Introduction to the Cell Danger Response

Welcome to the conquering Chronic Inflammation Summit. I'm your host, Doctor David Jokers. And today I have the honor of interviewing Doctor Eric Gordon.

And we're going to talk all about the cell danger response, the roadmap to chronic inflammation. You're really understanding the cell danger response as a model for understanding complex chronic disease.

And Doctor Eric Gordon, he's combined forces with Doctor Robert Natio and their research into metabolomics, mitochondrial function and chronic inflammatory disease.

And they coauthored a groundbreaking study called Metabolic Features of Chronic Fatigue Syndrome, which was published in the proceedings of the National Academy of Science.

And that is it really a groundbreaking understanding of the cell danger response. And Doctor Eric Gordon is the clinical director of Gordon Medical Associates, specializing in complex chronic illness.

He's focused on bringing together leading international medical researchers and cutting edge clinicians focused on, things like chronic fatigue syndrome, Lyme disease and autoimmune diseases.

And you can find his website at Gordon medical.com. So again that's Gordon medical.com. And without further ado, let's go into the interview. Eric Gordon, great to connect with you here.

And I've been a fan of your work for quite some time, particularly the work you've done with Doctor Robert Navajo. When it comes to the cell danger response, which really gave me a deeper understanding.

I mean, it definitely changed my thinking. You know, I used to look at it and think, okay, mitochondrial damage, it's all this damage. It's this oxidative stress and these chemicals that are damaging the mitochondria.

And now this idea of the cell danger response helps me understand that, actually, this is an adaptation that the cell the mitochondria are making in order to survive and survive in a, you know, perhaps a toxic or, you know, just a hazardous environment.

And, you know, you're really, you know, one of the pioneers with, with that great work. And so I'm excited to talk with you and really go into detail on the cell danger response and help my audience really understand how the cell danger response, connects with autoimmunity, chronic illness, particularly what we're seeing today where we have this huge rise in chronic illness.

Yeah. Well, thank you, thank you. David, it's a pleasure to be here. And and I've, you know, I appreciate that you're one of the people who been out there really talking about the difference between acute and chronic disease.

And that's just so important. I mean, it makes sense coming from your background, you know, where in, in chiropractic, it really is restoring the body so the, system can communicate effectively.

And, and that way, you know, that we, we heal because we, you know, the impediments to healing are removed and the self-healing of the body is possible.

And that's unfortunately not the way conventional medicine has looked at the body. And, you know, and I always like to say my work with, Doctor Navajo is, I read one of his articles in back in 2013, and it was like eye opening to me.

It just kind of because I had the same issue is that I found, you know, the, what in the old days, we called alternative medicine. Now people call functional medicine, you know, but there's the, the there was a real big focus on antioxidants, you know, especially in chronic illness.

And I was frustrated because I had seen, you know, for years, I when patients come in with, you know, the bad side, you know, two bags or a whole box or two boxes full of supplements they were taking and they weren't any better.

And that, you know, bothered me because on some level, I believed in those things because they do work at the right time. But when people were in this chronic illness state, and that's because that's what I had kind of wound up doing in my life, was just dealing with people who had been ill for five, ten years.

These supplements weren't working. And so we've gone through novio. Supplied was a framework, a new way of thinking about it. And as I always say, I supplied the patients for our chronic fatigue study, and he supplied the brains, because it's his knowledge and his knowledge base and his, understanding of, using, you know, evolutionary biology is kind of like a, a broader, a broader, viewpoint to, to understand how the body works instead of the medical way of looking at you got an infection.

And we have to kill the infection or, you know, you broke a bone and we set the bone, and then this the body has to heal. And medicine has never paid attention to this thing called healing.

And that's where the cell danger response comes in because it helps us understand the process. The body goes through in healing.

Mitochondria, Healing, and Chronic Disease

And what the good doctor novio did which was I think the really, well, it's all groundbreaking but really exciting piece is helping to put in the mitochondria into this world of healing.

Okay? Because we all were taught you mitochondria makes energy. You know, it makes ATP, and that's its claim to fame. And if you're fatigued, your mitochondria aren't working and there may be broken or, you know, there's something really wrong with him.

And, his way of looking at it, I always call it the story because what I want people to understand is that the body is incredibly complex. It's like trying to understand your computer by by looking at the circuit board, you know, I mean, it it just doesn't.

We need a story to connect the dots between the pieces of information that we have gleaned from, you know, in our, our, our studies of how the body works.

But without an overarching story, it just becomes little factoids, and it doesn't really. And they can be useful if the factoid is you're low in vitamin D, take more vitamin D, but if the story is your body is not using the vitamin D that you have or, you need a lot more vitamin D, then the test should show that is not something that the number tells us.

That's only something, an overarching understanding of what's going on. And I use the word story because, you know, people have too much faith in science, okay.

As though we understand things. Absolutely. And I always use the example when you build a bridge, almost any engineer is going to agree, that that bridge is going to stand and not fall down based on mathematical principles, but that but we don't have the rulebook for biology.

