#59: Dr. Jill interviews Dr. Eric Gordon on the Cell Danger Response

Dr. Jill 00:12
Well, hello everybody! You are in for a treat today. I know I've said that before, but I'm here with Dr. Gordon from Gordon Medical Associates, and it is just an honor and a treat to have him today. We're going to talk about the cell danger response. If you don't know what that means or have never heard of it, I promise you it's very groundbreaking. You know me; we always talk on a pretty high level, but we'll try to make it very practical and understandable. I'll be watching the chat box out of the corner of my eye. So if you do have questions, I'll do my best; if we can't get to them in real time, I will come back and watch those.

Dr. Jill 00:48
A few housekeeping things: You can find all my blogs, information, and free resources on my website, which is just my name, JillCarnahan.com. And I try not to mention a ton of products because these are really noncommercial, but if we do, they're at DrJillHealth.com. But we're just here to bring you great information. I also have a YouTube channel. This will go live on the YouTube channel in a few days. And you can just search my name on YouTube, and you'll see 50+ interviews with great medical experts like Dr. Gordon. They're all free. You can watch them at your leisure. If you're catching us later mid-interview, you can come back and watch this on Facebook as well.

Dr. Jill 01:26
So I want to introduce Dr. Gordon first, and then we will dive right in. I will ask him to tell us a little about the story of the cell danger response and his story. Dr. Eric Gordon is the president of Gordon Medical Research Center and the founder and owner of Gordon Medical Associates. He's in the San Francisco Bay Area, specializing in complex chronic illness. In addition to his clinical practice over [the past] 40 years, he's engaged in clinical research. I love that we have clinicians like him who are brilliant, [not only] in their treatment of patients but also doing the research. As we talked about just before getting on here, things are constantly in flux. One of the things we have to be comfortable with is the uncertainty of change and not always having the answers, even though we like to have the best data at our

disposal. Part of that comes from great research, like with clinicians like himself. So a shout out to him for doing that.

Dr. Jill 02:17
In 2007–2009, he created a series of medical symposiums bringing together leading international medical researchers and cutting-edge clinicians to focus on chronic fatigue, Lyme disease, autoimmune [disease], autism, and a lot of these things we see in clinical practice. Combining forces with Dr. Naviaux and his researchers into metabolomics, mitochondrial function, and chronic inflammatory disease is now bringing this dream to life. In 2016, he co-authored a paper with Dr. Naviaux on the groundbreaking study, "Metabolic features of chronic fatigue syndrome". We're going to dive into that and talk about that. So first of all, welcome, Dr. Gordon. It is such a pleasure to have you here!

Dr. Eric Gordon 02:56
Well, thank you, Jill. It's a pleasure to be here. It really is. And especially the work that you do, because you mentioned those rotten [inaudible] meetings we had. And if I had you with me then, they wouldn't have been kept a secret.

Dr. Jill 03:10
Aw, I love it. We all need each other, right? I love talking, but you're back there, doing the work. I have such admiration for that. My research is not my gift, but I'm so grateful to people like you who are doing the work to bring the information out. What I want to start with, and I start with every person I talk to, is your story. How did you get into medicine? Tell us a little bit about how you got into this. Then we'll talk about how you got into the cell danger response work.

Dr. Eric Gordon 03:37
Okay, well, I don't want to talk too much about me, but I was always interested in science and psychology and the great questions and medicine just seemed like a natural place to go. When I entered medical school, I was a little older than most already, and I had taken more than a year off. This was the '60s, so we didn't go to school often. But when I entered, I already planned to do what we now call functional integrative medicine. Back then, we called it alternative medicine. But when I got into medical school, I was just so overwhelmed by the magic of medicine—of acute care medicine. I began to doubt what I was reading about how you could treat people with natural things. "How could that possibly work?" It

seemed like, oh my god, the magic I was doing was too big for a supplement to possibly help.

