



## Episode 56:

### **Boost Your Energy and Fix Your Health by Restoring Your Mitochondrial Matrix with Laura Frontiero, NP and Evan H. Hirsch, MD**

[00:00:00] **Evan H. Hirsch, MD:** Hey, everybody. Welcome back to the energy MD podcast, formally known as the fix your fatigue podcast. So today I'm really excited to have my guest on Laura Frontiero. We're gonna be talking about the mitochondria, which if you listen to me talk incredibly important. It's part of our big three, when we're looking at deficiencies that are so essential for increasing your energy. First, let's learn a little bit about Laura. So Laura Frontiero is the founder and CEO of bio radiant health, creator of four online functional medicine, health summits, and has served thousands of patients in the clinic and virtual setting as a nurse practitioner over the last 22 years, her work in the health industry marries both traditional and functional medicine. Laura's online and virtual wellness programs help her high performing clients, bio elevate their health by boosting energy, renewing mental focus and feeling great in their bodies in a word, she helps people thrive again. Her belief is that to create optimal wellness. First, we need to identify and clear the root causes of our health problems. Usually toxins, chronic infections and stress. Then eliminate inflammation and restore gut and mitochondrial. Her signature system helps reclaim what she calls the energy edge for each person. It's a unique journey back to their highest mental, physical, and biological performance. When your body is bio optimized and you're operating at your peak level, you are unstoppable, productive, happy, and fulfilled. Laura, thanks so much for joining me.

[00:01:49] **Laura Frontiero:** Oh, it's so good to be here. Evan. I feel like I'm the female version of you. when you read dive bio I'm like, yeah, we kind of do a lot of the same stuff.

[00:01:59] **Evan H. Hirsch, MD:** indeed I, yeah, yeah, yeah. It's it's great. Two, two peas in a pod.

[00:02:03] **Laura Frontiero:** We are, we are, if you're the energy MD, I'm the energy NP

[00:02:07] **Evan H. Hirsch, MD:** Ooh, I love it.

[00:02:09] **Laura Frontiero:** I know. I know.

[00:02:10] **Evan H. Hirsch, MD:** I love it.

[00:02:10] **Laura Frontiero:** So funny. So funny. Yeah. So we both love mitochondria. We both love detoxing the body. We both love helping people, high performers boost up their energy. Yeah. It's good stuff.

[00:02:20] **Evan H. Hirsch, MD:** Amen. Yeah. So we're gonna be talking about your mi-, your mitochondrial matrix and your, and your model. So let's start off first. Let's set the stage for folks who aren't that familiar with what mitochondria are

[00:02:32] **Laura Frontiero:** mm-hmm

[00:02:32] **Evan H. Hirsch, MD:** can you please explain it to us? And then what does mitochondria do to support our.

[00:02:37] **Laura Frontiero:** Yeah, I think the best way to talk about mitochondria, I'll use some analogies. I like to stay away from the high level scientific jargon that everybody wants to go to sleep and when they hear it. So I really like to talk in analogies and really help you understand the mitochondria that way. But let's. Let's start off by talking about mitochondria's job. they, they do have a job in our body. They have several functions, but the most widely researched and understood, uh, is basically their purpose of making most of your body's energy around 90%. And until about 10 years ago, we thought that was kind of all they did. Uh, but then we learned otherwise that they actually have a lot of functions that are, you know, important in almost every cellular pathway in your body. Everything from hormones to brain to, um, digestion, you name it, mitochondria play a role, immune system. So lots of functions of mitochondria, but I like to think of mitochondria as our life force because of that responsibility they have for energy production. They're known as the powerhouse of your cells. They create an endless supply of energy. So if you think about. If mitochondria ceased to supply energy, we cease to exist. Right Evan?

[00:03:50] **Evan H. Hirsch, MD:** Mm-hmm .