We don't have the rulebook for how the body works. So the best we can have are stories, ways to put together the disparate information and make it into a, a thought process.

I like to use the term framework, right. I like to use the term framework. Right. Because it's like science gives us data and it will give us like when we look at physiology gives us physiological mechanisms, but it doesn't tell us why, you know, the overarching why.

And so having a particular particular paradigm, for understanding how the body adapts in certain circumstances, I think is key. And that's like you said, that's what the cell danger response is really given us.

Right? I mean, it's giving this place to understand that healing, the steps of healing, you know, we still don't know, what's really in that black box?

You know, we put information, but we know now that it's broken down into different steps and it helps us better understand some of the chronic diseases.

You know, the, the chronic diseases that I'm most interested usually have a lot to do with, inflammation gone awry. And I know I've heard you talk about this also.

You really understand that crucial thing, that inflammation, which is, the hallmark of the first step of the cell danger response is crucial for healing.

But if we don't turn it off, if we don't modulate it, it becomes the cause of chronic autoimmune diseases and many, many. And, you know, I believe chronic fatigue and a lot of aspects of what people get when, you know, with chronic tick borne diseases, you know, mast cell activation is a great example of, when that Cd-R isn't turned off because the mast cells are, you know, your first.

Well, not your first, but they're your primary inflammatory cells in cells first. When organisms first develop, mast cells are the first kind of immune cell that shows up.

So they have something to do with everything else. And we forgot about that in medicine because we just figured they were in charge of allergies, you know.

But yeah. Right. So this CDR concept, the CDR won't we we broken down into three components one, two and three. One being this acute inflammatory phase two being the the rebuilding phase.

You know, you have to get it. You have to get tissue to, restore its internal organelles, those little parts there inside the cell. And also, if some of the tissue is destroyed, you have to get new cells in there and have them grow and become competent liver cells or kidney cells or heart cells or whatever.

You're you're or in your intestines, what you're doing all the time growing new ones. And that's the CDR two. That's that second stage. But the third stage is when that cell has come back to normal and, well, semi normal, but it's cell membrane has to finish the job.

It has to, restore communication with all the cells around it, because during those first two stages there's less and less communication with the whole, you know, in the midst of the battle, hateful, unfortunately, you know, militant military, metaphors do work well for, for the immune system.

But in that first stage, the individual soldier platoon has is often working without contact. You know, there's no direct contact with the general staff.

And, you know, the that they're working on their own. And in the second stage, when they're rebuilding, there's a little more communication. But in that third stage is when they're finally finishing and they become competent liver or kidney cells where they're now responding to the environment around them in a normal way.

And when that, you know, and when that doesn't happen, we start having more troubles with our hormones. You know, we get we find people who have quote unquote, you know, normal levels, but their body doesn't seem to be responding to the, the, the messages.

And often that's because we haven't completed that third stage of healing for some of the involved cells. And that's that's an important part to remember is that these these things aren't happening in every cell in your body.

They're happening in pieces in them. But when that cell is doing it, it's releasing chemicals that affect the whole body. So even if you have most of the inflammation in your intestine, it's creating chemicals that are going everywhere and creating these inflammatory signals.

And and that just to get back the mitochondria, this organelle that we thought was just there to, make energy has a lot to do with turning on and turning off, the different stages of the cell danger response.

Yeah. So the mitochondria, again, like you said, I mean, in in biological science, we learn it's basically like a factory just pumping out energy, right.

It's like a furnace just constantly, you know, taking glucose or fat and producing heat more or less. Right. Producing energy. But now we realize it's more of like a sensory organ.

It does produce energy, of course. It's what our major energy producing organelle. But at the same time, it's also sensing its environment and turning up or down energy production and and also the way it produces energy, whether it's through glycolysis primarily or through aerobic respiration, based on what it's sensing from its environment.

Yeah. And that's what so important important in the environment. And and so just we will talk a little bit more about the mitochondria. But I want to make another important point here.

But the difference between acute and chronic illness I think is so crucial for people to understand. And I think why people get so frustrated when they go to doctors, conventional doctors, you know, when, especially because they go in and if they're acutely ill, the doctor will give them something that will often minimize the symptom that they're having and that will allow you to sort of tolerate and live through the process of your body healing.

But it's very rarely are they giving you something that actually helps the healing. They're letting you tolerate the healing process easier. You know, I mean, sometimes it's life threatening.

It's life saving things like, you know, if you're losing blood, they'll give you enough blood, but, or fluids to keep the organism going, but they're still not going in there and really, say, helping the healing process.

But that works fine, because when you have an acute illness, you break your arm, you get a pneumonia. Most of us, the body does a pretty good job at finishing the healing process itself without much trouble.

However, when, we can Long-Covid is a great example you've gone through. You've recovered from Covid, you know that happened, but parts of your body have not stopped creating inflammatory response.

And what the longer you do that, the more other parts of your body try to compensate. Okay? So by the time you have a chronic illness, you're now dealing with the compensations.

You know, it's a little bit like, you know, when you sprain an ankle. You know, the ankle heals, but you've been walking funny for a few weeks, and sometimes by that time, your back started to hurt, you know?