Dr. Eric Gordon 04:43
So I did regular medicine for about 12 years, but I was always still dabbling. In those days, there were small meetings. We got together with Leo Gallant and the Bach brothers, and Jeff Bland came to visit. But I was watching from the outside. Then, in '92, I made the leap. I studied a year of osteopathy, and I just went into this. The thing that drove me was that I believed my patients. And in regular medicine, what I call regular medicine, what afflicts our patients is that doctors, if they don't have a diagnosis, don't believe you often. Not always, to be fair. But if you frustrate them too long with too many complaints, they tend to tell you that you're depressed or anxious.

Dr. Jill 05:34
Depressed or a hypochondriac. The old term functional. Remember when functional didn't mean the functional that we know, and functional meant: We don't know why you have the symptoms you do, but we're just going to call it functional because that's all that we know to do.

Dr. Eric Gordon 05:46
Because it's obviously a dysfunction of the organ, but you're not broken. And broken is what we understand. Conventional medicine is brilliant at broken. As I always tell people, a bullet wound, a car accident, a heart attack—yes, we got you covered. A sprained ankle—we don't do so well. Anything that doesn't break completely, we don't understand healing.

Dr. Jill 06:11
That's a great way to put it. It's a whole different paradigm. And there is a place for conventional, excellent Western medicine. We both use that as a foundation. And I think our toolboxes are just a lot bigger. We have more options. Most conventional medicine is taught to get a code and a diagnosis and then it ends; you've done your job. Whereas you and I say: "Why? Why did this happen? Let's go deeper and dig."

Dr. Eric Gordon 06:34
Yes. And it's the story. I mean, this is what one of Dr... Actually, it's Dr. Naviaux. A little French pronunciation there.

Dr. Jill 06:46
Thank you. Naviaux? Thank you for helping.

Dr. Eric Gordon 06:51
Who knows? Potato (po-tay-to), potato (po-tah-to), but anyway. He's been trying to show us that we need to use the massive abilities we have to study disease using science. He's an MD, but he's foremost a researcher. He was a clinician for many years. He was a specialist in inborn errors of metabolism, diseases that usually affect kids and often lead to death before the age of 10. These are one, two, or three gene anomalies or mutations that cause severe disease. But as he chased those things, he got more and more into the complexity of things and found that genetics was an unsatisfactory answer. Even at the level of one gene being in error, two patients with that same genetic defect had very different outcomes. I mean, one child would pass away at two and the other could live to eight. So it wasn't just that gene. It was the whole system. So as he studied more and [had a] more systems approach... I sort of went right off into Dr. Naviaux. Okay.

Dr. Jill 08:14
I would like to know—before we dive into the research on cell danger [response]—how did you meet? How did you connect? Tell me about the story of you.

Dr. Eric Gordon 08:23
I can remember the dates because they were that momentous for moving me in life. In 2013, Dr. Chandra—an excellent psychiatrist, pediatrician, and just all-around great practitioner—sent me his article, "Oxidative Shielding or Oxidative Stress". I sent it out in my clinic. At that time, Neil Nathan was working with me and Wayne Anderson, and I sent it out to everybody. Neil came back to me and said, "We've got to meet this man!" I thought this was the best article on biochemistry that explained things.

Dr. Eric Gordon 09:04
What was happening at this time was that in the '90s, I was treating people like many functional doctors do today: You balance the hormones, you clean up the gut, and you remove the obvious infections. And people got better. It was really cool. But when I moved to California in '98, I inherited a lot of patients from a

ground-breaking doctor, Dr. Jeff Anderson, who's retired now. He had a lot of people who'd been sick for 20–30 years. They would come in, many of them over the years, with shopping bags of supplements but they didn't help. Wayne joined me in 2001 and we started seeing a lot of Lyme patients. In the '90s, the supplements were great but [later] they weren't working. I never quite understood because the model is chronic inflammation, reactive oxygen species, right? Antioxidants should help. But they didn't.