[00:03:51] **Laura Frontiero:** Yeah. Now I like to think of energy as two types. Um, and this is a Laura-ism, okay. This isn't a scientific thing. This is how I explain energy to people. I like to think of energy, like physical energy and invisible energy. So physical energy is like the energy that you feel when your eyes wake up in the morning, you open your eyes, lift your head off the pillow, and either you have energy to face the day or you don't, or the energy you have after lunch. It's one, two o'clock. And you've got that afternoon run. And, you know, I mean, you have a run of things to do, not, not a run, like a jog, but you're, you're running every day with everything you've got going on. So you're looking ahead at your afternoon and maybe you're thinking I don't have the energy to do this. I just need a nap or maybe you have fantastic energy. And then nighttime hits it's evening. And either you've got energy to come home and create, you know, a meal for you and your family and spend some, you know, quality time with your family. Or maybe you just don't, you just wanna check out and, you know, go on social media. For the next couple hours because of your energy, that's the physical energy we feel. And then there's this invisible energy that runs every function in our body. So you need energy for your brain to communicate with your little finger, to move it. You need energy for, for, to digest your food. You need energy to assimilate hormones and to create vitamins in your gut and, um, energy to, to pump, you know, blood around your body. To move your lungs. So that's the kind of invisible thing that we don't. We don't experience. We don't know what's happening. It just is now ATP adenosine triphosphate that's probably the biggest word I'll use on this talk today. That's the unit of energy made by our mitochondria. So think of that, like a currency, like a do like a dollar is the US currency. So ATP is the currency of your body and it costs you a certain amount of ATP to do every function in your body. So whether I'm wiggling my finger. Maybe that costs five units of ATP. And I'm sure there's a scientist that can tell me exactly how many units of ATP that costs there somewhere. There's a chart that explains that. and then it costs me a different amount of energy to get up and walk across the room. It costs me a certain amount of ATP energy to digest my meal. It costs me a certain amount of ATP energy to, um, have a heart contraction to pump blood. Cost me a certain amount of ATP energy to take a breath. So that's the currency and we always need to be making more of it and we're spending it. so that kind of gives you an idea of what mitochondria do, what they're responsible for the perfect circumstances inside your body need to happen. in order for your mitochondria to make that currency, that ATP every day

[00:06:39] **Evan H. Hirsch, MD:** mm-hmm

[00:06:40] **Laura Frontiero:** and a crazy fact you make about your body weight and ATP day after day after day, it's constantly happening. It's constantly going on. So the way that I like to explain, um, mitochondria function at this point, or the mitochondria, how they live in our body, I like to think of about living conditions, the location in your body and their function. And I like to use the analogy of a house plant. So you with me?

[00:07:06] **Evan H. Hirsch, MD:** I'm here

[00:07:06] **Laura Frontiero:** Okay. We're gonna, we're gonna do a house plant analogy. Um, So in terms of living conditions. So three, three things that are important for mitochondria, where they live the location or their living conditions, the location in your body and the function that they have because different mitochondria have different functions besides making ATP energy. So mitochondria and house plants are actually a lot alike in a few ways. They both need clean water, sunlight, and nutrition. So think of that, like living conditions, this is very important. Given the right conditions, your house plants will thrive. They'll grow. They'll reproduce. They'll make baby little house plants. And so do your mitochondria. That's called biogenesis with your mitochondria and just like house plants. Mitochondria are super fragile. If you withhold what they need. They will die or they will malfunction. So if you're not eating properly, if you're not getting sunlight, if you're not getting exercise, if you have a ton of stress in your life, mitochondria are fragile and you will harm them. And, you know, house plants are kind of hard to keep alive too, if they don't have the right living conditions. And the funny thing is we know one of the biggest ways to destroy your mitochondria. Is to have high levels of stress that in itself, isn't funny. But the funny thing is that house plants are the same way. So there's somebody actually did a study that showed, if you talk negatively to your house plants, they're more likely to have stunted growth and just not thrive. And the same for mitochondria. If you are in a stressed environment where day after day, you are being hit with stress, maybe it's at work, maybe it's with, with your significant other or your kids or your neighbors or whatever it is, your finances. If you have this constant stress, you're. Stunt your mitochondrial function. So the next thing I wanna talk about is location. So location, location, location is everything. Um, house plants live in a specific spot in your home. So think about a house plant that likes to be in your moist bathroom or in your bright kitchen or your dark bedroom, or maybe outside on the patio. And then all those. Rooms are in the, in, inside the larger structure of your home. So I want you to think of your body like that. Mitochondria live inside of organs, just like house plants live inside of rooms. So organs like your liver or your heart or your brain or your kidney or. It lungs, any organ in the body, all areas of your body have mitochondria with the exception of your red blood cells. And those organs are in the larger structure of our body. So like the rooms are in a house, the organs are in our body. So you see how simple this is. Everybody's gonna remember this. Everybody's gonna remember this. Um, so like house plants that like certain living conditions, your mitochondria are actually suited to certain areas of your body too. So your brain cells have particular type of mitochondria that are important maybe to help nerve conduction, your heart cells have certain mitochondria that their particular job of helping with heart contractility. They're really good at that. And then your liver mitochondria, they assist in detoxification, for example. So mitochondria have specialized functions depending on where they're at in your body. So basically a liver mitochondria isn't suited to be in your brain. For example, now, third category I wanna talk about here is function. So house plants create life giving oxygen and they help remove toxins from the air. And I don't know if your listeners know this, probably they do because you're, you probably teach this, but house plants help filter your air in your home and you can get expensive air filters and you can also, you know, put lots of house plants in every room and this will help you have fresh, clean air it's quite effective. Certain house plants are better than others. Um, and so similarly mitochondria, they create this life giving ATP energy house plants, life, giving oxygen, mitochondria life, giving ATP energy. That energy, as we already explained, is needed for every cellular function in your body. And plus it assists in detox pathways to keep your body flushed of toxins. So I haven't figured out yet how to connect house plants and exercise cuz you're mitochondria like that. So that's where my analogy stops. Unless you have a good- unless you have a good analogy.

