

[158: Dr. Jill interviews Dr. Rand McClain on The Science of Living Longer and Better](#)

Dr. Jill 0:12

Well, hello, everybody! You are in for a treat today. You're back for another episode of Dr. Jill Live. You can find all of our previous podcasts on YouTube, Stitcher, and iTunes—wherever you listen to or watch podcasts. Please go there, support us, give us reviews, and share with your friends.

Dr. Jill 0:29

Today, I have a special guest who I was so fortunate to meet in his office in Los Angeles, Dr. Rand McClain. I'm going to introduce him. Today, our topic is the science of living longer and better. One of the things I know, Dr. Rand, is that you see this as well, but it used to be that we'd all go until like 90 or 95. We'd be skiing, surfing, or doing something amazing, and then just die of a heart attack or die in our sleep. Nowadays, the health trajectory has changed. So many, many people—either themselves or their loved ones—in their 60s are starting to have health declines.

Dr. Jill 1:05

I think one of the biggest industries now is old folks' homes—and that's not a very PC way of saying it—but what do we do when we can no longer walk upstairs, take care of ourselves, or feed ourselves? Our elderly population is losing their ability to take care of themselves, and it's really a sad thing. So one of the things we want to talk about today is: How do we not only live a lot of years—because that's great, but it's not great if you're disabled and unable to care for yourself—[but] how do you live a lot of years with life, longevity, happiness, joy, purpose, meaning, and vitality? I think that's the core of what you do every day, and that's what I want to talk to you about today.

Rand McClain 1:43

Great. Well, I'm glad to be here. Thanks for having me, and let's dive in because that was the purpose of the book.

Dr. Jill 1:49

Yes. So we're going to talk about your book—it's called Cheating Death—and before I do, let me just formally introduce you. Dr. Rand McClain is a dedicated regenerative and sports medicine specialist who enjoys helping patients with their complex medical care and providing insightful patient education at his clinic in Santa Monica, California. He has worked with some of the best health innovators in sports and regenerative medicine, as well as aesthetic and family medicine. He is passionate about therapy counseling. With each patient, he always listens to their unique medical concerns and works hard to provide them with wonderful [patient] education. So often, that's our job, right? We're educators.

Rand McClain 2:26

Pretty much all the time, right? Yes.

Dr. Jill 2:29

As a dedicated osteopathic physician, Dr. McClain enjoys studying nutrition, exercise, herb supplements, acupuncture, and traditional Chinese medicine in his professional as well as personal life. From the latest in stem cells to hormone therapies to IV drips that reduce trauma and anxiety and promote longevity in human performance, he believes that your past health mistakes don't project into your future. I love this framework, Dr. Rand. And before we dive in—

Rand McClain 2:54

That's a mouthful.

Dr. Jill 2:56

Yes. I've got a million questions for you. Before we dive in, though, I always like to know [one's] story: How did you get into medicine? How did you get to where you are now? What's your backstory?

Rand McClain 3:05

Yes, that's a classic, right? It is a story of inspiration and desperation. This is really my ninth career, as I count them. I came out of school and tried to follow in my dad's footsteps as an accountant. I didn't try to—I kind of fell into it because I didn't really care that much. I was involved in athletics at the time and just having fun. I was happy to just get out of school and then realized that being a CPA was not the most fun thing on the planet, with all due respect to other CPAs. But I always had a penchant for medicine; it started with nutrition. Do you remember Adelle Davis?

Dr. Jill 3:41

Yes.

Rand McClain 3:41

She wrote books on nutrition. And I was fascinated—at 11, I remember—by being able to control our health with what we eat. I just thought that was the coolest thing. I don't know if it was genetics or just fate because you hear so many stories about what triggered that. But it just struck me. Anyway, smash cut, nine or eight careers later, I was expecting my daughter's arrival, and I said: "You know what? I'm 37 years old. I've got to choose a career I like now for the rest of my life because it's going to be hard to do what I've been doing," which is bopping around and switching. So I was on a trip across the country on I-10, and I thought, "What do I really want to do?" And I was honest: "I really love medicine."

Rand McClain 4:29

I'd always been scared to do medicine because it's a daunting task, and everyone talks about how daunting it is—med school—and all the studies. But I don't know. I made the decision, and you know what happens when we decide: We cut off all the other options. And I just said, "I'm going for it," and that's where I am now. It's the best—my last career, for sure. And really, I'm

glad I did it because, as you know, following your passion, as Joseph Campbell said, is the way to go.