Dr. Eric Gordon 10:05
And Dr. Naviaux's paper opened my eyes. I went, "God, this is why. The system is stuck in loops." This oxidative stress that we talked about was really the body's first response to infection: Self-protection. We created that oxidative stress in order to kill the bugs and signal to our other cells that there's danger here. It wasn't that it was a bad thing. The bad thing was that we couldn't turn it off. And that is where we get into what makes our functional medicine conceptions come to life, because we're always talking about how we can rebalance the body. But we still often go at it, and I myself do it all the time with that basic First Book of Medicine concept of finding out the underlying pathology. What is wrong with the body and the system? And that's a very useful [inaudible].

Dr. Jill 11:11
Let's define. When you say the First and Second Books of Medicine and Dr. Naviaux's work, tell me more about that.

Dr. Eric Gordon 11:17
Oh gosh. Okay, I'm sorry. I've been thinking about this now for seven years so it's kind of like [inaudible]. I apologize. So what he called the First Book of Medicine is basically what we were trained with in medical school. You have a problem; you make a diagnosis. You have a disease; you find out the proximate cause of that disease. You know, you have pneumonia and you want to find out what bug caused that pneumonia. It's straightforward. But basically, 70% of the NIH budget to this day is stuck on finding out the cause of disease. And that works really well when the disease is an acute disease. You were relatively okay, [then] something happened and you're sick the next day. Normally, you go through a cycle and you're better within six weeks. Generally, that's why we get away with lousy medicine because people do get better within six weeks.

Dr. Jill 12:14
Or they get better with or without us sometimes, right?

Dr. Eric Gordon 12:17
Exactly. The dirty secret of medicine is that 90% of people are better without us. But in chronic illness, that doesn't happen. And that's where the Second Book of Medicine comes in, because the First Book of Medicine basically has an intervention, which is, let's say, an antibiotic. Or sometimes you stop the bleeding. That's a very good example: You stop the bleeding. And then we depend on what I think Bob is calling the black box of healing.

Dr. Jill 12:50
Yes, I love it. Bob Rountree, king of functional medicine.

Dr. Eric Gordon 12:54
Yes, right. Many people have probably coined that term. But that's what we depend on. And we haven't spent enough time looking at what is allowing the healing mechanism. We've spent too much time looking at what is broken, as though all we have to do is replace one part. So the second book of medicine is really what the naturopaths and those of us who are in [what's] now [called] functional/integrative medicine try to practice—looking at the system. But that's easier said than done, because we don't really understand the system very well. It's incredibly complex.

Dr. Jill 13:35
I would just add that when we go to medicine, if we just have a diagnosis and treatment, it's very, very simple and straightforward. There are still hundreds of thousands of different diagnoses, but it's a very straightforward, linear A-to-B process. We're going into much more; the points are so diverse. I always think of quantum versus Newtonian physics. We're going into this [situation] where the variables are so many and the systems are so complex that we're never dealing with one thing. We're dealing with hundreds of thousands of things at one time.

Dr. Eric Gordon 14:13
You bring up a really important point. One of the things that patients get very upset at, and I respect it, is the unfortunate cost of what we do. My heart goes out to them because it's real. It's terrible. But conventional medicine is now based on what? The 7–10 minute visit. And if you come in there and try to talk about more than one thing that's bothering you, you're out. Forget about even thinking in the

system's approach. Our patients have systemic dysfunctions. In the old days in the emergency room, we used to call it the positive review of systems. Basically, you ask people about their eyes, ears, nose, throat, lungs—

Dr. Jill 15:04
And now we call it a multi-symptom, multi-system illness, which is Lyme mold and everything related to the cell danger response. It means every system in your body has symptoms and it doesn't make sense. There's no—

Dr. Eric Gordon 15:13
The point you were making before is that this happens because there are so many things at play. We have all of our systems and then we have all the minor or major dysfunctions that depend on your genetics and your environmental exposures. And that makes this disease a disease of the individual, which you can't wrap up in 15 minutes because you barely scratched the surface.