[00:11:12] **Evan H. Hirsch, MD:** I don't.

[00:11:13] **Laura Frontiero:** Yeah. So there you go. There, you have it. There's my simple explanation of mitochondria. I can remember when I was in biology class, I was having a whole bunch of fun, you know, dissecting things and, you know, using Bunsen burners and whatever the heck we were doing. And as soon as we learned the CREB cycle, I can still remember that week, I checked out. If you would've told me, 16 year old me that I was going to be an expert in mitochondria someday. I would've laughed at you. because that was the hardest thing for me to do was learn the CREB cycle. I can remember just how confusing that was, but if my teacher would've taught it like this, it would've been a lot easier.

[00:11:46] **Evan H. Hirsch, MD:** It would've. Yeah. Yeah. I remember in, in medical school I had to write it out. That's kind of like the way that I learn, I had to write out

[00:11:54] **Laura Frontiero:** mm-hmm

[00:11:54] **Evan H. Hirsch, MD:** thousands of times in order to be able to get it into my.

[00:11:57] **Laura Frontiero:** Yeah. Yeah. Now there's a few, I didn't mention the other functions. I told you that over the last 10 years, I'll just touch really quickly. there's the, you know, mitochondria function with the cell danger response. They have this critical role in cell defense in defending the body against threats. Um, there's a few other functions, calcium homeostasis, calcium is stored inside your cells and mitochondria help release and store the calcium molecule in the cell. you know, mitochondria promotes cell growth and multiplication. They, they give the instructions to your cells to go ahead and, you know, replicate they're responsible for cell death, which is really important. Apoptosis is this program cell death, and, um, you want cells to die off and get rid of ones that aren't working any longer. That's, you know, mitochondria responsible for that. They generate oxidative radicals or free radicals, um, reactive oxygen species. So they get a lot of bad rap because when you're chronically inflamed, you create a whole bunch of these guys, but they're actually really good in an acute inflammatory response. They help kill off, you know, whatever's attacking you. So mitochondria responsible for that, they're responsible for nervous system function. Um, heat production to keep you warm. It's called non shivering thermogenesis. Um, there are organs and metabolism. So we touched on the CREB cycle in biology class. how much we love that. Um, so yeah, mitochondria do a lot of stuff. Do you have anything to add to why we love mitochondria? Evan?

[00:13:19] **Evan H. Hirsch, MD:** I think you hit on all of.

[00:13:21] **Laura Frontiero:** Okay.

[00:13:22] **Evan H. Hirsch, MD:** My next question is about how that relates then when, when things aren't working well and you get into chronic health conditions, what does that look like? Or why does that happen?

