Chronic Fatigue Decoded: From Lifestyle to Mitochondria Transcript

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Podcast Introduction and Root-Cause Health

Your genes hold the answers to your family's overall health. I'm Dr. Paula Kruppstadt and on the Get to the Root with Hope for Healing podcast, I sit down with experts in genetics, functional medicine, and family care to explore what's really going on beneath the surface so you can stop guessing and start healing.

From personalized insights to practical tools, we bring you whole family wellness that starts at the root. Okay, so one of the most common things that we are seeing in today's society and the questions that get asked is, why am I always so tired?

Right? And so the question we have is when patients say they're tired all the time, is there some way for us to differentiate like what could genuinely just be normal tiredness and like true fatigue?

Yes, that's a great question. Lifestyle plays a huge factor in this, and I just want to just very briefly talk about that. But how much water are you drinking?

I mean, number one, if you're not hydrated, you don't move acid out of your cells. Number two, sleep.

Lifestyle Causes of Fatigue

And we're going to do a whole episode on sleep, but I think one thing that is really important is going to bed at the same time and getting up at same.

And if people struggle with sleep, there are things that can help with that. Let me see here. Also as far as, as fatigue goes, we always need to think about infection.

So, you know, if, people have infections that are leading to that and we, things such as dental infections, that our chronic. and also viruses because some people have gotten mononucleosis which is Epstein-Barr virus when they were younger and then it gets reactivated and that can happen.

The other thing to remember is that what makes us tired. So we have these things in our body called mitochondria and I think about those seventh and eighth and ninth graders learn about this.

They're the batteries or the powerhouses of ourselves. They make energy called ATP. So if your mitochondria don't work correctly, you can be tired. And then when we think about environment, so if you live in a place that has a profound amount of water damage where overflowed toilets, flood leaks, that kind of a thing that poisons your mitochondria.

That can just make you uber tired and poor nutrition. If you're not giving your body the things it needs. So one of the big needle movers with fatigue is colors, phytonutrients, that's things from plants.

So there's a lot of lifestyle in this, but there can be biochemical issues leading to fatigue. So I really love what you're breaking down, especially because a lot of the model that we use and a lots of things that incorporate are like the health coaches, right?

And so if someone is coming in with fatigue, it seems like a a of those lifestyle resources and lifestyle modifications can be made alongside a health coach to kind of optimize what the body is doing.

And then I love that you talked about, like, now there is this list of other things that are actually going within the body. So it's not just that you're not fueling yourself, it is not that your just not sleeping.

You're doing all of that and it still not moving the needle. And so I really love that. I'd really like to just like dive in and unpack that I think a big question we have though, and I maybe this is something that a lot of us are prone to do and in a society that's constantly saying give us more and a more achiever society, is that why is it so important that we don't just ignore the fact that were tired?

Like what is important and why it is for us to pay attention to our fatigue rather than just push through it constantly? The fatigue is your body's way of telling you something is not right, something's out of balance.

Why Fatigue Shouldn't Be Ignored

And if you push yourself too far, you'll get sucked into this vortex and you won't be able to get out it. That's where we don't want to drain our resources.

People talk about adrenal fatigue. Well, our adrenal gland creates hormones that help us to navigate stress. Here's one very, it's not that rare, but Everyone hears about high cholesterol.

Well, there are some people that have low cholesterol, and if they have a low-cholesterol genetically, that's the raw materials for our adrenal gland to work.

It's actually much more common in children who are not normal neurodevelopmentally. So on the autism spectrum, ADD, ADHD, even though they seem like they too much energy.

So checking the cholesterol to make sure that it's normal, I would say anything above 130. Okay. And you would never think to check that though, right?

And I love the way you said it. You're like, it's not that it is uncommon. It's just that is not checked. And, I think that's really the functional medicine approach is that like no, is it not an uncommon situation.

People just don't think like oh, you know what? I'm sleeping. Well, check your cholesterol, right? It is just not, like you don' t put those things together.

