jill (pre-recording) 18:41
Hey, everybody. I just stopped by to let you know that my new book, *Unexpected: Finding Resilience through Functional Medicine, Science, and Faith*, is now available for order wherever you purchase books. In this book, I share my own journey of overcoming a life-threatening illness and the tools, tips, tricks, hope, and resilience I found along the way. This book includes practical advice for things like cancer and Crohn's disease and other autoimmune conditions, infections like Lyme or Epstein-Barr, and mold- and biotoxin-related illnesses. What I really hope is that as you read this book, you find transformational wisdom for health and healing. If you want to get your own copy, stop by ReadUnexpected.com. There, you can also collect your free bonuses. So grab your copy today and begin your own transformational journey through functional medicine and finding resilience.

Dr. Jill 19:37
This makes so much sense because we have the double whammy of a decrease, I'm assuming, in our soils and a depletion of sources of iodine, number one. And then we're getting these massive exposures that are competitive inhibitors and absorb into our bodies. Even thinking back on the farm, organophosphates, by nature, have a chlorine molecule attached to them. So there's that chlorinated exposure. Any time you swim in a pool, sauna, or hot tub that's brominated or chlorinated... I was a swimmer growing up, so there was another big exposure. So what do you see? We talked about cysts on the glands and things. I'm assuming that we could probably assume all of us are iodine deficient. How would we know we're iodine deficient? Or is it just everyone?

Dr. David Brownstein 20:21
The NHANES studies showed iodine levels have fallen [by] over 50%. If you look at the national studies, as a population, we're deficient in iodine. The average population is deficient in iodine. That's going by WHO criteria. My feeling is that in today's toxic world, with our exposure to all of these toxic halides and other chemicals, our iodine requirements are way higher and that the WHO criteria is too low.

Dr. David Brownstein 20:43
Iodine was set at the RDA of 150 micrograms per day in adult males and females from 1920s research. It was done in Michigan and Ohio. We were in the goiter belt. There was a huge rate of goiter in people in the early 20th century. As the country was expanding from east to west, this goiter rate went through the roof. It became of interest to the highest levels of the US government, not so much because people were suffering goiter but [because] animals were having problems.

Dr. David Brownstein 21:17
The animals' thyroids were not developing normally, and the animals were not procreating correctly. They weren't growing to the right size. It was ascertained that the animals were suffering [from] the same iodine deficiency that people were. There was a researcher, David Marine, who was a graduate of Case Western medical school. He had written a paper on iodine in medical school. Someone in Washington had found it because they tasked him with looking at farm animals and seeing: What's the lowest dose of iodine we give to farm animals that's going to correct their thyroid problems, their procreation problems, and their growth problems? So he put different amounts of iodine in the feed. The lowest amount he reported [was] for animals. They calculated the dose per weight for humans. And they said: This is how much iodine humans need—150 micrograms a day.

Dr. David Brownstein 22:04
It was known from research 50 years before that that you could get iodine into salt pretty easily and it would be a good way, population-wise, to get people to take iodine. So the government persuaded salt manufacturers to put 75—I think it's micrograms per gram—of iodine in salt. We would get a little over 150 micrograms per day [by] doing that dosing.

Dr. David Brownstein 22:31
They did the first studies in Ohio and the second studies were done in Michigan. Goiter, three years later, went down [by] a huge percentage. The government didn't mandate it but suggested salt manufacturers put iodine in it. That's how we came up with iodized salt. It was hailed as the first public health miracle, which it was. But remember, that was a different time period. People weren't exposed to these chemicals [with] bromine and bromide. Fluoride wasn't in the water. It was enough

iodine to prevent goiter in the vast majority of people. The animals were fine at that point.

Dr. David Brownstein 23:07
We're still living off that 100 years later. We're living in a different world right now. That's a pastime. That's why our RDA requirements are higher than they were then. And this is why I think we're having so many problems now with our gland tissues. And until we rectify this, I don't know how we get out of this mess.