Dr. Jill 4:55

Yes. Well, what a story. So it was really a little bit later in life compared to the 21-year-old—the classical, like right out of college or whatever that goes into medicine. How amazing, though, that you went ahead!—because so many people are overwhelmed by the amount of time or effort that it takes. And it does [take time and effort]. That is amazing. I did not know that. And then where did you start? I saw family medicine in your bio. Was it like family internal medicine, or what was the start of your career?

Rand McClain 5:23

Yes, well, I started having to go back to school and do my prerequisites all over again, actually, if you want to know the truth, because it had been too long. And then, yes, I went over to the USC program. They had a hospital, USC/California Hospital, there and studied family practice on purpose, actually. I don't know if it's the ADHD or just that I thought, "I want to learn everything, and then I could decide from there." I originally wanted to be a surgeon, but as I said, I was expecting my first child. And there was a lot more involved in doing medicine at age 37 than I had planned on, even though I had planned on a lot. So anyway, that was quite short.

Rand McClain 6:08

But yes, with family practice or internal medicine, you get to learn a lot about many topics. Then, once you get out, you've got this ticket to play. So I chose sports medicine through another physician I knew prior to going to medical school. Then I think it just dovetails, whether it's sports, optimization of health, or whatever you want to call it. There's no regenerative medicine specialty per se. But if you're interested in just optimizing health, what better way to go? Look, you and I are both doing it for ourselves anyway, so why not share the wealth? And it just seemed like a natural course.

Dr. Jill 6:49

Yes. That makes so much sense. And I'm with you, family medicine-trained. And I love that you said, "I chose that," because what people listening may not know is that there's this hierarchical system in medicine. There's often—I don't know, maybe an idea that the best doctors go into surgery or orthopedics.

Rand McClain 7:07

Brain surgery, right?

Dr. Jill 7:08

Yes, right. Neurosurgery. Even though I know that's not necessarily true. Don't get me wrong; all specialties have [amazing doctors]. But family medicine is sometimes [considered] in medical school, at least in the university setting, kind of on the low end of the totem pole. But I, like you, felt like I was given such a great foundation for all ages. I have delivered babies, and I treated newborns just like you. And really, when you know the spectrum...

Dr. Jill 7:32

Now, here today, we're talking about how to live longer and better and thrive on that half of the spectrum. But you have to know: Are we born with chemicals? How do we have healthy pregnancies? It's the whole spectrum, right? And in our family medical training, we really get the whole spectrum and the whole thing with ages. And I even always enjoy treating people of the same family, because whether it's genetics, exposures, or even their own dopamine pathways or whatever, it's fun to see those patterns within families and actually treat a family as well, right?

Rand McClain 8:01

Yes. I couldn't agree more. I can't add to that. That's a perfect synopsis. It makes it a lot more fun. And I argue that, particularly in the latter part of what you said, it can help to know everyone in the family and what's going on. And without even having to get a genome map, you can get a feel for the entire family. I think, if I'm not mistaken, that's the way they used to do it going back to the Chinese medicine background, where the families would have doctors for the entire family or extended families. I think that was probably part of the reason why it worked so well.

Dr. Jill 8:37

Exactly. And they'd treat the daughter, and then they'd deliver the daughter's baby later in life. So on to what you're doing now. One thing I saw in your bio as I read it was traditional Chinese medicine, acupuncture, and some of that. Tell us where that came in, because that's kind of a unique thing that's really powerful. And how did you get interested? Did you do additional training?

Rand McClain 8:59

I did. I was pretty frustrated with Western medicine because I had some bad experiences. The first one was when I was really, really small and they took out my tonsils. The best I can assume, because I was really tiny, is that they put the mask on incorrectly with anesthesia, and I couldn't breathe. I thought: "Gee whiz, this is what it is, huh?" And it left a mark—not physically but mentally. And then all the way up through college, when I broke my neck, they gave me an option of basically what amounted to a door hinge or a fusion. And I'm like: "Okay, well, that's not going to work for me. I'm still young. I've still got stuff to do." And you heard all the stories about [how], "Okay, you're going to be a kind of cripple for the rest of your life." And that's not a PC term either, but that's the way it was looked at.

Rand McClain 9:48

So anyway, it was born out of frustration with Western medicine. I said, "Well, there's got to be a better way. Let's try." I applied to a school in Florida, where I was at the time, went [there for] two weeks, and said: "Okay, this is not the best. I want to go to the Harvard [of]..." Back then, arguably, it was a school called Yo San University. I went through the whole process there—what is it?—400 hours, or maybe it's even less than that, to get an acupuncturist license once you're an MD. Now, I did the whole enchilada, as they say, or the whole 'szechuan,' maybe, in the Chinese language.