Dr. Jill 15:43
And there's no protocol or one-size-fits-all here, right? I have so resisted protocolized medicine because every single patient needs an individual plan and treatment. I know you agree with that.

Dr. Eric Gordon 15:54
I've had a clinic here in California for 22 years now, and I have been approached multiple times to try to monetize it. And people come in and they run away because they see that we don't make money. When you're doing things individually, even the medical assistants have such a hard job because they don't know that you're going to do ABC.

Dr. Jill 16:18
Absolutely, Eric. I couldn't agree more. And a lot of colleagues—no disrespect for them—have an ABC plan to detox in 20 days. That doesn't work for our population.

Dr. Eric Gordon 16:28
It works for healthy people. That was my point from the beginning. The functional medicine approach, as most people are taught, is an amazing thing for folks who are imbalanced a little bit. They haven't slept too much. They just had a divorce. They're working two jobs. You know, they're stressed. We can turn them around.

Dr. Jill 16:46
Right. We can help that with a protocol, probably.

Dr. Eric Gordon 16:51
Yes, usually. I was a mechanic for a very short time. What I liked about working on people after that was that we just had to get close. People heal; cars don't. Again, it's that black box of healing, because that's the magic of life. There are so many different ways. I always said I wanted to put a sign up above my clinic: "Everything works sometimes." I swear, I've almost never met a therapy that's out there on the internet that doesn't work for some people.

Dr. Jill 17:26
Yes, totally. Well, let's talk about the cell danger response. What is this thing? You and I know what it is, but how would you describe that in lay terms? And why is it so relevant?

Dr. Eric Gordon 17:38
Okay. The cell danger response—it's basically when we start looking at healing and the body's response. I said we have that first step where we see a lot of reactive oxygen species. What Dr. Naviaux did was just give us a conceptual framework. He's saying that normally there's health, there's sleep and wake cycles and there's the minor stresses of life. You know, you exercise. Exercise is a great example. When you really exercise hard, you're killing some cells. In fact, if you take a lot of vitamin C and a lot of antioxidants before you exercise, you won't get as much of a training response because you're not stressing your cells enough. You want to stress them. And that's going through this healing cycle where some cells die. That would be like the CDR1.

Dr. Eric Gordon 18:37
CDR2 is when the cells start to rebuild and replace those that have been lost. CDR3 is when those replacement cells finish restoring full communication because when the cell is either a new cell or an old cell that's gone through some real big stresses, it shuts down. The cell membrane—a very good example in CDR1—kind of thickens. It becomes less permeable to outside influences. As you go to the CDR2, it becomes a little bit more. In CDR3, all those little channels begin to open up and work normally and all the receptors for your hormones and the other neuropeptides and things begin to work more normally back in communication. So the cell danger

response is that time when your cells are offline from the whole. Now, this happens usually just in small parts. I think that's what people miss.

Dr. Jill 19:44
Dr. Gordon, I want you to keep going but I want to actually share. This is from your website so people can see it for just a moment. Can you see that?

Dr. Eric Gordon 19:52
Yes.

Dr. Jill 19:53
Because then people can see what you're talking about. And I'll leave this up just for a minute while you're talking. This is from your website, GordonMedical.com.

Dr. Eric Gordon 19:59
Well, this is Dr. Naviaux's slide. I want to be clear. There are some clinicians, to be fair, like Dr. Ritchie Shoemaker, who are really research clinicians. I am a clinician. I treat the person in front of me. I help researchers occasionally with an idea or two, but mostly by supplying patients and really defining who they are—because one of the big problems with the research in our field is that the patient selection for a lot of these studies is very poor, especially in the chronic fatigue world. So that being said, this is Dr. Naviaux's work. I always said his brain, my brawn. And as you can see... Oops.