Dr. Jill 23:26
No. I couldn't agree more. I talk a lot about toxic chemicals in our environment, and flame retardants are in everything. Unless you're in California, and even there, it's sometimes hard to get a mattress that's free [of these flame retardants]. So any furniture you buy, if you're out there, or any sort of thing in your home, it's mandated to have flame retardants on these things. You have to be incredibly deliberate to get something for your household that isn't completely saturated with flame retardants. Isn't that correct?

Dr. David Brownstein 23:51
That is correct. Not only is that deliberate but you spend a lot of money. Who can afford it?

Dr. Jill 23:56
Yes. It's two or three times or more—the mattresses.

Dr. David Brownstein 23:58
Some people can afford it, but the masses can't afford it. Then we're going to be diagnosing breast cancer in women when they're 18 years old, pancreatic cancer in people when they're 40 years old, and stuff that I didn't see 30 years ago that I'm seeing now. Nobody seems to care. Nobody. Besides the holistic doctors, nobody seems to care out there.

Dr. Jill 24:17
And let's talk about that real quick. Part of why the medical curriculum is run by pharmaceuticals is because there's big money in these blockbuster drugs that have a patent where no one else can use that drug. Iodine is not that way. Do you want to

talk briefly about why iodine is essential but also not pushed by any manufacturer because of cost?

Dr. David Brownstein 24:37
In the 19th century, iodine was the most used medical item. Lugol's solution was designed in the 1820s by Dr. Lugol. He figured out how to get iodine into solutions so people could take it. It was the most prescribed item because the biggest killer in the 19th and early 20th centuries before antibiotics was infection. There's no bacteria, no virus, no parasite, and no fungus that's [been] shown to be resistant to iodine. It was sold at every apothecary and people readily used iodine. Doctors wrote about it. There are lots of old case histories and old literature on iodine curing Graves' disease, which I still use in my practice today—even though I get criticized for that by some of my holistic colleagues.

Dr. David Brownstein 25:22
Iodine was well used with iodized salt. When iodized salt cured the goiter epidemic, iodine fell out of favor. Right after that, drug patents started to come up. Things move fast and iodine was cheap. It was not patentable because it's a natural substance. Iodine deficiency was "the thing of the past." I was taught that in medical school. I was taught probably one minute or less of iodine—that iodine deficiency was causing goiter in the 19th and early 20th centuries, and it was cured with iodized salt. I bet you that was it. I don't recall anything else about iodine.

Dr. David Brownstein 26:02
Unfortunately, iodine gets a bad rap. There are a lot of conventional doctors and endocrinologists who can't stand iodine. And unfortunately, it's pervaded our holistic world as well. There's a lot of negative talk about iodine. I don't understand it. I call them medical iodophobics. They must not know the physiology and biochemistry of it. They don't know the literature.

Dr. David Brownstein 26:26
In our office, I like seeing Graves' [disease] patients. Graves' [disease] patients are fairly easy to treat with a holistic approach, with iodine being the front and center part of that holistic approach. Hashimoto's disease is caused by iodine deficiency. Iodine treats Hashimoto's disease and cures it many times.

Dr. David Brownstein 26:43
I have two girls [who were] both diagnosed with Hashimoto's disease by their mother. They were like the shoemaker's kids without shoes. They were diagnosed by the mother. The mother asked me at around 11, "Do you think they have a thyroid problem?" I was like, "How did I miss this?" They were busy playing soccer and all that stuff. But they were complaining of being headachey all the time and tired. I drew their labs. They both got Hashimoto's. And the thyroid was messy. When I lecture, I show their labs, the progression as we upped their iodine dose, and what happened to their thyroid antibody titers. They go down. Hailey is 29 years old; Jessie is 28 years old. Neither of them have signs of Hashimoto's.