Rand McClain 10:25

But it was great because a lot of the things that we learned in Western medicine are hit-you-over-the-head things. And God forbid, if you got into a car accident, I wouldn't direct you toward the local Chinese medicine doctor. Emergency medicine is where we've got an upper hand in Western medicine. But for a lot of the chronic diseases where we kind of throw up our hands and go, "Gee, I don't know whether it's menopausal symptoms or allergies," I think Chinese medicine has a lot of better solutions or at least equally good solutions, oftentimes without as many side effects as Western medicine does. And it focuses on a lot of the subtleties that we ignore.

Rand McClain 11:11

You're probably too young, but when I was a kid, every time we went to the doctor, the doctor would say, "Stick out your tongue and say, ah." Do they do that anymore? Rarely, right? And that was a major part of diagnosis in Chinese medicine, as was listening to your pulse and other things that we tend to ignore. And look, I'm not being too pejorative toward Western medicine because, granted, we have other techniques by which we practice that arguably are an improvement, but not necessarily all of them. But anyway, I'm just answering: How'd I get into Chinese medicine? It was [due to] frustration with Western medicine, and I did it the old-fashioned way.

Dr. Jill 11:49

Good for you. Amazing, because what I find are these philosophies that have been around for hundreds and thousands of years—Ayurveda, traditional Chinese medicine—that have some wisdom, whether it's body typing, pulse, or the physicality of our bodies and how they present in the world, and so many times are, like you said, more gentle. What I also really love hearing is that, because of your life experience, you went into medicine, not completely... I think a lot of young people go in and think, "Oh, I'm going to be a doctor," and everything, "solve the world's problems." And you and I both went in knowing that there were some amazing things we learned, and there are some amazing things about our Western system [for], like you said, heart attack, stroke, whatever. But there are limitations.

Dr. Jill 12:25

I know I went in the same way, growing up on a farm with a mother who was a nurse. We did lots of more natural things first. We still went to the doctor and did all the conventional stuff. But, the same as you, I had some experiences like that where it was like, "Oh, wait, this isn't the answer or the panacea to everything." So then you look outside. And I think you and I both now have a larger toolbox. So we still use great diagnostic tests, great Western medicine principles, and prescribed drugs at times, but the toolbox of what else is possible is bigger.

Rand McClain 12:56

Yes, and I think we're never going to get away from the art of medicine just to add a little bit more flavor to what you said, because we just don't have that down yet. The whole Star Trek-ian thing where you just go 'whoop' and you get all the answers hasn't been invented yet and

arguably may never get invented. So there is some art that comes with the interpretation that the tongue is scalloped, puffy, or has a coat on it, which means something. It's just that we go digging into the laboratory assays and other things that also mean something but sometimes miss the overall picture when taken altogether. So anyway, that's my take on it. I'm saying something exactly similar to what you're saying. But yes, I think it definitely has value—some of these other methods that we seem to have passed over to some degree. I'm certainly glad I took the coursework because I think I definitely use it every day, even if it's just paying attention to detail.

Dr. Jill (pre-recording) 13:54

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](http://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 14:51

Yes, it really is a story, right? And if we're good listeners, that's where things start. So nowadays, what kind of people are coming to see you? I'm assuming it's high performers and people who really want to live their best lives. But describe the day in the life of the kind of people you see. And then I want to talk about some of the interesting things that you do that are maybe not typical of most doctors because, when I visited, I got to jump into your human freezer, which is cryotherapy; it's called cryotherapy, right? What's [the temperature in] degrees there in the cryotherapy [unit]?

Rand McClain 15:22

It's usually at least 150 below [zero].

Dr. Jill 15:23

Yes. I was in there for three minutes. It was one of the funnest experiences. And of course, I've done it since. But that was one of the things in your clinic. So tell us about a day in your life and what you do, typically. What kinds of other tools do you have to enhance longevity and performance?

Rand McClain 15:38

Well, I like to say I really don't see sick people—in the sense of people that are on 26 medications and not doing very well. Although I did have one of my really good friend's mother come in in just that state. That's a whole other story. But I see people who want to optimize their health, so they're already in pretty decent shape. But they say, "Hey, I don't want to live"—like

we were describing at the very beginning—"that life where I'm spiraling downward into my old age." Who wants to do that? It's a privilege, obviously, to be alive. But you'd like it to be without pain, and you'd like to be able to do as many things as you could up until the last moment. So I see a lot of people like that.