Dr. Jill 20:53
I'll just make it bigger for you.

Dr. Eric Gordon 20:59
That's okay. This is a newer slide because when he first started off, he was just calling it the cell danger response. And then he really wanted to get away from this pathology-based response and try to show: Wait a minute, this is the healthy life cycle; it only becomes the healing and aging cycle when we get stuck in one of these pathways. And that's where we get into chronic illness. Most of the chronic illnesses that we deal with are predominantly in that CDR3 range. There are plenty that we deal with that are in the CDR2 [range] as far as heart disease, diabetes, and things like that. But Lyme and things of that sort are really more CDR3. Mast cell disorder, I guess CDR1 probably. It's all a question of restoring communication.

Dr. Eric Gordon 22:08
Each one of the steps in the cycle, your mitochondria... I'm just going to be brief about this part because I don't want to get too technical. But the other amazing thing is that we were always taught that the mitochondria were basically the powerhouse of the cell. They made energy. That's what they did. We were taught that in the diseases we treat that have a lot of fatigue, the mitochondria are broken. Not that they were dysfunctional, but we really thought that they were poisoned and broken. And sometimes they are poisoned. That is true. But usually, they're not broken. Most of the time, they are deciding. The mitochondria are actually the organelles that sense danger and then program the nucleus to respond and start putting out the chemicals that tell the cell what to do next to respond to danger.

Dr. Eric Gordon 23:11
When you have a virus, the virus will be using up your own nutrients, basically. So when the mitochondria see that, they kind of brown out. I always compare it to the old days [of] the feudal castle, like when the marauders were coming, you locked the castle and burned the fields. They couldn't stay. They couldn't lay siege for a long time because they had no supplies. Well, your cells work the same way. Even in a single-cell organism, when a virus enters, your mitochondria stop making ATP like it used to. At least they lower it very, very much. And when you stop making ATP, you don't use oxygen.

Dr. Eric Gordon 24:00
Mitochondria are the organelles in your cell that are like a sink. It uses up the oxygen. So when you stop doing that, the oxygen concentration in what we call the cytoplasm, the gunk that's in the cell, goes up. And that creates oxidative stress. But that happens, not because the bug did it. It's because your body is doing that to create a bad environment for the bug.

Dr. Jill 24:27
The infection, yes.

Dr. Eric Gordon 24:29
So the first thing that does is some of your ATP gets transported to the cell membrane. It acts as a signaling molecule. That's the other thing that was really important—he taught us that ATP and other things called purines signal danger to the body. The same signal can be that you're really sick or it can be as mild as what

makes you remember better. We see so many things; we remember stuff that's dangerous. We do that because the ATP on the cell goes up. It helps get the dopamine to work better and we remember. Anyway, ATP is a signaling molecule, not just an energy molecule. The mitochondria are [not only] energy-producing but also our immune quarterback. When you're in a normal, healthy cycle, you first start to make a lot of inflammatory chemicals and then your body starts to create lots of anti-inflammatory chemicals. That's why a lot of the herbs work. A lot of the herbs that we use are actually pro-oxidants.

Dr. Jill 25:47
Yes. It's the same reason why PRP works or prolotherapy, where you inject the joint with inflammatory molecules so that you get a response to the site for healing, right?

Dr. Eric Gordon 25:58
Exactly. We're turning on the healing response. When we get into trouble, it is because of a toxin or because of something an earlier infection has done to us. We're not able to get to the next step of the healing cycle.

Dr. Jill 26:15
The bottom line is that it gets stuck, right? It gets stuck in one of those. Now let's talk just a little bit about CDR1, CDR2, and CDR3. If someone gets stuck in 1 versus 2 or 3, they may manifest. We talked about Lyme and mold and these chronic things that you and I see all the time. Why is that so relevant for those particular patients?