Dr. David Brownstein 27:28
A hypothesis has to withstand all criticism. I'm talking about my holistic colleagues, particularly these naturopaths: There are a few of them out there who say iodine causes Hashimoto's and Grave's diseases. I've got an N of 2 I grew up with—raised. I've got the lab work to show you that they don't have Hashimoto's anymore. This blows out of the water the hypothesis that iodine causes Hashimoto's.

Dr. David Brownstein 27:53
The other thing that blows it out of the water is that iodine levels over the last 50 years have fallen 50% across the United States—from the NHANES study. Hashimoto's and Grave's disease have increased at epidemic rates since then. The two curves—one's going up this way, one's going down this way. That's a negative association. A negative association disproves causation, period. It ain't iodine. Maybe it's something else, but it ain't iodine. As Ricky said to Lucy when I was growing up, "Splain that one," none of them can 'splain' that one. And that's just not the case.

Dr. Jill 28:29
I love it. I could not agree more.

So talk to the person out there who's like, "I don't need iodine." We're assuming that almost everyone does need iodine. Do you recommend they ask their doctor to test? Do we just assume? Because I know there is testing, but even in my clinic, I find that it's harder. Sometimes I make an assumption versus testing. What are your recommendations on that?

Dr. David Brownstein 28:47
My first recommendation is for a patient to work with an iodine-literate doctor, period. Forget the testing part of it. Just work with someone who's knowledgeable about iodine and who can talk to you about it. Do I think every person needs to be tested for vitamin C before you give them vitamin C? No. Do I think everyone needs to be tested for magnesium before you prescribe it for migraines, muscle aches and pains, muscle spasms, or something? No. Do I think everyone needs to be tested for iodine? I think once the doctor has experience using it, no—the answer is clearly no.

Dr. David Brownstein 29:18
When I first started using it, I tested everybody. I still do testing on almost everybody. I do testing on everybody, but it's more for my research purposes. I don't feel like I need to. I just keep track of them. In my office, we've tested over 8,000 people over the years. There are a few doctors who work with me. We've found over 97% are iodine deficient—mostly severely iodine deficient. The only ones who aren't [deficient] usually have either seen me lecture, read my books, or friends or family told them: "You need to take iodine; I'm taking iodine." No one who's not taking iodine is not iodine deficient. Unless you're taking iodine, in our world with our exposure to these toxic halides, it's near impossible because our food supply has been depleted of iodine over the years too, as you mentioned earlier.

Dr. Jill 30:07
Many people in the holistic realm are taking Celtic sea salt or some sort of salt that is not iodized. We have that as well. If you do tests, are you doing 24-hour urine tests? Are you doing a spot check? Is there anything you would recommend, if a doctor's listening, on how they would test?

Dr. David Brownstein 30:22
If patients aren't supplementing with iodine, they can do a spot urine test. It's going to come up low over 97% of the time. If they're taking iodine, the spot urine test doesn't work anymore because there are no reference ranges for taking iodine as a supplement in the milligram doses I'm recommending. So they've got to do a 24-hour urine test. It's cumbersome. It's 150 bucks or something like that. I only do that test now for research if I'm interested in something a patient has or if the

patient's interested in it. Otherwise, I just do spot urine iodine tests on every new patient, as long as they're not taking iodine.

Dr. Jill 31:00
Okay, good. That's exactly what I've been doing. And I agree with you: In my clinical experience, it's very, very low. Recommendations for supplementation. If the patient is out there and they think they might be iodine deficient, which we just established is almost everyone, what kind of recommendations could you give to the public that would be safe to start?

Dr. David Brownstein 31:19
The real contraindication to iodine is a condition called 'autonomously functioning thyroid nodules.' You have your thyroid gland here. You have this disrupted architecture because they're iodine deficient. They went from cysts to nodules. Somewhere between nodules and hyperplasia, one of the nodules loses control. It loses the negative feedback loop for the thyroid. The thyroid controls how much thyroid hormone to make. When you give [them] iodine, they become hyperthyroid really fast. These are the people who aren't tolerating seafood or sea vegetables. As soon as they get any iodine in, they become hyperthyroid. You could tell who these people are because you give them a dose of thyroid and they become hyper within hours of doing it. In 25 years of using iodine, I've seen three people with this.