[00:13:33] **Laura Frontiero:** Yeah, this is something you specialize in so much with all of your programs as well. This is why you're so amazing. Um, so when we think about mitochondria, the link between mitochondria and chronic health problems, you really have to highlight first how we damage them. And this is one of the things that you help in your programs that you help people recover from. So there's two things that we don't have control over in terms of mitochondria damage. And we have to start there because it's a cascade, mitochondria are damaged, and then there's a cascade of problems that occur after that. So the first two things that you don't have control over are your genetic predisposition you don't, you know, you can't control the DNA you are born with. However you. Control genetic expression. So based on how you live your life is at what, how your genes are gonna respond. So your genes are like a think of it like a light switch that turns on and off. If everything's going great and you're living, you know, your best life healthy, you can keep that gene, maybe you have a gene for a particular disorder. You can keep that gene shut off with a healthy lifestyle. As soon as you start, you know, picking up habits that, that compromise, you might turn that switch on. And all of a sudden you've got a disease process that you had a genetic predisposition for. So you can't control the genes you're born with, but you can control how they're expressed to an, to an extent. And the other thing you can't control is aging. Every day, we're a day older and that's just it. That's the way it is. Everything else we can control. So that is our light, our sedentary lifestyle, whether or not we exercise a sedentary lifestyle hurts our mitochondria. Our diet hurts our mitochondria. So sugar processed food, non-organic food that has pesticides, you know, processed. oils that are, um, that are rancid, um, preservatives in food, all of that, um, nutrient deficiencies, we do have some control over that. If we're not eating food that is, um, replenishing our nutrient needs. Now there's some reasons for nutrient deficiencies as well, like confections and toxins, but we do have some, some control over that. we have control over our stress. We have control over sleep, quite a fair amount of control over that. Um, so then there's this other piece that we do have some control over because we can clear it up. I mean, if we get exposed to an infection, like maybe we couldn't, we couldn't control that, but infections viral things like Epstein bar, hepatitis herpes, a bacterial commonly in the gut, in the urinary tract. So we get these chronic bacteria infections that are just smoldering there. Fungus like candida and then parasites, which can go out of our gut and actually live in any organ and anywhere in our body, um, environmental toxins. So whatever we're putting on and around our body and using in our home from our hygiene products, to our cleaning products, to toxic candles and air fresheners and whatever pots and pans we're cleaning with, or eating with cooking with, and whatever, we're storing our food in, um, radiation and electromagnetic fields. We. Fair amount of control over that. And, um, how we handle that in our homes and how, how exposed we are. Um, other toxins like heavy metals and our exposure to that. We have control over, uh, mold and micro toxins. We might get exposed to it. Um, but we can also be conscious of looking for that and, you know, working with a practitioner to find those microtoxins in your body and assisting you to remove them. So all those things lead to chronic inflammation and mitochondria decline. And that leads to the, so that's the beginning of the cascade. So that's step one is you're just hurting the mitochondria with all those things. And this leads to what we call metabolic instability. So that's characterized by lower energy production. So back to that ATP energy currency that you are constantly making all day, every day, you get lowered production of that. And you get increased metabolic waste, so your cells are releasing damaging free radicals and waste. That needs to be carried away by your detox pathways. And you get this increased oxidative stress and antioxidant production goes down. Antioxidants are protective to us, so that leads to the next step in the cascade. So you have this dysfunction where you were starting with metabolic instability. Now you're going to metabolic inflexibility. So that means you have the inability to respond to a metabolic demand and choose your best fuel source. So remember your mitochondria help with, um, fuel production and we make fuel from either, uh, keytones fats or from sugar glucose. And so when we are inflexible, We aren't able to burn or to create, to create energy from keytones burning keytones is a really high quality way to make energy. It's kind of like when you think of a car and you're putting, um, you know, super unleaded gas in it versus regular, you're going to have less emissions. You're going to have a tighter. Uh, higher performing engine. That's what happens when we burn keytones over glucose. So when we're