Dr. Eric Gordon 26:39
Well, it helps us understand because sometimes you get frustrated when you're trying to put out the fire. And you have to realize that in order to put out the fire, we have to change the information, not just give the raw materials. So when someone is fatigued or we think their mitochondria aren't working, many times people want to now give NAD, [which] is the new flavor of the month, CoQ10, the PQQs, and all these things that are good for your mitochondria. But when you're really stuck in CDR1, you can give all you want, [but] it's not going to—

Dr. Jill 27:22
Would you say it could make it worse? I don't know for sure, but I have a theory

that it's possible if you're pushing the production of ATP. Is it theoretically possible that you could actually fan the flames?

Dr. Eric Gordon 27:34
It could but the thing is that since the block is usually before that... But one interesting thing about ATP, just a pearl—this is for the patients and the clinicians—is that sense of air hunger that many people describe that we often think of as babesia, because it is often associated with babesia, but it can show up in lots of ways... There were some studies in the 90s. They tried to use injectable ATP for cachexia for the weight loss of cancer people because they thought this would give them some strength and restore their energy. You know, "We're going to give them energy." And one of the big side effects was air hunger, because it's a danger signal. ATP is supposed to be inside the cell. Outside the cell—

Dr. Jill 28:28
That's the thing, right? The core here is ATP in the cell—beautiful. ATP outside the cell, the body's like: Whoa, there's something not right here! That's a big, key principle, isn't it? Wrong location.

Dr. Eric Gordon 28:40
Yes, and that's why we struggle—I'm going to do a little quick divot to the right; I'll be real fast—with a lot of the functional tests that we do. I love them. We all do them. But when you're measuring succinate—pick a chemical—it's involved in a thousand different reactions in the body. So we assume that when we're measuring succinate, we're doing it because it's in the Krebs cycle, but [inaudible].

Dr. Jill 29:10
I totally agree. This is another random side note too, but that's all good: Urinary mycotoxins can indicate mold and can indicate you're excreting them, which might be good. So you have to think about the context of the testing and make a decision based on that.

Dr. Eric Gordon 29:25
Yes. I'm still struggling with this issue. When it comes to mercury, because I've been doing mercury since '92, I'm positive I know what I'm doing, which might be arrogant. And maybe I'm wrong. But I've seen so many people with super high provoked mercury levels. But you just stop their fish and they're just really, really

good at getting rid of it. They're healthy. It's the ones whose mercury levels never get above 11 who are often chronically ill because they can't mobilize. They're unable to do it. And you're right and this has always been the question and hopefully ISEAI... Hopefully, I had a little something to do with that. I kept prodding because I want to know that answer.

Dr. Jill 30:11
Yes, you did, because now we're doing research. We collected the money. I helped interview. We're going to do the research—

Dr. Eric Gordon 30:17
It's going to be wonderful because this is something that, like I said, I've argued with many doctors about for years.

Dr. Jill 30:25
I couldn't agree more with you. I would say there's a simple way to describe this: Mobilization [and] excretion. We can mobilize really well. But if we're not excreting, we get stuck and people get more toxic. So these concepts are so critical.

Dr. Eric Gordon 30:41
This is why research in our field is so important. I'm so proud that ISEAI is taking that step because I've always been upset that the functional labs that we use haven't stood up... Because I've been using some of these labs literally for 35... I was doing Genova when it was the guys in New Jersey. It's like...

Dr. Jill 31:06
Smokey.

Dr. Eric Gordon 31:09
When he started it, he was in New Jersey in the early 80s. Then he moved to Asheville. But it's just like they've made so much money that they should be helping us [inaudible].

Dr. Jill 31:22
They should be leading the edge of research. I totally agree.

Dr. Eric Gordon 31:26

Yes, anyway. It's a frustration because they help us. They definitely guide our therapy. But we're all looking for the CBC of functional medicine. And just getting back to our topic, the metabolomics and Dr. Naviaux's work, how I got really carried away was that I was hoping that we were going to be able to use metabolomics to define and help "tell me what to do." That's been my prayer since I've gotten into this field: That I'm going to get a test that's going to be an ABC. I would like that. And we have things that are A and maybe B. And where this comes in is that what gets you from CDR1 to CDR2 to CDR3 are fluxes in metabolites.