Dr. David Brownstein 32:10
The only way to diagnose it is to give them something with iodine and this happens. Or you do this radionucleotide iodine test where you see if they've got a hot nodule—it takes up a lot of iodine. In these patients, they can't take iodine until they get surgery or something to get that hot nodule resolved. They cannot take iodine. Barring that, iodine's pretty safe.

Dr. David Brownstein 32:36
With adults, my usual dose is 25 milligrams, which is way more than the RDA for iodine. It's a hundredfold: 250% of the RDA for iodine. If they have glandular disease—thyroid, ovaries, uterus, breasts, prostate, pancreas—particularly cancer glandular disease, I'll use more. And I'll titrate the dose up pretty quickly with it.

Dr. David Brownstein 33:02

The one thing iodine can do when you give people these big doses is displace bromide, particularly. Dr. Abraham was my mentor in iodine. He and I did the research on our patients. What happened was that we could document—and I wrote that in my book—in a study of breast cancer patients versus non-breast cancer female patients that the iodine levels in the breast cancer patients were 50% lower than the non-breast cancer patients and their bromide levels were 50% higher when they took iodine to displace bromide. What can happen is that when you give iodine, it can cause a detoxification reaction and an overload where the body has to get rid of these halides—I think it's all bromide—and the body can become overloaded with that. People can feel crappy. They can get achy, flu-like, headachey, and tired. And they don't like that.

Dr. David Brownstein 33:59
If you give iodine, I never give iodine without salt. I wrote a book on salt: *Salt Your Way to Health*. Most people are salt-deficient. I prescribe salt for most of my patients. Particularly if I give them iodine, I tell them, "Take a teaspoon of unrefined salt today," as long as they don't have congestive heart failure and/or renal failure. The salt helps to usher the bromide out of the body safely. Fluoride—you would think iodine would competitively inhibit fluoride. Dr. Abraham and I couldn't show that. Part of it was that fluoride is so electronegative, so small, and so toxic to the body. Your body does not like fluoride floating around. When you ingest fluoride, it immediately throws it into the bones of the teeth to try to neutralize it. We couldn't measure that in the urine when we gave people iodine. We could measure a lot of bromide coming out.

Dr. Jill 34:59
That makes sense. I've seen with acne, the chlorinated and fluorinated stuff come out there. Forgive my ignorance here, but as far as basic detox for these compounds—bromine [compounds] and chlorines—in that halide pathway, is it mostly through the liver? Is it through the kidneys? Is it all sources? Are there any particular detox methods that would help, like sauna, get the bromine [compounds] out of the body?

Dr. David Brownstein 35:22
Some comes out in the sweat, so you can detox that way. Some comes out in the stool. But 98% of iodine and bromide will come out through the urine.

Dr. Jill 35:31
Ah, the kidneys.

Dr. Neil Nathan 35:32
Fluoride does not come. We tried to measure it; we just couldn't measure it. I think it's because it's so toxic that the body doesn't want to move it around. Most of it comes out through the urine. But I think sweating helps. All the detox stuff helps; there's no question.

Dr. David Brownstein 35:51
Bromine toxicity was common in the medical literature in the early 20th century because a lot of drugs had bromide in them. Bromide is a sedating halide. They had a lot of drugs that had bromide in them because it would calm people down. I'm old enough to remember Bromo-Seltzer. Bromo-Seltzer was the precursor to Alka-Seltzer. People would come in bromide toxic. They'd show up in the emergency room, delirious and hallucinogenic. They would diagnose bromine toxicity. They would salt the bromide out with a saline IV.

Dr. David Brownstein 36:29
It's interesting you mentioned organophosphate pesticides. I don't think the chlorine is the biggest problem. Chlorine is an oxidative form of chloride. But we have chloride receptors all through our body. If we burned our body and just had the dry weight of the ash, a gram of that ash would be chloride and a gram would be sodium. Every cell in the body needs and requires chloride. The bigger problem is bromide. The bigger problem is fluoride. I think with the organophosphates, it's what they do to the enzymes that is the problem.