Rand McClain 16:19

You said high performers or high-end people. You know what? The biggest group of people I see in my office by far are law enforcement officers. Part of that's because I'm a reserve officer, so I have a certain regard for law enforcement on its own. But the point is that these are guys and gals who are in the trenches, so to speak, of everyday life. They're not necessarily the professional basketball players, baseball players, bicycle riders, or anything like that who are elite and pro athletes, which are fun to work with too. So it's really the whole gamut of anyone who's interested in better performance—not only performance but just better health in general, optimizing health.

Rand McClain 17:07

We like to provide as much as we can, [such as] the cryotherapy you mentioned, which is a lot of fun. And actually, there's a lot of science behind why that's good for you and why it makes you feel so much better. But we do things from what we call IV nutrition, where we typically give vitamins and minerals through intravenous administration to... Now that we've had the recent decision in Southern California, the Central District, where it's no longer an FDA-banned substance, autologous stem cells are now available. And that, I hope, is an area that's going to blossom because there are so many things we can do, from lowering inflammation to regenerating tissue with these substances and what comes with them. That's a really exciting part of medicine coming up.

Rand McClain 18:00

And then we have lots of new peptides that are available that we find. Look, we've been working with peptides since insulin, right? And we kind of passed over peptides because they were short-acting, we had some trouble working with them, and there were other opportunities. This happens so often. You go, "Why did we skip over that?" "Well, we just changed our focus to over here." "Yes, but we had all this good stuff over here."

Rand McClain 18:22

Peptides are very exciting to me too. We offer that because you've got what I refer to as the tinker toys of old, where you can have so many different arrangements and a slight change to each arrangement can change the entire way it works in the body. So there are an unlimited number of things that you can do with the peptides. Not necessarily in my office, we have a limitation, but in the course of medicine down the road here, I'm expecting a lot, because if you combine that with AI, we can extrapolate with the knowledge we have and come up with more likely guesses as to what's going to work well with additional peptides.

Rand McClain 19:00

And back to what we do in the office, I'd say probably the mainstay is hormone replacement because, if you last long enough on this earth, we're not designed to do what we did when we were 20. I mean, there are all kinds of arguments that have to do with procreation and whatnot. But the fact of the matter is that we start to run low on certain hormones, and we can replace them now, just like you could with thyroid hormone, testosterone, estrogen, and progesterone. It can make a real difference in people's lives, per what we were saying about just enjoying them. And it's not robbing Peter to pay Paul, which is an important point. You're not saying, "Oh, well, I'll trade 20 off the back end for some quality now." If you think about it, you're improving your health and your quality of life, which, by extension, no pun intended, you will be extending your lifespan. So it's a win-win.

Rand McClain 19:53

And just getting the word out there is part of what you and I are both doing. I know you're doing it too, right? I see your book in the background there. That's part of the fun of what we do, and that's just a smattering of what I do. I try to keep in touch, as do you, I know, with the latest and greatest. You know the expression "you never want to be the first one"?—I get [that]. And that might apply to another thing that's coming down the pike that we don't do in my office but that we're looking forward to: Gene editing. We don't have that perfected yet, but we've got a lot of new advances, some of which are working to cure some formerly incurable diseases. Anyway, I'm going off-topic when I say all the things we're doing. But I get excited about what the opportunities are, which are things I hope to be doing in my office down the road.

Dr. Jill 20:38

I love this. And I want to ask you a few specific questions. We'll just kind of do popcorn. I want to talk about cryo, some of the benefits, NAD if you do it, and the peptides, like you said, because you just hit on so many great topics. I'm all in, like you, on all of these topics. I don't have the cryo in my office, but I certainly recommend it for people.

Dr. Jill 20:55

But what I wanted to say here too is that you just pointed out something really important. Say there's a study today, and then there are two studies, and then 10 and 20. It's about 20 to 30 years until that becomes the standard of care, right? So, say vitamin A is beneficial for night blindness. Well, it took 30 years for that to become a standard of care. So it's not that we're not doing great research or not doing it, but [we're] reading the great literature, because there is literally an exponentially growing amount of research on the topics you just brought up: Cryotherapy for increasing nitric oxide, performance, and all these things, and norepinephrine and epinephrine—we could go on and on.

Dr. Jill 21:32

But what happens is that we have the studies, we have the data, and then you and I have to decide as physicians with patient safety: "Okay, what things are probably safe and potentially very beneficial?" And I'm always on that curve—I'm sure you are too—like, "Okay, peptides are likely safe." These are amino acids, right? They're not drugs, even in the sense of chemicals. It's an amino acid sequence. And then the likelihood of them benefiting our patients is so great that



I'm willing to be on that cutting edge, maybe even on the bleeding edge sometimes, to try these new things, as long as you have informed consent.