And there's a there's a bunch of other stuff that that starts changing in how your structure is, your your structure is held so those compensations can become problems of themselves.

And that's what often happens in chronic illness. And what makes, you know, if this is going on for a few months or a year, you often can, make big differences by just, doing the things that help the body restore healing.

That's like making sure that your sleep is good. You nutrition is, is is is adequate for your body, which is something I know that you talk a lot about.

For your body, you know, hopefully you can get your emotions under control because, you know, when you're in pain or you're not able to function, you start becoming more irritable.

That's part of the thing that happens in the acute illness. Irritability is part of the, you know, illness behavior. The first thing that happens, you know, when you really when you get a cold leave and you, you can't tolerate annoyances very well.

If and that those behaviors have to resolve for chronic illness to get better. But usually you have a lot more work to do because the compensations are your biochemical individuality or your genetic individual, the thing that makes you you.

So if you've been sick for five years and you go and people often call and say, what's your protocol for X, you know, I and I said, you know, if you've had Lyme disease for, you know, three weeks or three months, you know, we can give you a protocol, but you've had it for three years.

It's three decades. The the protocol may work, but there's a much better chance that we have to uncover the layers of compensation that's happened in your body.

And, and peeling that off, it helps when we understand this cell danger response, because then we can look and see which have an idea of which organs are stuck in inflammation, which organs are stuck in, maybe scarring or fibrosis or, and which organs just aren't listening like they should.

What hasn't grown up and does. I mean, that's only one way of looking at it, but it's, it's a the most important part is for people to understand that straightforward answers will work the best.

The earlier you get the problem. And also don't forget that in order to get your body to heal when it's been ill a while, it is still important. You still have to go back to the beginning.

The same things that make for a healthy, life, which is, you know, being out in nature. Sun, food, sleep. Yeah. They're crucial. They're crucial for for really healing.

But what we have to sometimes work on is how to get people able to do those things, because it's not that easy. So that's a a little story about acute and chronic disease.

And, you know, yeah, I think everybody's experienced it because, you know, we've all gotten a flu or Covid or something like that.

Acute vs. Chronic Illness

And it was like one day we had we had good energy. We felt good. We're doing everything we need to do. And it's like we wake up the next day and we have zero energy, right?

It's like we just want to lay in bed because we're dealing with this acute virus. And so it's actually the mitochondria saying, okay, we're going to become hypo metabolic.

We're not going to produce a whole lot of energy because we need to put all the energy into the immune system. Right now to regulate the system. And we want to focus on detoxification and, you know, and basically allowing the immune system to reduce, you know, the viral replication that's going on in the system.

And so, you know, I know you catch it, but it's just it's even more primary because I would like to get first stage of, of CD1 when the mitochondria are what's happening there.

I mean in the simple look of not simple, but in, in the the classical example of a viral infection is you're the virus is busy using your own raw materials to make more virus.

That's basically what viruses like to do, make more of themselves. And when that starts to happen, some of the the mitochondria sense the change in raw materials that are available to it.

And when the mitochondria sense that they turn down that energy production, the production of ATP inside the cell, okay. And that has a cascade of effects which will change which genes get turned on, you know, and also at the same time, the mitochondria put some of its ATP a little more than usual on the outside of the cell surface and ATP, this energy that this, molecule that your body uses to, to ship energy, around the system, around the cell also works as a signaling molecule outside the cell and outside the cell.

It signals pay attention. If there's a lot of it, it signals that it's danger. And that that means that your body should hunker down. And that's why you have no energy.

Because not only is the, mitochondria making less energy, but it also is releasing in phlegm. You know, like, as you said, the immune system releases inflammatory chemicals which tell your brain to shut down.

Okay. That's why you can't think straight that that first or second day of a virus when if somebody asks you a complicated question, it's just like it's hard to think which unfortunately that brain fog can persist.

But in the chronic cases. But this elevated ATP in the blood is basically a systemic signal to the body. Hey, it's alarm. And then ultimately, like like it as it's building up, it's like alarm.

And then in a sense tells all the cells to basically shut down energy production or reduce significantly reduced energy production. Yeah. Because you're trying to starve.

You're trying to starve the virus, you know. Yeah. Right. Or the whatever, whatever it is the virus is trying to hijack. What's going on there that that ATP production, energy production.

Right. It it needs a lot of, a lot of nucleotides to make more virus. So that's, you know, in that first stage and this extracellular ATP is a signaling molecule.

So at low when it puts when your body puts out just a little bit extra of the cell puts out a little extra, it just means pay attention. That's how we learn is because, you know, our dopamine, receptors, which have a lot to do with learning, get hyped up a little bit when there's a little extracellular, a little more extracellular ATP because you want to know what to pay attention to because there's too much information coming in.

You know, you have to have ways of knowing that this is important information. So extracellular ATP is critical. And it's also critical as it as you slow down that, you know, as the cell leaves CD1 and goes to CD2, there's much less of that extracellular ATP.