inflexible, we just start burning glucose and it creates, um, it creates damage throughout the body protein damage and increased oxidative stress. And then the final step in that cascade is chronic disease. So it's interesting, Evan. I always. We have a name for mitochondrial dysfunction. In, in fact we have several names for it. So we call chronic mitochondrial dysfunction, heart disease, cancer Alzheimer's and Parkinson's metabolic syndrome. Lou Gehrig's disease, muscular dystrophy, epilepsy, um, autoimmune disorders, autism. I mean, we could go on and on chronic fatigue syndrome, all of this is at a very high level. What it is, is the final step in the cascade of mitochondrial dysfunction. And in, along the way, when, before we get there, you might experience hormone disorders. You might experience more susceptibility to infections. You might experience low energy or fatigue. You might experience, you know, poor balance and poor coordination. You might have digestive problems like diarrhea and constipation. You might have elevated liver enzymes and liver dysfunction. There's a whole bunch of symptoms. You can have migraines, respiratory problems, but once you get to that final level of the cascade, that is when you have full mitochondrial decline.

[00:19:54] **Evan H. Hirsch, MD:** Thank you.

[00:19:56] **Laura Frontiero:** That's a lot.

[00:19:57] **Evan H. Hirsch, MD:** It's a lot. And so, and you also talked about cell danger response. Can you talk about that a little bit more and its relationship to the mitochondria?

[00:20:04] **Laura Frontiero:** Yeah. I mean, this is a, this is a fun topic, right? So we didn't even know about the cell danger response. Um, you know, 10 years ago, this is, this is something that was identified and cell danger response is very interesting. one of the things I like to talk about with cell danger response is. When you have an intruder coming into your body, like a virus, like the virus we've been dealing with for the last couple of years, one of the big, um, symptoms that we get. Low low energy when we are fighting any kind of chronic or any kind of acute, um, um, infection. And one of the reasons that happens is the cell danger response. So your mitochondria do a couple of things. Number one, they put out a bunch of reactive oxygen species to help fight, to battle the infection. And they also shut down your ATP energy production. And one of the reasons for that is because whatever infection that's in your body. It's going to use your resources to replicate and to take over. And so your mitochondria say, whoa, whoa, whoa, immune system. We've got a problem over here. Here. You need to start invading and mitochondria energy production, we're bringing that way down because we don't need that virus or that bacteria or whatever is attacking us to take that energy so it can replicate. So you get this shutting down of energy and that is part of the cell danger response. Now, I like to think we all know about a fever being, um, Mechanism an immune system, um, response for us to fight an infection, we wanna burn it out. So we have this fever to help burn out the infection. We also have this mitochondria response to shut off energy production, to help starve out the infection. So that's really incredible that our body is so smart that it can do that. And that our mitochondria are literally at the control center. And once everything's safe again, it says, okay guys, Ramp back up, we're gonna make energy. The problem is if you have chronic smoldering infections that are no longer acute, they're just there all the time. Like parasites, like Lyme disease, like, um, like Epstein bar virus, like whatever it is that's chronically inside of you, then you have this chronic cell danger response where you just can never get your energy up.

[00:22:34] **Evan H. Hirsch, MD:** Amen.

[00:22:35] **Laura Frontiero:** Yeah. Yeah.

[00:22:37] **Evan H. Hirsch, MD:** So then let's, so then. Somebody comes to you and they're in that situation, how do you restore their mitochondria?