Dr. Jill 22:01

You say: "Hey, this is new. This is what we're seeing. This is what I'd like to do. Are you interested?" The patient gets to decide, but at least we give them that option. And being on that edge, I'm sure, like you, I see things that are almost considered miracles. They're not, but they're really extraordinary outcomes because we're pushing the envelope on what we're willing to do.

Rand McClain 22:20

Well, you bring up two topics, really. One of the problems with the culmination of all these studies—eventually, 20 and 30 years down the road—becoming the standard of care is the quality of the studies. And that's something we forget, and it comes up and bites us in the rear end, so to speak. "Oh, we put all our eggs in this basket, but if you think about it, this study wasn't done properly. There are too many biases." And then you've got to go back and say, "Well, okay, that wasn't such a good idea after all."

Rand McClain 22:52

And that relates also to the long-term goal of 'first, do no harm.' Arguably, when we're dealing with this, especially what used to be called anti-aging medicine or regenerative medicine now, we don't have the time or the luxury of several generations of saying, "Oh, see, it's absolutely without risk," which I think is to your point. But if we can show that, at least in the short-term, there's no harm done and theoretically it appears that there would be no reason for any long-term damage, I think, as you said, as long as there's informed consent, it's worth the risk. And you find that with a lot of the physicians who are in this field.

Rand McClain 23:30

One of the things we haven't mentioned yet is rapamycin. That's a drug that, again, we'll need several generations to show: "See, we did the gold standard of work here." And even then, to the exclusion of some of the other things that could be contributing to longevity, etc., we'll never have an exact answer or 100%; that's science. But you still have people that are like you and me, I would say, that have a certain base knowledge, and the art tells them: "You know what? I think we should do this anyway, as long as there's no harm." I think that's where we are, and it's a fun place to be, don't you think?

Dr. Jill 24:07

Oh, I love it. And it's funny—I think you probably do the same—I experiment on myself. So, often I'm the first one to try something, and I take risks on myself that I would never take on my patients. But I also learned such deep knowledge. We were just talking before we came on about our Oura rings. I know you have one too. So often I'll do an intervention, and then I'll track my deep sleep, my heart rate variability, and my biorhythms, because I can say, "Okay, for this intervention"—[or] "for this N of 1," "this day," "this week," or "this month"—"did it have a

physiological objective effect on my outcome?" Again, that's just me. But often, I learned through that. And by talking to the patient and giving them informed consent, especially with something fairly benign like a PEMF mat or a cryotherapy session, you can actually have them help us track the data and give us feedback.

Rand McClain 24:54

Well, you harp on one that I'm really excited about too. These things that we talk about—like the Oura ring, the Apple eye watch, which has a lot of features, or the latest Fitbit or Garmin—to have patients be able to track their own data is something we've never had available to us before, except in a hospital setting, right? And granted, there are some issues with precision and, therefore, accuracy, etc.

Rand McClain 25:22

I had a patient recently in Aspen, for example, who unfortunately was going through some chemotherapy—or you could argue 'fortunately' because it seems to be moving in the right direction. But what was interesting is that when I saw him, he had a very low hemoglobin/hematocrit, so he clearly had anemia. We were trying to track when it happened, and we had limited resources, but we had this Oura ring. You watched as his heart rate increased over time, and we could trace it back to exactly when we started a particular chemotherapy agent that had not been added before that we think affected his kidneys and the ability to create erythropoietin, etc. But isn't that neat?

Rand McClain 26:13

People who aren't physicians are probably going, "What the heck is he talking about?" But to be able to track that without having the standard that we normally expect—like we need serial blood work to show, "Oh, right, there is where the hemoglobin started to change"—we didn't have that. But we could track it and sort of verify our theory using a wearable. To me, that's so cool! And when we can start tying all that together, I think we can get people, I hope, excited about other things like being able to track how exercise affects our health too. Not just because "they" tell us to—whatever "they" are [such as] grandpa and grandma and doctors, of course—all the time. So I think that's a great prospect for the future, too.

Rand McClain 26:55

And we were talking about how stingy the Oura ring is when it comes to sleep. Just to be able to gauge your sleep is something that, again, unless you're part of a sleep study or in the—hospital, but in a special wing of the hospital where you're wearing something to track your EEG—we wouldn't have otherwise. So, again, not to beat a dead horse, but it is very exciting what we have available to us to help optimize our health.