And in CD3 it goes back to a very low level, which is just there for normal signaling purposes. But it is this concept I think is going to lead in the future to a whole class of, medications that may help us quiet things down enough for the body to go to to finish the healing.

Because at this point in time, when people are stuck in one of those phases, we don't have any great, we don't have any on off buttons to use, you know, because the, the, the body seems to change, by what?

We, I guess one way to call this quantum sense, you know, a quorum sensing. You know, quorum sensing is when a bunch of things change, and then all of a sudden we voted and we change direction, you know, it's it's how bacteria decide that it's time to beat that.

It's time to, like, hide in the biofilm. You know, the chemicals, the chemicals around them change, and they just change their form. And we do the same thing in the cell.

This changes from step to step of inflammation and then repair and then going back to normal. It takes, a whole change in the milieu, in the, in the environment, you know.

And which is. Right, I love this stuff because it's all the same, you know, as above. So below we see the same thing in the gut, you know, I mean, like, we do our best to restore gut health, but at some point, you know, we can we can put in this and put in that.

But at some point it's the combination of, of of the chemicals in the environment that get the better bacteria to grow and the immune system to respond to them appropriately.

It's, you know, we we do our best. I know that's a lot of the work that you do is to try to give people the right, nutrients and supplements to get that to happen.

But as we know from how different and varied patient response is, it's it's not an it's not for sure I give you, you know, you know, colostrum and this is going to happen.

It's like like your colostrum. And if six other or 50 other things are happening at the same time, we're going to get real lucky and your gut is going to heal.

But it also. Yeah. And so parliaments really are giving, giving a nudge. Right. It's kind of helping the body just kind of give it a, give it a positive nudge in the right direction.

But we also need that foundational lifestyle to kind of keep that momentum going and move in the right direction. And when somebody has a flu, like I actually had a flu in December, I felt awful right?

But roughly about three days after I after I was done with that, I mean, I felt great, had tons of energy. And so my body it it I, you know, I always say close the loop.

Right. So you have the CDR one, right. The first response. Right. And then the second and then CDR three. And in a sense, when I close that loop now, somebody that perhaps has long Covid or or any sort of Post-Viral syndrome or chronic illness in general, they're stuck in one of those phases they've never completed.

CDR three is is that correct that that that may be. Yeah. Usually in one of the some of the cells in their body. I mean, this is one of the things that when I first learned this, I, I felt kind of stuck because there's that absolutist tendency of the mind that thinks that is going to be everything.

You know, in the sense that like CDR one is happening throughout your body. Well, pieces of it are, but generally it's just some cells are stuck in CDR one depending how many.

And yeah, how much it influences. But the beauty of, of the body, what you just described, you know, you got sick, you felt tired. But three days afterwards you are back is because your system is is healthy and vital, and you just use those those days as a learning period.

You know, your body now learned how to deal with that bug better. And, that you weren't you didn't retain a lot of cells stuck in parts of the CDR. Now, as we get older, I believe, I mean, fairly I'm a lot more of it.

People are agreeing that, you know, part of aging, a big component of aging is being is having more and more cells that are releasing, signals that are part of the CDR.

Okay. So what happens is that when you recover, you don't usually be. Well, as we get older, we recover less of our cells completely. So you get like, you know, I keep coming back your liver, but let's, you know, the liver's there and let's say 10% of your liver was involved got inflamed, from some exposure to something of a virus or a chemical, you know, when you're young, probably 99% of those cells go back to perfectly normal.

But as we age and we get exposed more and more to things, and we and especially in this days in our wonderful, pristine environment, we get more and more toxins to deal with.

Probably more and more cells get stuck in one, 2 or 3. And the ones that are, especially the ones that are stuck in,

along the way, they keep releasing the signals that are, appropriate for that phase, but they're not appropriate for being healthy and feeling great.

And we would call those cells senescent. Would another name be senescent cells? Yes. You get 20 cells that, as some people call them. Right. There's there's I mean, there's disagreements about, about how to define these different guys.

But yeah, I like senescent cells.

CDR Stages, Senescence, and Aging

And, the difference is, is, is that on some level, these when you're young, these cells probably prevent us from developing cancers because, like, they, they the cells reproducing like it's in CD2 and it gets stuck if it gets stuck there and it can keep reproducing, you can get a cancer.

And so luckily, we have a way the body has a way of putting those cells kind of on the off ramp. And, but they're not sick enough that your immune system recognize them as, really bad.

Because if your immune system recognized them as like, there's a cancer signal and things and you're young, you just kill the cell. It's when you're young.

We're very good at doing that, you know? But we do accumulate these senescent cells, and they keep producing chemicals that have a lot to do with aging because they are especially in the immune system.

We see it a lot. That's why, you know, most infectious diseases are much harder on old people than they are on young people because, we accumulate tons, maybe not tons, but at least, grams, of old T cells and B cells, mostly T cells that, that are no longer, useful.

They're just prime or they're we should keep some of them around so we can recognize old things. But when we start producing, producing them, they make us hot.

They make it hard for us to hear and see the new signals. And so that's a very interesting world in the, in the healthy aging is how we can hopefully get rid of some of these senescent cells.