So I really love that. The other big thing that people go to is your thyroid gland, because your gland is here in your neck, but it gets its signals from the brain.

In fact, out of the anterior pituitary, there's a hormone called thyroid stimulating hormone. And then that sends signals to the thyroid gland and there's several hormones.

One of them is called Free T4 and FreeT3. And your Free-T-3 is the hormone that crosses into your cells and drives your metabolism. So if your free T3 is low, you could have an iodine deficiency.

So we tend to check that on patients that are eight and older. You can get 2% Lugol solution that is an Iodine solution and put a little quarter on your skin or put like a two inch by two-inch patch on your thigh.

And I just have people put a drop and then turn the dropper on its side. It's glass. Do that, then pat it and your skin will absorb it. That patch should last 12 to 18 hours.

If it's gone before that you're iodine deficient and that could be causing you to be fatigued. The other things with thyroid is people think about their hair becoming really dry or brittle, their skin being very dry, or developing constipation, gaining weight, not losing weight.

Thyroid, Cholesterol, and Hormone Testing

So you got to look at that too. Cholesterol, the fuel for the adrenal gland, because that's where your cortisol and your mineralic corticoids are made.

You can also ask your practitioner to check something called pregnenolone. Pregnenolone is a breakdown product of cholesterol, and your cholesterol may be normal, but your pregnenoline may low.

So it should be 60 to 150. If your body is over stressed out in your cortisol, cortisol is the stress hormone, so you're stress, stress stress because that's another You know, it's our life.

If your pregnenolone dips, It can be stolen and made into cortisol. And so we call that the pregenolones steal. So we check that too. Sometimes just adding the Pregnenolon really helps with fatigue and resiliency and the ability to get back on the wagon and go again.

So thyroid, and of course, you know, drinking enough water and speaking of that, I'm going to take a sip. Absolutely. Mouth is a little bit dry. And that's what I was saying, so we're kind of going all over the place.

So what if we start by just saying like, okay, what does water have to do with fatigue? So if you don't drink enough water, whenever your cell carries out a function, you're unable to take the debris out of it.

So think about when you exercise and you build up lactic acid and your muscles ache, if then that acid stays there, your muscles, you're sore, and it's prolonged.

And that leads to fatigue. Well, that's happening at a microscopic level. So start with water to move the acid out of the cells. Parents, family members, if you look at your weight in pounds, try to drink half of your body weight, in ounces, a day.

So take your weight in pounds. If it's 100, then 50 ounces a days is how much water you would want to be drinking. That's why water is important to decrease Fatigue, fatigue.

Okay. So another one of the things that you mentioned earlier in the podcast was nutrition and the thing that eat. And I feel like that can feel a no brainer, but can you maybe talk through some of them or technical reasons of fueling our body and like maybe what we need to fuel it with for someone who is struggling with fatigue?

So when we think about phytonutrients, meaning things that come from fruits and vegetables, it's not the quantity of what you eat. It's the variety because these ingredients from various fruits, and each color does something different, but it fuels different parts of the cell, especially the mitochondria.

So, you know, I'm thinking for your children, if they're tired, make sure they are getting enough water and be sure that they get enough rest and you're not running them to too many activities.

Take the pressure off. Why are you doing all these things? Why you going to soccer and dance and all of these other things. It just puts undue pressure.

Hydration and Nutritional Support

And it's like if it is your first kid, you are like, well, our neighbors are doing horseback riding at the Y. We need to do it too. Or what about dance?

I need do dance. All you're doing is stressing yourself out and stressing your child out. So what really matters being present and being with them. Let's go back to what those things do.

One of the things we'd be happy to give people that send a query to us on the podcast is something called the phytonutrient spectrum. It has all these special little things that you can get your kids involved in and making your own recipes at home.

So for example, blueberries, red raspberries, a piece of cantaloupe, pomegranate seed, piece tomato. It's not how much, it's just the variety. And so sometimes because children don't like trying certain things, its just offering it because typically in the pediatric population, you need to offer something 12 times before a child will try it.