Dr. Jill 27:19

It really is, and I use it all the time. I love that you said it's not perfect—these data points aren't—but they're enough of an edge to give us data. For me, when I do an intervention, I often see: How did it affect my deep sleep? How did it affect my restfulness, energy levels, and these

things? I want to mention the IVs because you do a lot with them. Do you do NAD or PC? I'm sure you do, like Myers. What are your top offerings for IVs for patients?

Rand McClain 27:27

I'm going to be remiss in not remembering this doctor's name because he deserves credit. He's an environmental medicine doctor. I believe he's based out of Arizona, or was. I think he might be retired now. But to me, he wrote the book on what would be considered IV nutrition. It used to have a yellow cover. And I am so apologetic—I don't remember his name—because, again, he deserves the credit. But he has developed a great list of different cocktails, as it were. And obviously, Myers is one of the most popular, and it is the one that he suggests everyone start with to see their tolerance for it. But yes, we add different amino acids depending on what the patient's looking for. I'd say it's really open to just what your goal is, what we can add to it, and to what degree.

Rand McClain 28:38

There are so many things you can address with IV nutrition. We just mentioned cancer. There's a pro-oxidant dose of vitamin C that you can use and combine with hyperbaric oxygen. I wouldn't say there are tons of studies, but there are plenty of sufficiently designed studies that show that it will help, at least as an adjunct. I know we can't say it cures cancer, but at least [it helps] as an adjunct to cancer treatments. So there's plenty there.

Rand McClain 29:01

As far as NAD, there's a lot of controversy, and the jury is still out because we don't have a lot of science behind it. But there is—and I'm going to blow it again—a doctor in Springfield, Missouri, who's great. He's the guy when it comes to NAD, at least in my mind. He can rattle off a huge number of patients that are helped considerably by NAD, particularly those that have certain addictions. I have seen using the Oura—by the way, if I did an NAD, like a gram, intravenously, you could watch that night [how] your sleep rhythms go back to what you had when you were much younger—every 90 minutes, you'll see an up and down through the stages that's classic.

Rand McClain 29:49

That has to reflect [the fact] that it's doing more than just accumulating in the liver. It's very possible that when you take it orally, that's as far as it goes. Who knows? But I have seen a difference with it. I'm a proponent of it if you have the time because it is typically a long procedure to tolerate. It can make you feel a little weird. But I should hasten to add that, as you know, the best way to increase your NAD levels is to exercise.

Dr. Jill 30:17

Yes. This is great because, again, a lot of people are out there, and they've done NAD if they're interested in it, among all the other things you're doing. You have cryotherapy. Do you have the hyperbaric [chamber] in the office as well?

Rand McClain 30:30

We do, but with COVID, for obvious reasons, people said, "I'm not going in there." We hope to pick up that business again. And when I say we don't, in our office in Santa Monica, no. But believe it or not, in Aspen, we've got like three at a place called The Fix. We're working together with that group. It's still a very, very useful tool. There's so much science behind it. I would say that the biggest drawback, if there is one, is the time necessary for what we call 'a dive'—everything from releasing stem cells from within the bone marrow to getting drugs or nutrients to where they need to go, including oxygen because it's under pressure so it can go farther down into the capillaries and whatnot. It's a great tool.

Dr. Jill 31:17

Fantastic. It's interesting because I've been preparing a talk on nitric oxide, its importance, and how we diminish as we age. And the things that have evidence for nitric oxide are cryo, hyperbaric, infrared sauna, red light therapy, and probably all these things that we're... So I wonder if some of this we're seeing with all these therapies is really just increasing nitric oxide because that affects everything.

Dr. Jill 31:38

So I have a question I want to pick your brain about because my audience is men and women, professionals, doctors, and also patients. But probably the most common type that's out there listening is a woman 35 to 60, maybe perimenopausal, maybe menopausal, maybe some autoimmunity, maybe some fatigue. With this prototype, that classical kind of woman—I'm sure you've seen some of these as well—where would you start? What would you do if you had the top three things to offer this woman? Again, let's say [for a woman who is] 47 years old, menopausal, or perimenopausal, fatigue is the main complaint, [and she is] otherwise doing okay and in decent shape. What would you do with that kind of person?

Rand McClain 32:15

Well, of course, I'm going to get accused of being a hammer that's always going to look for a nail because, as I said earlier, hormonal replacement is one of the big things we do.

Dr. Jill 32:24

Agreed.