[00:22:45] **Laura Frontiero:** Well, there are many steps to restoring mitochondria and I'm sure you and I would both agree that if we don't first assess and support gut microbiome health, we're gonna have a long, hard road towards healing somebody and getting their mitochondria working again. So at the most basic level, Your gut processes, the food and food is fuel. And your digestive system, you know, breaks down that food into its smaller parts. So vitamins minerals, macronutrients, which are your fat, protein, and carbs, and all cells in your body, including the mitochondria inside the cells need those nutrients to survive. So when we have gut dysfunction and leaky gut were more likely to have deficiencies and when we have leaky gut, we're more likely to develop food intolerances to healthy foods. So then we avoid healthy food groups entirely that could be providing nutrients that are mitochondria need, um, because those healthy things are now all of a sudden making us feel bloated or achy or brain foggy or tired. We end up with reduced absorption of nutrients from the inflamed gut lining. We have this higher need for certain nutrients due to constantly needing to repair our intestinal lining. And for some people they get nutrient lost because they have diarrhea. So the very opposite of a constipating gut problem. So we get this increased permeability in dysbiosis. So you must address gut and then the other things you can do to heal and restore your mitochondria are all the wonderful things that you and I teach in all of our programs. And in our, in with the clients that we work with is how to eat a healthy nutrient, rich diet. How to do things to restore mitochondria, like intermittent fasting when it's, you know, when is a good time to use keto, we teach this because keto can help support and get your mitochondria going, um, doing the right kind of exercise that will support mitochondria. When you're in mitochondria decline, you don't wanna be, you know, doing really hardcore training that's over the top. You have to do more gentle exercises that your body can handle. Uh, we teach the importance of reducing stress in your life to help reduce inflammation, getting a good night's sleep, getting sunlight. There are, you know, wonderful, uh, positive stressors you can do, um, called hormetic stress for your mitochondria, like red light therapy, like cold exposure, or, you know, Cryotherapy or cold baths or cold showers. and then there's a whole bunch of supplements we can use too. And I'm, I'm sure if we had more time, we could go into that, um, at some point, but these are all things that you teach too, Evan in all your programs, that's how we restore them. And you know, I think that both of us agree that foundationally, gut health and mitochondrial health for all health problems. We have to address those things. If you don't address those key pieces, if you don't support mitochondria health in any healing protocol, then it's gonna be a long road. I, I, I like to call myself a ninja. I put mitochondria support in people's protocols, kind of in a ninja way where, you know, they don't even realize that we're supporting mitochondria as we go

[00:25:43] **Evan H. Hirsch, MD:** mm-hmm ,

[00:25:43] **Laura Frontiero:** but it has to be done. It has to be in there. When you choose your supplement protocols, you gotta put the mitochondria support in there.

[00:25:50] **Evan H. Hirsch, MD:** So what's your thought on this? This is something that I kind of struggle with where okay. If we know that an infection is, is essentially taking over production of the mitochondria and the mitochondria is kind of shutting itself down with like the cell danger response.

[00:26:03] **Laura Frontiero:** Yeah.

[00:26:03] **Evan H. Hirsch, MD:** And then we go ahead and we're gonna give it some, some mitochondrial nutrients and the, uh, C carnitine or some cocuten or something like that to boost the mitochondria back up.

[00:26:12] **Laura Frontiero:** Mm-hmm

[00:26:13] **Evan H. Hirsch, MD:** are we increasing the, the function of the infection? I don't know. Well,

[00:26:19] **Laura Frontiero:** that's a great question. And I think this is why we run simultaneous, uh, supporting and killing. I don't know a better word to say it, but killing protocols simultaneously. At some point you have to start killing off some of that infection, right? You have to hit it, but if you hit it without giving the support, you'll drop somebody's energy even further, and they won't be able to function in their daily life. And so this is a huge question and I don't know the answer is. Um, I feel like just in terms of the amount of people that I've worked with and, and what we see work, I think that we win in the end by supporting the mitochondria and lifting that energy level. Yes. That infection might have a little go at that ATP energy. However, at the same time you're treating with a protocol to knock those mitochondria down. You're also supporting the immune system to do their job. And so. If you can get to the get, just to the point where the immune system can get an edge. I think that it then it's downhill from there. And I rarely, I mean, every once in a while I work with someone where the usual doesn't work and then we just have to figure it out. We have to try more, maybe do some more investigation, maybe do some genetic testing to figure out what is special in their body that they might need. Do you have a special approach that you use?

[00:27:42] **Evan H. Hirsch, MD:** Well, I was gonna say, you know, I definitely, you said that very well, and I definitely agree with you. I think that the, um, I think that by, by boosting the mitochondria that everything works better. You know, and so yes, immune health and hormonal health and all this sort of stuff. So yeah, you have to do it at the same time while you're killing off the infections. But yeah, if you start killing off the infections, you get die off, you're gonna damage your mitochondria more and you've gotta have it back online. I think that the protective mechanism of the cell danger response and kind of like shutting down the mitochondria ends up having these negative consequences that the body was looking for, prepared for, right. And so we do have to bring it back online. I would definitely agree with.