Dr. Jill 37:08
The endocrine disruption is probably the bigger issue, right?

Dr. David Brownstein 37:10
Yes.

Dr. Jill 37:12

Okay, that makes perfect sense. And you mentioned Lugol's [solution]. I know there's triiodide out there. What kinds of forms are best for patients to take? Is it the multi, triiodides, or Lugol's [solution]? Or what do you recommend?

Dr. David Brownstein 35:47
There are many forms of iodine. There's microgram dosing. One hundred and fifty micrograms is the RDA for iodine. So there's microgram dosing of iodine and there's milligram dosing. Lugol's solution—Dr. Lugol invented Lugol's solution in the 1820s. And 5% Lugol's [solution] one drop is 6.25 milligrams of a combination of iodine and iodide. In our toxic world, I don't think there's enough iodine in the microgram doses of iodine out there to help the body detox from bromide and fluoride. And I tried it; it doesn't give you the long-term benefit that the milligram doses do. I've been criticized for this. People have written: "You've made these numbers up"—12, 25 milligrams, 50 milligram loading, or whatever. "You just pulled them out of the air." No.

Dr. David Brownstein 38:26
We give lectures. I'm giving a talk with Lindsey Berkson about this. You're going to present the link for people. I presented on iodine. We can show you where these numbers came up. These were not made-up numbers. These [numbers] were [by] using science to decide that the best dose is somewhere around 50 milligrams a day. The thyroid can take up a certain amount of iodine per day and then it stops—600 micrograms a day.

Dr. David Brownstein 38:54
If you expose someone to radioactive iodine—such as in a nuclear explosion or if you give them an IV of radioactive iodine—if they're iodine deficient, the thyroid will take up a lot of that radioactive iodine because the receptors are empty and they're looking for iodine. However, if your iodine is sufficient, the receptors shouldn't be looking for iodine. They're already bound with iodine. So if you give someone radioactive iodine or expose them to nuclear fallout or something, the iodine's going to pass right through and not cause any problems. I say you should be taking in enough iodine. [In this way], radioactive iodine is not going to bind to your thyroid, breasts, ovaries, pancreas, or prostate. And you're going to maximize how much the thyroid takes up in a day, which is 600 micrograms, so you can make thyroid hormone.

Dr. David Brownstein 39:37
When you graph those two out, which Dr. Abraham did, it comes in right around 50 milligrams a day, maybe 75. But these are big doses. These are 400–500 times the RDA for iodine. These numbers were not pulled out of the air. These are what the numbers are. And I don't think the microgram dosing of iodine provides enough oomph for what people need today.

Dr. Jill 39:58
Yes, I agree. In clinical practice, I see that. So I completely agree with you on that front.

The last little bit here. We talked just briefly. Say someone is starting iodine under an iodine-certified or knowledgeable physician. You mentioned the detox. Is there anything else that they would be concerned about if it happens, good or bad? I expect some detox reactions, maybe some fatigue. What would be the typical first four weeks of taking that new dose? What would they experience?

Dr. David Brownstein 40:28
You may agree with what I'm going to say or you may not. I'll find out. But there are a lot of nutrients out there. There are a lot of things we learn in our holistic courses and we learn [in general] and try on people. There are very few things people take that they say: "Wow, that made a difference!"

Dr. Jill 40:50
I agree. A lot of times, you can't tell on the first…

Dr. David Brownstein 40:52
You can't tell. You give them these pycnogenols or whatever it is and they don't know. And sometimes we don't know: Is it really helping? We think this will help your varicose veins or something, but who knows? Iodine is one of those things that, when people are deficient, as long as they don't get a detox reaction when they start taking it, they get a wow factor. They usually get more energy. They start dreaming again. Their brain becomes focused. I've only seen this with a couple of things in the natural world where that can be a wow factor.