There are people are using, you know, things like rapamycin. I'm very interested in something called plasmapheresis, where we filter out these old information cells and kind of allow the body to restore and, you know, like when they started doing the experiments with the young blood animals where they were, they were giving, young blood to old animals.

They thought that that's what was doing it. But it really turns out it's just the dilution, you know? Yeah. Because, you know, I mean, if it's if you just, change the picture to change the oil in all the animals, they start acting young.

We don't we don't need. I mean, there's some people who are looking at the young blood is a thing, but I do some. There's some really good studies ongoing now using plasmapheresis and aging.

That just involves removing the old proteins and letting your body then not have as much noise in the system. I mean, it's that simple. It's kind of like rebooting your computer, you know, got all those old programs that are have that are still running zombie like in the back.

And when you reboot them, they get shut down. Same idea. The system then works better. So we sort of went off our subject a little bit. But it's something but it's all part of this cell danger response.

It's learning to get the right information to the body because as you know, as we were talking before we went on air about, you know, the, you know, the chiropractic approach to healing is to restore, restore the flow, you know, get the the flow in the nerves, get that right.

So the communication and I think that's the truth of, of, of a healthy life is proper communication. And as I said, and it works in all levels because we see it in human human interactions.

You know, clear communication usually makes for a happier life. And in your body, clear communication. And when you've got a lot of old signals still going around, it's hard.

And that's why I know that you've talked a lot about, you know, apoptosis and trying to get people to, you know, exercise and stress. The body in a healthy way, which will help get rid of the marginal, the marginally alive cells.

And it just removes bad information. It's Yeah, that's that's good. That's what I want to talk about. So I want to kind of shift this is how do we get rid of these senescent cells and really turn on optimal mitochondrial energy expression.

And you mentioned stressing them. And so, you know, when we think about stress, most people think, oh, that's that's bad. But we're talking about hermetic stressors.

And these are the kind of stressors that actually have the potential to make our body stronger. Like, like a personal trainer when somebody comes in to, to to get in shape, they're not going to put them through an overly intense workout in the beginning because they're going to overwhelm the person's system.

They're going to be so so they're gonna be sore for a week. They're never to come back, and they're going to create too much inflammation in their system, but they want to do something called progressively overloading them.

Where they just basically stress them to a certain threshold, and an a threshold that their body can then rest, get the nutrients it needs, adapt it, and then it becomes stronger and more resilient.

And then I can handle a little bit more the next time. And so let's talk about that. How it applies the danger response. Well that's that's fascinating because you know what I, what I love, is layering treatments okay.

Layering layering, approaches. Because they said because we're all different, we all we all are working with a slightly different, genetic expression.

You know, our genes are all pretty much the same, but how they get expressed are pretty different. And so we all hear different signals. So, we talked about senescence, you know, trying to change those things.

You know, of course, exercise is always a good one to start with. Anything that stresses you, that doesn't kill you does make you stronger. Yeah, but the trick is, I think not kill you.

I think a better way to put it is what you described me with the trainer stress you without, damage, without doing too much damage. A little bit of damage is the key.

You could just talked about the CDR. You know, there was those, wonderful studies in exercise physiology where they found if they gave people lots of antioxidants and lots of iodine and C, before they exercise, they didn't build as much muscle because they didn't, because it's the oxygen stress, okay, that causes your body to read, that gives the signals to repair.

You know, you're not going to get to CD2 if you didn't go to CDR one. So you need that inflammatory then inflammatory phase in order to, stress the cell enough to then go to the next stage where it gets the signals to rebuild.

And but it's that first stage when you're better able to get rid of the weaker mitochondria. I mean, right off the bat, I mean, because actually this happens at the cell level, but at the organelle level, the organelles are the little tiny things that live inside the cell, the mitochondria, they've got all kinds in the nucleus, the Golgi body, all these little guys that hang out in there and you constantly are making new ones.

And, but you do it best when they get stressed in the way the body was, seems to have been designed, which is you work it a little harder. Okay. And so, but along with this, when you want to support growth, I mean, that's where, you know, turning on the nervous system, where people do like, you know, cold plunges and things like that, which, which stresses the body.

Okay. But the the beauty of the system is it gets stressed. You get this big sympathetic drive, and then you really turn on your parasympathetic to get the healing going afterwards.

So you feel deeply relaxed. And the deeply relaxed state is the best way to heal. Yeah. Because it gets the signals from the brain that life is safe again so we can heal.

But getting back to apoptosis. So, you know, there's, the, you know, using light, using, you know, people. And the thing about light is that you have proponents of red light and, and some of the blue light and different, frequency bands, and I, I, the people, some of the researchers that I've spoken to, and it makes sense, really feel that it's many of these bands that are important, like, you know, it's nice to know that your machine has got 8 or 805, hertz, you know, wavelength for the light.

But really, it's like sunlight because it is sunlight that we need. Yeah, that's going to help restore, restore our, our inner balance. And so but but using the light, to help heal the cell, increase energy.