[00:28:24] **Laura Frontiero:** As long as like, so here's, what's, here's where I think people go wrong. If you, if all you did say was run an organic acid test and you saw, oh, you got kind of, you're in a, kind of a hypo metabolic state here, your mitochondria aren't working very well. Let's boost them up. But if you don't run simultaneous, let's go do some toxin testing. Let's go do some gut testing. Let's see what's actually in here. If all you do is give people a, here. "We're gonna give you these mitochondria energy boosting protocols" without simultaneously searching for the root cause. That's where we run into trouble. So I know you and I are all about root cause. Um, and identifying that and eliminating that otherwise we're doing no better than the allopathic Western medicine world, which I worked in for 20 years. We're just trading one prescription pad for another. So we go from prescribing drugs to help with, you know, your energy or your depression or whatever it is. And now we're just giving you supplements to do that same thing. We're still ignoring the root cause and that's where we run into trouble. So when you're working with a practitioner, make sure that they're root cause focused and the root cause is not you have a Coq 10 or B vitamin deficiency. That's not the root cause. Toxicity causes deficiency infections, cause deficiency. There's something else there that's causing the problem. And you have to go look for.

[00:29:41] **Evan H. Hirsch, MD:** Yeah, well said. And I think that oftentimes people will say, you know, I took this mitochondrial support and it worked for a couple of days or a week, and then it stopped working.

[00:29:50] **Laura Frontiero:** Yeah.

[00:29:50] **Evan H. Hirsch, MD:** And it's because of this exact thing that we're talking about where potentially it's feeding something else or an infection that's inside the cell that's using that mitochondrial machinery, um, starts taking over again.

[00:30:01] **Laura Frontiero:** Takes over. Yeah. It's like hostile takeover. Right.



[00:30:06] **Evan H. Hirsch, MD:** exactly. So that's really helpful. So, so in terms of the gut health, um, you know, I've, I've, I've seen a lot of people spend a lot of time on gut health

[00:30:16] **Laura Frontiero:** mm-hmm

[00:30:17] **Evan H. Hirsch, MD:** and it turns out that they've got mold that's costing like gastroparesis. Right? So then how do you balance. and so consequently, like you can't get that gut health better un- until you get rid of some of these toxins that we've been talking about. So how do you balance those two where you're getting rid of gut health and you're also removing the toxins?

[00:30:34] **Laura Frontiero:** Well, I think it's possible to do it at the same time. I tend to run the protocols simultaneously, so I will start. So my always my goal when people come to me is to give them some quick wins. Because if you're winning, you're motivated to do more. And if you're winning at your health, if you're starting to feel energy, go up, some of those digestive symptoms go away, then you're being more productive in your life. You're being more present with your loved ones you're being, um, you're just being a better version of your yourself all the way around. And so once you start feeling that it helps with motivation. Then what I do is I say, okay, let's dig a little deeper. Let's go find, you know, Are there microtoxins in there? If it's mold, we can actually simultaneously run, uh, removal of microtoxins and binders. We can give binders while you're supporting gut health while you're killing off, you know, parasites or whatever it is. And you just have to here's the thing. If you're trying to do this on your own, it's very hard. You have to work with a practitioner who can assess you. And this is why I love working in group programs where I'm there, you know, week in and week out. And I know you run group programs too, where you, you get to see people week after week, and they can check in with you and say how you're feeling. And you can say, okay, push on this and pull back on this. Based on how you're feeling right now. It's better than seeing us once a month or once every three months. Right? So if you can be in a group setting, you can actually run a microtoxin protocol and a gut protocol simultaneously and tailor it to each person based on how they're feeling. It just takes the person showing up and participating in their own health. They have to show up to the, to the calls. They have to show up and say, and raise their hand and say, this is how I feel today. What should I. And then everybody, everyone benefits, but I find do you run them simultaneously as well?

[00:32:22] **Evan H. Hirsch, MD:** Yes.

[00:32:23] **Laura Frontiero:** Yeah.

[00:32:24] **Evan H. Hirsch, MD:** Yeah. And I think that you make a very good point that, you know, a lot of people, when they come to see us, they've seen a lot of different practitioners and they're like, just fix me.

[00:32:33] **Laura Frontiero:** Mm-hmm.