Dr. David Brownstein 41:24

The other wow factor is that thyroid nodules go away, breast cysts go away, ovarian cysts go away, and things like that. But you can get that immediate energy and brain boost. The eyes are clear. Everything just gets better. I think it's only one of a couple of things that I've seen that happen with over 30 years. Occasionally, you'll get a detox reaction; you don't feel good when you start taking it. What I tell those people [is]: "Stop taking it. Go on a teaspoon of salt or two a day for two weeks. Try it again with a teaspoon or two of salt a day." Ninety-eight or ninety-nine percent of them can take it without the problem. There's an occasional patient who either has some kind of sensitivity or allergy to it or doesn't feel right on it. Those are very few and far between in my practice.

Dr. Jill 42:15
Excellent; that makes perfect sense. Dr. Berkson and I are going to talk about the course you guys have coming up shortly. So stay tuned; we're going to have a link to that. I'm super excited to promote and share that work because we're going to talk about hormones and iodine. But recently on a recording, we talked about women who are starting hormones and have breast tenderness and how iodine can be a huge factor in decreasing their symptoms when they're starting estrogen hormones. Any thoughts on that or comments?

Dr. David Brownstein 42:40
Yes. The highest concentration of iodine in the body is in the thyroid gland. The thyroid can saturate out at 50 milligrams. But if the whole body's saturated with iodine [from] head to toe, you can have two grams or 2,000 milligrams in there. So, 50 milligrams isn't a lot. It's the highest concentration. The second highest concentration of iodine is either in the ovaries or the breasts. I'm not quite clear on that one.

Dr. David Brownstein 43:06
To concentrate in the glandular tissue, we are set up with this intricate mechanism where the sodium iodine symporter, which is a taxicab that takes iodine from the blood, moves it into these glands, and requires two atoms of sodium—you need salt to be able to do this—and it requires ATP or an energy molecule. It's so important for the body to get it in the thyroid, ovaries, uterus, breasts, prostate, and pancreas that it uses up a very precious ATP molecule to move one atom of iodine into those glands. Not only can you not make thyroid hormone without iodine, [but] you can't

make adrenal hormones or sex hormones—any of the glands can't make their hormones without iodine. It's a pretty important thing. I've always been under the premise that if we give the body its basic raw materials, it can do pretty cool things. When we screw up the raw materials and toxify the body, that's when problems start to develop.

Dr. Jill 44:03
I couldn't agree more. Was it Sid Baker who said, "Take away the excess of toxicity and give what you need, and that's the core of integrative and functional [medicine]"?

Dr. David Brownstein 44:14
That's what he said.

Dr. Jill 44:15
Yes. And I'm not saying that very eloquently, but...

Dr. David Brownstein 44:17
That's exactly what he said.

Dr. Jill 44:19
Fantastic. Tell us briefly about what course you have coming up, because I'm super excited about that and want to share that link with people.

Dr. David Brownstein 44:28
Lindsey's been a friend of mine for... We were at a course. I think it was about 25 years ago. I had written my book in 1998. It was right after, around 2000 or something like that. I had written the first edition of my iodine book. It was an A4M seminar; I was lecturing on the book. I had read Lindsey's book, *Hormone Deception.* It was written around then. I think she wrote that book in the 1990s. I loved that book. If you don't have her book, for anyone listening, *Hormone Deception* is a great book. She was writing about endocrine disruptors before anybody was writing about them—that these are causing the breast and glandular problems that are out there.

Dr. David Brownstein 45:16

So this woman asked me a question from the back of the audience and I answered the question. I go to the next question. I came back to her and I was like, "Why did you ask that question?" She said, "Well, I wanted to know the answer." I said, "Who are you?" because it was a really intricate question. She gave me her name and I was like: "I just read your book!" I said, [inaudible]. "It went back to you like that." I figured that question came out of her book. I said: "We have to talk after this lecture. I'm a big fan of yours." Then I went back and answered all my questions.