And when you put energy in, you will get rid of weakened cells. It's it's that that's that's the thing. It's not just the stress but also having enough energy in there to decide to, to die.

It's kind of like the senescence cell is operating in a very narrow band of like it. It's, not it doesn't have enough energy to go to normal, and it doesn't seem to have enough energy to turn on the signals to, to die.

And when we stress it a little bit and we also increase more energy in the body as a whole, it's more likely that those cells will make a choice, you know, go back, you know, finish the cycle, actually maybe make it into CD3 and then heal or, you know, die.

And it's it's crucial that we that we do this. But again, it's the signaling. Now there's lots of you know, people are using lots of supplements which seem to have a benefit and some peptides.

But, I think, you know, for most people exercise, and, exercise and sunlight exposure are kind of like and I probably again, getting adequate sleep, it's all that thing.

It's because it's energy. Energy. If you don't have healthy, slow in the system, your body can't make healthy choices. I mean, this sounds so pedestrian, but it's that's what I said about story.

Those old stories are true. They are the wisdom, you know? I mean, we we and I myself, we keep trying to, like, add things, you know, add the right supplement to try to get that to go better.

But it comes down to the basic lifestyle is what's going to keep people healthy. It doesn't always get you well when you're chronically ill. That's. Yeah. The the kick is super key.

And you know when I think about sleep obviously say one of the things I think about is melatonin. And when it comes to the mitochondria, melatonin is the most powerful antioxidant because it can slip in and out of the, you know, double membrane of the of the mitochondria.

And it's very powerful for for basically buffering oxidative stress and helping improve mitochondrial function. And of course, when we sleep, we're releasing melatonin in and we're getting a big melatonin release while we're sleeping.

And also when we're exposed to infrared, for example, you were talking about the sun. That's a huge stimulator of of of mitochondrial melatonin to help protect the mitochondria.

So, you know, we've got the great stimulus there. And then what are your thoughts on on fasting or fasting. Mimicking diet which is another another approach that I know they're doing a lot of research by intermittent fasting and fasting for helping stimulate autophagy, to get rid of these senescent cells.

Yeah. I think that, you know, it seems to work. Yeah. I mean, it's been enough studies that shown it works. I think it's a great thing. I, I sometimes wonder, you know, I, I, I think people sometimes, work too hard to optimize their health.

You know, this, you got we have to. You can overstress your system, right? Do too many of these bio hacks, right?

Hormetic Stress, Exercise, and Fasting

We we have two ends of the spectrum. The people who, like, you know, want to sit on the on the couch eating, you know, junk food and watch television.

And the people who want to be working out and fasting all day. And, you know, I don't think either. I know either end isn't good. It's just not how the system I think was designed.

You know, I think the stress, intermittent fasting, I think is a wonderful thing for people to do. I think people making a religion out of it is probably more than is needed.

You know, I think if people are fasting, if people have the discipline to fast, you know, for 2 to 4 days, you know, maybe once a quarter, I think would be is a phenomenal thing to do.

Just I mean, again, we go back to, to just go, you know, evolution in nature, you know, go back to our hunting, hunting and gathering days. You know, I think that's probably when we were living as close to, a sustainability for not just for the planet, but for the, for the, the human being.

There's this thing of, accumulation and, you know, and growth and, you know, we, we can see in, in our own, in our own lives that, you know, we don't want too much accumulation in growth.

So we get cancers, right? You know, so, I mean, it's clear and it's, it's, it's we need to cycle through cycle between anabolic and catabolic. Right. That's why I'm I'm a big fan of this idea.

The feast famine cycling. Right. Because remember feasting we're stimulating a lot of insulin IGF one mTOR. Right. Which has a child or pregnant woman should be stimulating a lot of that.

As an adult. Less so. But you still need some stimulation of that. And then, you know, as an adult especially, we want to prioritize more of the Ampk, right?

Getting getting still small bouts where we have growth, right, and anabolic activity, but then also balancing it with a good amount of Ampk, autophagy.

So cleansing. Right. Things like that. Yeah. Because, you know, it's we we we need to keep, a balance because, you know, because we don't know. I mean, just saying like people talk about methylation, you know, in methylation, you know, we know that methylation accumulates with aging because we're slowing down, we're turning off more genes.

But on the other hand, we don't want to turn them all on. Yeah, right. It's not going to be that's not going to be good either. You know so we we it is about balance.

And I think when you look to, how things work before human beings became so smart, we probably we have a good, a good, handbook for how to live. And so, you know, because in our culture, we have food available for most thankful.

Thankfully, for most of us, you know, seven days a week, 24 hours a day, having to learn how to minimize that sometimes I think is super important. And again, it's, you know, without without that period, I don't think we get enough chance for our body to get rid of these senescent cells.

So I think that's really good. And for people who are trying to get back to health, I think the, the fasting mimicking diets can be really good because it can be really hard when you're and and to be fair, there are people who are chronically ill who whose systems are so stuck in that Cd-R one CDR two phase that their mitochondria can't produce enough energy.

So they really depend on glucose metabolism. Yeah, right. You know, they really are stuck there if you put them, you know, they're they can't get the energy into the mitochondria.