If they do it before that, then thank God and move on. But, you know, great things too. Now, um, You asked about nutrition. So here's another thing. Our mitochondria needs something called carnitine.

And carnatine shuttles fatty acids across the membranes of mitochondrion to make them work. So that's where grass-fed beef, wild game, chicken, poultry, this is where kind of carnivorous food plans work very, very well.

Animal proteins, they feel the mitochondria. Also, eggs. I mean, eggs, you know, for the longest time, the American Heart Association said, don't eat eggs.

And it's like, then they came back and said no. Eggs are good for you. Just kidding. Yeah. It's just like come on, make up your mind. So, real food. As parents, we need to be intentional about that because just because a kiddo doesn't like the texture or the taste of it, Maybe you need to get a juicy piece on the inside of a piece of chicken, not that outside that might be dry, and cut it up into a little pencil eraser size.

You know, some kids will eat steak till the cows come home and they may be really little. I'm thinking back to my 26-year-old. She was in a high chair.

And she knew how to sign and we were giving her little pieces of steak and she was just like more, more more. You know, just eating, eating eating. But then you have some kids that snub their nose at it.

Another easy way for parents to try to get nutrient dense meats is it's called the ancestral blend. Whole Foods has something like that. But also, for example, here in Texas, we have a grocery store chain called HEB.

And they have the Ancestral Blend and they'll take organ meat or they will take a little liver or a kidney, you know, and then they put that and grind it up into Yeah.

And you're getting all these amazing nutrients. For example, the liver, you have ferritin, iron, B12, and B9. I really love, like, all of the different things that you're saying.

And so what I hear, and maybe you can impact this a little more, what i hear you saying is the proper nutrients, that if we're not getting those nutrients then what is our body running on?

Like, What is it actually? What Is the fuel that we are putting in our bodies? And maybe You can Impact how our Body uses those things. Yeah. So if you're not giving yourself enough protein, then you'll start breaking your muscle down.

Okay. And if your a carbaholic and you know, some people are wired not to be able to pull sugar into their cells. Those are people that are hangry and they get upset if they don't eat frequently.

They want those carbs because it's an immediate glucose hit. But if you don't balance everything, you're going to have this roller coaster and you'll get really, really tired and, uh, You'll need more sugar to give you a hit.

And so balancing like fat and protein, avocado, or you take simple mills, almond crackers with a nut butter, like almond butter or a Hebrew national hot dog.

Let the child eat the Hebrew National clean hotdog, right?

Protein, Mitochondria, and Blood Sugar Balance

especially if they already like things like hot dogs, right? So it's a very easy transition over. So the fatigue, if you don't have enough protein in your food plan, then you're going to take all those carbs that you are consuming and make glycogen that's going to build up in the liver, but then you can develop fatty liver because you're just eating carbs.

And then, you are going move toward type 2 diabetes. So, what we want to do is have more of the balance. I'd like

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That's the premier and proprietary genetic panel that Fogran has allowed us to create. You know, we always talk about genetics and this is what I love because no one person is the same.

So on our Wellness Blueprint, it tells us you do best with this amount of protein, this and this amount of fat and or these genes impair your ability to break these things down.

And this is the ratio that you need. Also, this the type of exercise you can eat. It also looks at our mitochondria, all those nutrients that we need to make our mitochondria work correctly.

Think about when you're constipated, you become very tired. It's because you reabsorbing toxins. And that's part of our mitochondrial function in our gut in addition to how well we detoxify.

So if a person struggles with constepation and fatigue, getting regular so that they expel all those toxins out of their body that can build up and shut things down and poison the mitochondrion, we want to get them out of the body.

I really love that you mentioned that. And yeah, if you may even possibly struggle with constipation, there's two episodes that I definitely would check because you also really broke down the signs of constapation that could be missing, right?

And that people could miss. So I would definitely want impact that, I'd definitely check that out. But really going in to fatigue and I sleep eight to nine hours a day and it's just still not cutting it, right?