Dr. Eric Gordon 32:28
The other big piece is that we've always thought the body's communication network is hormones. And now we've accepted cytokines, the inflammatory chemicals that the white blood cells make and other cells make, and neurotransmitters. But what turns on and turns off genes and a lot of the information in the system are the simple metabolites—not just ATP but succinate, fumarate, acetyl-CoA, and oxygen levels. The raw materials of metabolism also control what genes are expressed.

Dr. Eric Gordon 33:12
Remember, people talk about epigenetics. Well, that's because there are changes in these things called histones that decide what part of the DNA gets expressed because you only express a little bits. And when you're sick and you don't methylate, all of a sudden you start expressing more places. It's almost like opening Pandora's box. When your body is really in trouble, you start throwing out lots of ideas. You actually do that. That's why we wind up sometimes with retroviral particles coming out because we got a ton of retroviral DNA and we don't really understand why it's there. Sometimes it's useful. Sometimes it gets us sick. But anyway, the metabolites are really controlling the show.

Dr. Eric Gordon 34:01
And what's interesting is that the lipids—we call them ceramides and single lipids [which] are names that, to be honest, I had a vague idea about before I learned about this—are long-chain fatty acids. They're organized a little differently. They are big communication molecules, but they're still relatively small. Enzymes have thousands and hundreds of thousands of carbon atoms. These guys are all having like 10, 20, 50—50 is a lot. They're relatively small molecules but these are what

determine our state of health. And when you're healthy, you can make big changes just by putting in the right nutrients and trying to feed these things. But when you're sick, your body is using these as signaling molecules that can keep you stuck.

Dr. Jill 34:59
So the cell danger response is so important. I feel like you've really done a great job of explaining that. We gave a little visual as I went through my computer. But what's the practical application for a patient with Lyme, mold, or toxicity? How would you approach them and how would the cell danger response practically change our treatment? That's the tricky part, right?

Dr. Eric Gordon 35:21
To be honest, at this point, not as much as I would like.

Dr. Jill 35:25
Me too. I agree. That's why I asked that.

Dr. Eric Gordon 35:27
Let me just finish it out. We did that study in '14 and it was published in '16, and we've been working on it since. What we were trying to do was establish where the imbalance was in the system.

Dr. Jill 35:44
Like CDR1, CDR2, and CDR3. Which part?

Dr. Eric Gordon 35:47
A group of chemicals. And for chronic fatigue, we could get a pretty good idea, but it still didn't give us what we were looking for, which is a way in. We're still looking at: How do we rebalance the system? But when it comes to Lyme, I think the important part of the cell danger response is the thinking process. It just gets you to go back and realize that what we have with almost any chronic infection is a failure to communicate. And whether you wind up with mast cell disorder on top of that or just neuropathic pain can just depend on where your genetic weakness is, what your weak link is, or what other exposures you have. Where I find the cell danger response helpful is that it keeps bringing me back to think about the milieu. Is there another piece that can be balanced? When you have the cell danger response, it's not a thing in itself; it's just part of the body's process.

Dr. Eric Gordon 37:06
And you can have cells in your liver that are stuck in CDR1, and you can wind up with chronic hepatitis. But it's only a small pocket. It's not the whole liver, often. Or you can have some that are stuck in CDR3, and more likely, those are going to help keep you toxic because you're not going to be communicating well and those are going to be offline and when they start absorbing things, they're not going to be able to process them well and communicate to those around them. So the CDR system is more, at this point, a way of thinking and also getting us out of the habit of thinking that we're going to kill the bug and fix the problem.