So they have to so glucose can be metabolized up completely to, to lactate in the, in your, in your cytoplasm in, you know, in the cell itself without having to use the mitochondria.

So that is often what, what they need. While they're healing we want to like move them along. But but for most people who are out there walking around and having a fairly normal life, I think intermittent fasting and is a great thing to do.

I said, I just think the people who are who are like, you know, keeping their eating to six hours a day, seven days a week, you work in to heart, okay?

You know, you can just, you know, chill, relax. You know, probably you'll live longer if you spend more time having a good time and and and doing what you love than worrying about.

Oh, my God. You know, it's I've missed my six hour window. I'm not. You know it. That's too much. I but that's me. I I'm I'm not I'm not, I'm not a mountain climber.

I always, I'm always, always have to remember. We all are wired differently. You know, there are the people who have the umph to become a Navy Seal. And there are those of us who would wash out before we started.

Yeah. And I think, I think the kind of the final place I want to go with this interview is you take somebody with, you know, with chronic illness or chronic fatigue syndrome or something along those lines and you touched on kind of first place to start is really doing everything we can to help them improve their sleep. Right?

Because obviously they need to rest. Getting some sun exposure. We talked about, you know, the full spectrum. Like we talked a little bit about infrared.

But UV light can also be beneficial. Obviously we don't burn ourselves. But getting some level of you've read, you know, the full spectrum that we get from the sun.

And of course we can also do it in. And now we have red infrared boxes and different things like that, infrared saunas. And so we can get access to this, these healing frequencies, whether we're inside or outside, of course, you know, we always prefer outside if possible.

But starting to get that, that sort of light exposure really affecting light. Now a lot of people don't think about like, you know, a lot of times in this, in this world, this natural health world, we go right to food, which which is key, right?

Food is an important information sensor. But also light is really important information and sensor and sleep. So, so trying to follow, you know, an anti-inflammatory diet, maybe compressing your eating window to, let's say like ten hours, you know, in the course of a day, not overly stressful on your system, hydrating.

Well, electrolytes, good sleep, regular sun exposure, getting some movement in, even or just taking a walk. Can you elaborate on that? Anything else that somebody as a, as a starting place for somebody that, you know, is really chronically ill.

Yeah, yeah. I, I, I said my, my patient population has been skewed to the people who, doing a walk, getting a good walk in would be considered like, you know, getting back to 50%.

Yeah. But but you see a movement, right? Even if you're lying in bed, you know, movement, move your limbs, stretch when possible. I mean, it's actually one of the, the, I think overlooked.

And it's funny. I'm talking to you who's a chiropractor. Is the structure okay? Oh, yeah. I mean, and this is in the chronically ill. I have to apologize.

I tend to, like, live in that world sometimes, but is it? That's what's missed in, in conventional medicine, I'd say 99.9% of the time even. Yeah, more than even more than the biochemistry.

Is the the structure is that when when people have been have this tight and so almost I don't think I've ever met a chronically ill person that didn't have a very tight neck, you know, neck, neck and shoulder musculature.

And there's no drainage from the brain. Oh, not no drainage, but it's reduced. And the if the brain can't get rid of its waste products, okay, then you're never going to get that all clear signal from the brain, because it's always going to be inflamed and it's always going to be telling the body what to do.

Now if you have a an injury or a chronically inflamed area in the periphery, I mean, in your body as a whole from the head down, let's say, you know, that has to be addressed because that's sending signals back to the brain.

But even if that's addressed, if the central nervous system doesn't have a sense of safety of it, it's not going to send those signals that are going to tell those CDR two and three cells, it's okay.

You can you can now complete it's the environment to safe start communicating again, okay. Because this is all this is what this is all about is, you know, evolutionarily it's clear that when there's danger shutting down is the safest pathway.

Okay. I mean, attack is a dangerous path. It's safer to shut down. And that's what the more primitive the organism, the more it tends to go to the shut down mode to protect itself.

Yeah. We think about fight or flight, but it's really fight. Flight or freeze. Yeah. And freeze is energy. Probably is probably older evolutionarily. I think people are like really certain I'm right about that.

And so it's that and that freeze is is also what what's happening when the CDR isn't finishing it. That's part of the freeze is that it's not restoring communication.

It's safer to be not getting, you know, those healing signals. So but those healing signals come a lot from the central nervous system that final letting the immune system know that it's okay, it can stand down.

It doesn't have to keep creating so much noise. And by noise, I mean chemicals that cause more inflammation. So when that central nervous system is. But that can't happen if those neck muscles, I should say, can't because the body can do almost anything. Do.

But in general, it's going to work easier if this area is relaxed. Yeah. Okay.

Foundations for Recovery and Personalized Care

And but if you've been host, you know, with your head six inches, in front of your shoulders for your whole it's you can't get drainage because remember, drainage is through the, the, the veins and the lymph.

And as we now know in the brain, the lymphatic system and that's a low pressure system. So a little bit of, of you know, it's not a firehose. And you can stand on a firehose and it might the flow might decrease a little bit, but that water pressure is still going to go.