Rand McClain 32:25

It's really because it's just so prevalent. You know, when you see a hoof print, you look for a horse before you look for a zebra or a unicorn. As you well know, environmental issues can cause fatigue; it's definitely on the list. But typically, a 47-year-old with no other reason for fatigue except, "Hey, I'm 47, and I'm out of gas; I'm even getting proper sleep, or at least I try," the short of it is I would... And we do a pretty comprehensive panel, actually, so we can pick up as much as we can. But it definitely includes measurements of the steroid hormones—you know, from the word chole-sterol. For those who think, "What, steroid?" No, not anabolic steroids, [but] the naturally occurring steroidal hormones. And typically, we'll find that just like men, women also use testosterone and have a deficiency in it. That's the energy hormone.

That's nature's antidepressant hormone. That's the one that also potentiates muscle creation. I say it leverages all these good things.

Rand McClain 33:30

I spoke earlier about professional athletes and whatnot coming to the office. They're the last ones to come in because they're the ones that know all the tricks and don't come in till they're like 55 and say: "Okay, I'm waving the flag. I don't know why I can't do all this." Well, because you lost the leverage you had. All you've got to do is put that leverage back [in place], and then all the good things you have always done and know how to do will start producing for you again. So that's an easy one that you mentioned.

Rand McClain 33:54

And of course, with autoimmunity, if we want to go a little bit to the side but still [consider] hormones, oftentimes it involves the thyroid hormone. I referred to testosterone as sort of the horsepower in the engine and the thyroid more as the idle speed. But either one of those can make you feel like a dragon. You just don't have the get up and go, right?

Dr. Jill 34:17

I love that you said that. And there are studies—I think autoimmunity is four to six times more prevalent in women, and part of that is because of the lower levels of testosterone. So in certain cases, I've actually used DHEA and testosterone as part of a protocol to reverse autoimmunity in women.

Rand McClain 34:32

And you know what? The average person shouldn't know this, but the average physician should. And again we... I—I'll take the blame—can point the finger at physicians because it's part of our profession, but what you just said is a little-known fact but a fact nonetheless. When you replace testosterone, almost invariably—it's very rare that it doesn't happen—your body will make more thyroid hormone. Hello! Just like you said, the two go hand in hand. And if you're anything but euthyroid, or if you're certainly deficient, you can oftentimes kill two birds with one stone. Your body will make use of that newly formed thyroid. So yes, fun.

Dr. Jill 35:11

Brilliant. Let's shift to another category. Say a 65-year-old male—they've kind of taken decent care of themselves. Maybe they actually have testosterone replacement if they're low. But there's also the same thing: Fatigue, [lack of] stamina—they're losing a little bit of muscle. Where would you take this kind of guy? Where would you start with that?—without much more history than that. What kind of things would you think about?

Rand McClain 35:36

If they're already on testosterone replacement therapy, then we have to look for things that testosterone would leverage but aren't there. Simple stuff: Is he getting enough sleep? Is he getting enough rest?—because, without that, you can't do it. I say: You write the prescription by working out and eating properly, but you fill it at night when you're asleep. Speaking of which,

are you getting proper nutrition? I mean, you're talking about somebody my age who didn't necessarily get the best nutritional advice even in medical school.

Dr. Jill 36:13

Oh my goodness, we didn't, right?

Rand McClain 36:15

If 20 minutes, that would be a lot, right?

Dr. Jill 36:18

I always say they trained us to not eat, to not sleep, to not pee, and to not take care of ourselves, right? Like, that was the training.

Rand McClain 36:22

[laughs] That was part of the training, yes. They just wanted us to know how bad it feels when you don't do all the right stuff, right?

Dr. Jill 36:29

Yes.

Rand McClain 36:30

But there are other things too, just to add another hormone in there and just so I can formally be accused of being a hammer looking for a nail. If you're not producing enough growth hormone, which eventually is responsible for initiating the production of IGF-1 in the liver, that can take a toll. It's not one of those [things] like testosterone where it's Popeye and spinach for you to go, "Wow, that made all the difference!" But it can often make a difference, particularly for someone who is not producing it.

Rand McClain 36:58

I think that's part and parcel of at least a little of what happens when people don't get enough sleep because people don't realize most of the growth hormone you're producing is when you're asleep and during deep sleep, which oftentimes does not occur if... Well, and actually, this would probably be the best answer to your question, quite frankly, now that I think about it: I'm looking for sleep apnea in a 65-year-old who otherwise is doing well because if you're not getting enough sleep, no matter what hormones you're on and what other things you're doing to the maximum that's available to you, you're not going to be doing your best, and you're probably going to be tired.