Dr. Jill 37:53
I love that you're saying that, because I couldn't agree more. This is a foundational… It's almost like the earth was "flat," and now it's round. It's that kind of paradigm shift in our field of understanding of what mechanisms are causing. So those of you who are patients listening and are like, "Well, what's the pill?" There's no pill. There's no one-size-fits-all, just like we started. But I don't want you to lose hope or feel like we're just talking way up here on an esoteric level, because this is really critical. I agree with you, Dr. Gordon.

Dr. Jill 38:20
When I understood and heard this a couple of years ago, it was game-changing in how I think about the patients. And that matters to you because, Dr. Gordon, when we sit in front of you, we have a different paradigm that helps us better understand. Even if we don't have every single last answer yet, we're moving in that direction. I just wanted to frame it because I agree with you; it's not like it gives us one pill for an ill. But it does frame things so importantly in a different way. Would you agree?

Dr. Eric Gordon 38:48
Yes. Again, it's a frustrating thing for the patients because, to be honest, we were going to try to semi-commercialize for research so we could do more research on the metabolomic test for chronic fatigue in the beginning. The reason we didn't do it was because it was going to cost $1,500 to the patient and at the end of the day, I really wasn't going to be able to do anything that different for them. I knew the chronic fatigue world is full of patients who don't have much money. For them to throw $1500 away… And they were lining up to do it. No, we couldn't do that. I

would have loved to because we would have gotten the data, but we would have hurt a lot of people because we—

Dr. Jill 39:26
I love that ethic. I could not agree more because it's always like, "Is this test going to change your intervention?"

Dr. Eric Gordon 39:30
No. It will in time. But when we're training in conventional medicine, we unfortunately learn on people without resources in the ER. The only good thing is that now we learn on people with resources. We are learning because people can afford to do these tests that aren't perfect, but we keep learning and getting better at what we do because these people can afford it.

Dr. Jill 40:01
Yes. Even in the last two years since I've seen the research, there continue to be ahas. And you're continuing to research. I'm continuing to spread the word. So gosh, thank you so much for just expounding in a really wonderful way about this. It's such a complex topic. If anyone's interested, I'm going to include the articles. I'll include a link to Dr. Gordon's website and everything. You've got your website; where else can people find you? Are you taking patients? Tell us just a little bit about your practice.

Dr. Eric Gordon 40:31
Yes. I'm still taking patients. I prefer to take patients who have been ill for a long time and just need another look. The practice is taking patients. Dr. Parpia, who was on here, is taking patients. What she is amazing at is guiding people back to health. What I'm really good at is figuring out what's wrong. Not wrong, but—

Dr. Jill 41:02
You're a detective.

Dr. Eric Gordon 41:04
Yes, I love that. And right now, I've got two young naturopaths working with me who are doing some patient research on the side. So that's what I do. But when it comes to treatment, Dr. Parpia is the one because of my attention span. I'm a little too all over the place. I always want to fix the thing in front of me. It's that regular

doctor stuff. And what happens is that you can keep treating with band-aids which are great for getting someone strong enough to begin to heal. But that's why I love what Dr. Parpia does: She gets people into the process of healing and doesn't get as distracted as I can by, "Oh, here, try this."

Dr. Jill 41:52
We need all these types, right?—because we need you to do the research and be thinking outside the box. I want to publicly say I have the greatest gratitude. You are one of the pioneers in our field and I have great respect and gratitude for all that you've done and continue to do. And even your heart comes across. You're genuine; you're humble. And it's funny that there's not a lot of that left in our medical world. So thank you for coming on today. Thank you for sharing your heart and your research. And I will be sure to link back, everybody, if you want to know more about Dr. Gordon, the practice, and Dr. Parpia. It's been a pleasure talking to you.

Dr. Eric Gordon 42:25
Well, thank you, Jill. You've been great. And I said next time we'll make a more linear story for you.

Dr. Jill 42:32
It was perfect! Take care and have a great rest of the day.

Dr. Eric Gordon 42:36
Okay, you too. A pleasure.