But you know, you put your full weight on a garden hose and that water flow stops. Well, it's the same thing here. You know, the artery going in is kind of like the fire hose.

It's going to get in there, you know, despite the muscle tension. But the vein doesn't drain as well. And the lymph, which is a very, very low pressure system gets cut off quickly and you'll so getting structure open is, I think a really important part of healing of, of of, of allowing healing to happen.

You know, people often get frustrated. Well, you know, this is getting better, but I'm not all better. Well, this is not the thing to make you better.

It's just to allow. And I think that's what people have to understand, that all these great things that we talk about, you know, sunlight is a commotion, physical activity, good diet.

When you're chronically ill, those aren't going to get you better. They're just setting the stage that is going to allow the system to heal. There's usually some other things that need to be addressed.

Yeah, but if you don't take care of those, you can spend a fortune trying to address the rest. And you don't get very far. Yeah. Usually you've got chemical toxicity or chronic infections or something like that.

But like you said, you got to have a foundation in order to then go after those things and detox effectively or get rid of infections or whatever it is that's holding you back.

So, and, and just for the people out there who are really ill, who are going to get upset at me and say, say, wait a minute, but I can't do those things because it's.

And that's true. And that's why everything has to be modified and done gently and with slow getting approaching, approaching things. It's, it's, it's very frustrating for the people who have reached that time in their health when even the things that should make them healthy, make them sick or increase their symptoms.

And so I always and again, since that's often my audience, always want to reach out to them and say, we understand that. But people who there's so many people who are just, you know, just don't have the energy they know they need anymore.

Yeah. And in those people doing these basic things can often just, yeah, bring them back to that place where they got up in the morning and they were excited to see the day and get active.

And this is really why health care needs to be personalized, because unfortunately, as much as we wish it, we we could. There's no cookie cutter system that's going to work 100% across the board and needs to be personalized.

Everybody has different starting points, different thresholds for the amount of stress they can handle. You know, different needs. And obviously that's what you specialize in.

I know people can reach out to you at Gordon Medical dot dot com, and you and your team are working with people, particularly people with chronic illness, that have been dealing with a lot of different things.

I know you're working with a lot of people with chronic fatigue syndrome, Lyme disease, various autoimmune conditions. Anything else you want to add to that?

Yeah. Well, that's you know, I unfortunately I think how do you say they're all different but kind of the same, you know, I mean like long Covid was something that, you know, we saw it coming as soon as it started.

We were seeing patients and it was clear it's another post-viral. It has some other twist to it. But it's it's kind of the same, the same pattern and, and just one exciting thing that's coming up for us is actually on April 1st, we are being joined, an old friend.

An old friend and, of mine, Doctor Steve Harris, who's been, treating Lyme for 25 years. He's I mean, he's he was born into a Lyme. His his dad is that the scientist who started a jinx?

The techniques. Yeah. Yeah, I did it for, And, Steve is an amazing doctor, and he's in his team. We're joining forces, and, we're really excited because we, you know, we we the thing about chronic illness is that, sometimes I have the notes, the right song for the patient, but sometimes they need something similar but some different notes.

And that's why having doctors who who all have a lot of experiences. But we'll, you know, we each will hear something different or just have a slightly different knowledge base because as you do this, you know, you can read all the books you want, but it's through the patients that we learn.

Yeah. And so that's why it's important to when you're getting frustrated because you're not moving. And with chronic illness people often fail. I mean, it's it's it's very frustrating for the patient.

And so having other people that, can understand you who you can go, okay, this I'm halfway, but I'm not all the way trying another approach. You know, within our team is a great way forward because then you don't have to, you know, reinvent a lot of other wheels.

So anyway, I love it. That's what we do. And, we love to we love to to try to find, you know, what's moving in your body that's different because that usually is the key.

Yeah. And do people need to come to your office or can you work with them virtually? How does all that work? Well, we can do some virtual work. It's it's difficult because a because of the rules across America.

So lots of states that we, we, we, we can't do and, we really need people to come and see us. Yeah. In comes at least for an initial visit. Yeah, yeah.

And especially unfortunately, a lot of the people who are ill, they require, you know, some interventions that, that we can't do from afar that really need hands on, hands on intervention to, to make it, to make it happen.

But we, we, we do our best and, you know, we we and especially there are some really good doctors all over America that, that we work with. And so that's why we, we we can be we can be helpful.

But it is best if, you know, come. Yeah. And we're located getting that a we're in we're in Northern California. We're in San Rafael just north of the city just north of San Francisco.

For those of us that don't know, aren't familiar with California geography. Yes. There you go. Well, guys, Gordon medical there specialists, as you can see with Doctor Eric Gordon here, his team specialist in these kind of chronic, chronic inflammatory chronic illness type issues.

So definitely check them out Gordon Medical and, yeah, he's got a lot of great content on his website as well. Thanks so much again for for your time here, doctor.

Eric Gordon, it's been such a pleasure. And, everybody listening. We'll see you in a future interview. Be blessed.