[00:32:33] **Evan H. Hirsch, MD:** And the reality is, is that yes, you have to, you have to take, um, a baby step every single day. Right? You've gotta move forward on your own. We're gonna meet you there and we're gonna, we're gonna help you, but we're not gonna be able to carry you the entire way. We're gonna have to walk arm and.

[00:32:47] **Laura Frontiero:** Oh a hundred percent and people do better in community as well. I find that I've worked with a lot of people on a, you know, high level, VIP, private clients. And it's so interesting. My group, my group clients have a whole different magic about their recovery. It's so different. It's so different because they are. They are in, in, in an experience with other people going through the same thing and community just makes a huge difference. I don't, I just love, I don't know how I got off on the tangent talking about group programs here. I just think it works better. I think you can run simultaneous protocols easier when you have touchpoints with people more often. And the only way you can do that is one to many, because there's not enough of me or you to go around seeing every single person we work with every week, but we can touch a whole bunch of people at one time in a group setting. It's really amazing.

[00:33:36] **Evan H. Hirsch, MD:** Yeah, no, I'm a big fan for sure.

[00:33:38] **Laura Frontiero:** Yeah.

[00:33:39] **Evan H. Hirsch, MD:** So, um, where can people, well, you've got a gift for our community, right? For our listeners.

[00:33:46] **Laura Frontiero:** Yeah. We have the mitochondria summit coming up. Mm-hmm and this is really exciting. So you'll drop a link for that. Um, it's the restore, your mitochondrial matrix. Evan, you are one of our big contributors and speakers on this summit. You have an amazing talk and you're talking all about energy, cuz you are the energy MD. So, so you're breaking down how to get more energy and. So come see us on the summit. It actually, uh, starts day one on August 23rd, and we'll run for eight days and you'll have, believe it or not, we have 70 contributors, 70 experts talking on this summit. It's absolutely extraordinary. The amount, the wealth of knowledge and just the wealth of, you know, Generosity and love that all the speakers poured into this, including you. I mean, you, everyone gave it their all to just give people the resources and the support they need. So we're covering all things. Chronic disease, mitochondria energy, brain, stamina, gut health. It's all there.

[00:34:45] **Evan H. Hirsch, MD:** That's amazing. So amazing

[00:34:47] **Laura Frontiero:** good stuff.

[00:34:48] **Evan H. Hirsch, MD:** And then you also have a, uh, uh, free gift for our audience, the gut health kickstart, right?

[00:34:54] **Laura Frontiero:** Yeah. Yeah. So gut health kickstart. Yep. It's gives you all the foundational information you need to know to get your, uh, gut to start healing it, all the thing you ever wanted to know everything about prebiotics, probiotics. Postbiotics what does all that mean? How do you do it naturally? How do you do. Supplements, what should you be eating? What should you not be eating? What are your non-negotiables? What should you absolutely take outta your diet? What's okay to leave there. It's a pretty robust, um, ebook for you that gives you all this broken down.

[00:35:23] **Evan H. Hirsch, MD:** Sounds amazing for sure. Yeah. And then if people want to go learn more about you and your programs, where's the best place for them to go.

[00:35:30] **Laura Frontiero:** That would be [laurafrentiero.com](http://laurafrentiero.com) and the spelling of my last name is like the great frontier with an O on the end. You can remember that.

[00:35:39] **Evan H. Hirsch, MD:** nice frontier-o

[00:35:41] **Laura Frontiero:** that's right. Pretty simple

[00:35:43] **Evan H. Hirsch, MD:** so awesome. Well, Laura, thank you so much for joining me today and educating us all about

[00:35:47] **Laura Frontiero:** mitochondria. Thank you so much for having me Evan, and look forward to seeing you on the summit.

[00:35:51] **Evan H. Hirsch, MD:** Yeah. I hope you learned something on today's podcast. If you did, please share it with your friends and family and leave us a five star review on iTunes. It's really helpful for getting this information out to more people who desperately need it, sharing all the experts I know and love. And the powerful tips I have is one of my absolute favorite things to do. Thanks for being part of my community. Just a reminder. This podcast is for educational purposes only, and is not a substitute for professional care by a doctor or other qualified medical professional. It is provided with the understanding that it does not constitute medical or other professional advice or services. Thanks for listening and have an amazing day.