Dr. Jill 37:36

I love that you said that because you just demonstrated the best of conventional medicine and the best of all of these other things. And that's what, hopefully, you and I bring to the table as really good clinicians while also opening our toolbox to add some things for our patients. Gosh, I could talk to you for hours! This is so fun. The last thing before we talk about your book and where people can get it and find out more about you is: What's the future? What one or two

things do you see on the horizon that make you think, "Hey, this has some potential, even if we're not yet doing it"?

Rand McClain 38:06

I've got to pick two, huh?

Dr. Jill 38:09

One is fine; two is great.

Rand McClain 38:11

No, I was going to say it's hard to narrow them down; there are so many cool things going forward. But I would have to go back to the example that I already touched on a bit, where we can use artificial intelligence. And I'd say this is probably the coolest because we're still very chemistry-based, I realized. We could also apply it to physical medicine, but that's not where we have a good foothold. But we can change that. But if you take the best we have in terms of stem cells and genetic engineering—okay, so now I'm combining a bunch, but I think this is where we have a pretty big future in the US—you combine that with artificial intelligence, and we will be growing tissue now and designing how we want to design that tissue.

Rand McClain 38:52

And it's not Frankenstein stuff. I'm just talking about tissue so that we can test whether it's peptides or various drugs and see: "Okay, based upon what artificial intelligence extrapolates from the current knowledge is... Well, let's take this tinker toy, for example, the peptide, and jigger it this way." What is the promise of that? It looks really good. We put it in the Petri dish, as it were, with this grown tissue. We can get so much further ahead than what we do, starting with animal trials, which don't cross over more often than not, and then finally, human trials, in which you've got to be very careful because we're dealing with a live human instead of something in a Petri dish. So if I had to pick one—and I'm just riffing here because there's a bunch to look forward to—I think that's a big one because it's going to lead to the development of so many new substances that we can use to manipulate our health for the better.

Dr. Jill 39:47

Oh, I love that. It makes so much sense, and we're so close. And you throw in the genetics into that, right? Can't you just see, like, taking that, and then you have the SOD mutation and so you do this or... Exciting!

Rand McClain 39:59

And we're already doing that to some degree, in a sense, through genome mapping, which is under \$1,000 now. I mean, you could get it done for almost nothing. When my wife and I first did it, it was 10 grand each going down to San Diego at Illumina. And now, I want to say it's closer to \$700, maybe. You can get the entire genome map and have it looked at through the lens of what we currently know about the SNPs through AI software. And you can find out, "Well, this drug, from what we now know, doesn't work for someone with a SOD mutation," for example—just riffing. And that's pretty cool too, because you don't waste time treating a patient

with a drug that's never going to work because their genes are different. We're already there to some degree.

Dr. Jill 40:45

Yes, we are. And you and I know the test if we just have this centralized. It's so exciting. And I just want to reiterate one thing you said over and over, and I think it's so important: One core thing is sleep. And that's so not sexy, right? But honestly, I love that you mentioned that because, really, truly, sleep is a foundation. I always say, "If you're not sleeping, none of this other fancy stuff is going to work." So, I actually love that you emphasize that as a core because everybody has access to that as far as sleep habits and sleep. So where can people find you? You have the new book, *Cheating Death: The New Science of Living Longer and Better*, available, I'm sure, on all platforms. But where can people find you? Where can they get your book? Tell us more about that.

Rand McClain 41:26

Well, we have a website called [CheatingDeath.com](http://CheatingDeath.com), so that makes it pretty easy. From there, it branches off to our main website, which is [PSRMed.com](http://PSRMed.com). Amazon has the book, [as do] Barnes & Noble and all the major outlets and whatnot. If you want more information, I did my best to incorporate a lot of what we talked about in the book so that people could get—this was truly the purpose of the book—more information about the tools that are available to us that we just didn't know about.

Rand McClain 42:00

I tell a little bit about my personal story of "if only I had known" because, as I said earlier, I was disenchanted with Western medicine because I had so many bad experiences. But it advanced at such a rapid rate, and we are still [at it], that it's worth at least looking to see, "Well, is there an option I'm going to cotton to? I don't want surgery, but I want this." "Oh, yes!" And with resources to dig further. Sorry, I gave you a too-long-winded answer.

Dr. Jill 42:26

No, perfect! And I have a copy. It is a fantastic manual. You've done an amazing job. So you guys want to know more? Go out and get yourself a copy. And Dr. Rand, thank you so much! I hope to come visit you again one day and play in your playground office.

Rand McClain 42:41

I'll keep the cryotherapy running.

Dr. Jill 42:44

Awesome! Thank you so much!

Rand McClain 42:46

No, no, no, thank you very much!