Dr. David Brownstein 45:44
We connected at that meeting. It was almost like—I'm sure she would say the same thing—we had known each other for decades or something. We immediately made a connection. We exchanged numbers. Over the years, we didn't see each other very much at all, but we would talk periodically. We'd call each other with certain questions or something we'd read and something we wanted to talk about. It was interesting: We were always on the same page—always.

Dr. David Brownstein 46:15
She started telling me about 10 years ago: "We need to do a course together. They're not teaching these hormone therapies the right way." She and I were taught differently. She's a few years older than me. She looks a few years younger than me, but she is a few years older. We came to the same conclusions clinically through different pathways.

Dr. David Brownstein 46:39
The turning point came maybe—I don't know—within the last year. She's lecturing a lot more than I was. I did my lecturing earlier, and then I focused on my practice. I got tired of all the traveling. I couldn't lecture everywhere like I was doing. She's still lecturing. She tells me she's going to these meetings and doctors are being told: "Don't prescribe hormones. They cause cancer," or "Don't do it this way; you're going to cause cancer." They're wrong. They're absolutely wrong. She said, "We need to do a course together." So she proposed to me maybe six months ago, "Let's do a course." I was like: "Um, you know, I'm busy. I'm practicing. I'm still writing a book."

Dr. David Brownstein 47:21

I agreed to do it, so we've been taping now. We just finished a tape right before your talk—two hours. I told Lindsey: "This is the best course..." I used a little adjective before "course" there. I said, "This is the best course I've ever seen." We've got 70 years of experience between the two of us. We've got all the literature and all the science behind it. It's really interesting how we've sort of dovetailed.

Dr. David Brownstein 47:44
And here we are. We're taking turns doing these lectures. There's one part that we don't agree on. It's a small part on soy isoflavones. She uses a lot of them; I don't use much of them. Out of 16 hours, that's the one thing we tend to disagree with out of this whole thing. So I'm excited about it. I'm glad I'm doing it. I'm glad she talked me into it. It was really cool to put all my information together, go back to the literature, and support what I do. These medical iodophobics are going to have to explain a lot of stuff.

Dr. Jill 48:20
Dr. Brownstein, I have always been a fan of yours. I know we haven't met in person, at least recently. We've probably seen each other in these same circles. But the same thing. When she said she was doing that course, I said, "I've got to help you promote this," because I agree. I think there's so much misinformation out there. I teach at A4M as well. And it's just so sad to go to a morning lecture and then, in the afternoon, hear these totally contradictory things that really aren't—

Dr. David Brownstein 48:43
What are new doctors going to do? They're being told: "Yes!" "No!" What are they going to do? Big Pharma wants the fear there because that's how they control us. They controlled us during COVID. They control us during everything through fear.

Dr. Jill 48:56
I am excited. I'm a huge fan. I'm going to be promoting this. We have a lot of physicians and a lot of practitioners who watch this. If you are a practitioner, you want to be in this course. Absolutely, wherever you're listening to this, we will have the links there. I want to thank you for taking the time because I know how many other things are on your plate. And I am so excited to be part of the course as well, to listen [to] and learn from both of you.

Dr. David Brownstein 49:18
I'm happy to be here. I've been a big fan of yours. And we're going to meet face-to-face sometime. [inaudible] and we'll get a meal together.

Dr. Jill 49:25
Awesome! Thank you so much today for all your time. And if you're listening and you want to get a link to that course, just look in the show notes and it will be there. Give us the date. It's live.
Dr. David Brownstein 49:35
At the end of April. It's the last Friday and Saturday of April. But it's going to be recorded, so people can watch it whenever.

Dr. Jill 49:39
Perfect!

Dr. David Brownstein 49:40
And CME credits. We're getting 16 CME credits for it.

Dr. Jill 49:44
Ooh, that's impressive as well. Well, thank you again for all the work you've done. Thanks today for your insight on iodine. I'm super excited to share this episode!