And that's so hard. You're doing like, one, congratulations, you're getting eight, nine, hours of sleep, but now I'm still constantly fatigued. I know you've touched on the thyroid, I knew you touched different things, that you did talk about mitochondria.

Would this be a good time to talk or impact different thing? Yeah. If a person has non-restorative sleep, let's say they sleep a lot, but they never feel like, like good when they get up and they're still dragging and need a bunch of caffeine to get going.

And let say you take all those other things off the table, you go to your doctor and say your thyroid is fine, your vitamin D, 25 hydroxy is find, all these other labs, cholesterol, you're pregnant alone.

There is a hormone that is made in our hypothalamus, a part of the brain called melanocyte stimulating hormone or MSH. When it goes below 35, A lot of things can happen, but essentially our melatonin production falls and we need meletonin made by our body to go to sleep and to stay asleep because melotonin keeps our bodies cool.

And so if you're struggling. and you're getting eight to 10 hours of sleep, you and this MSH is less than 35. You may have a condition called chronic inflammatory response syndrome.

Okay, so one of the questions that we wanted to talk about was, blood sugar and blood-sugar imbalances, which you kind of reference, does that contribute to feeling exhaustion or just crashing through the day?

And what kind tools can you use if that could be the cause? Yes, so bloodsugar influences your fatigue during the days very, very much. So when you have an inability to pull sugar into your cells, Many times people find themselves eating very frequently.

They have to eat like every two to three hours in order to keep their blood sugar up in their cells. So they think they have hypoglycemia, but if they measured their sugar, it actually might be a little bit elevated because it won't go into the cells, So that's called impaired autophagy.

It's the ability to get sugar from the bloodstream into the cells. And if that impaired, you can kind of know you've got that if you get really angry or irritated until you eat.

One of my children, they're an adult now, but every time they eat after a few minutes, I love you. It's like they get their hit of their glucose and then they feel good.

Constipation, Sleep, and Chronic Inflammation

Otherwise they're ravenous. They're like get out of my way. I'm so hungry. i'm going to chew my arm off. So is there a way to test to see if that could be the cause?

Yeah so there's an autophagy panel that flagran offers. Also you know we always reference this the wellness blueprint but also we offer that because a lot of times that fatigue And that hangriness is tied in with ADD, ADHD, an inability to pay attention, inattentiveness.

So that hungrineness, that's on our neurological psychiatric panel. And then there's an immune, autoimmune panel that also has a little bit of autophagy on there.

But being able to, if you as a human being or you're observing your children, they have to eat every two to three hours or they get upset or grumpy. The other is you can have your hemoglobin A1C checked.

So the hemoglobin A1c is a measure of the sugar attached to your red blood cells in your bloodstream over three years. It's a very simple lab to test.

And if that's where we like it to be is 4.8.2. If it's greater than that, you most likely have a little bit of impaired autophagy. and if you don't measure that you may find out that hey you're pre-diabetic or you know type 2 diabetic.

So the question I have is, what are some red flags or indicators that would make you think that fatigue may actually be driven by something like infection or mold or environmental toxins?

Well, for infection, I would think about pain. Like for example, right now I have a tooth that's going to be extracted a week from Friday. And it died.

I've had some chronic pain and it needs to come out because it's this chronic infection. It kind of comes back here to the back of my neck. Pain is a lack of oxygen utilization and its telling you something.

And so when that is tied to also tired, to look for other symptoms and the ways that those things would connect. Okay. If your body is trying to fight off infection, you're tired.

Because it's working really hard under the hood to lower the inflammation. Now, the second part of the question, Lauren, would you repeat what that was?

Yeah, I think so many times people feel tired. Then they put their pain over here and then they their sleep problems over there. They put all of this and they don't connect the dots.

So you just did this brilliant way of saying like, okay, you're experiencing, yes, your tired, but like what else are you experiencing in pain? So the question I was saying is like the red flags that may make you think that it's more than just a sleep issue, more then just the lifestyle issue but that could actually be driven by infection or the other things being mold or environmental toxins.

Okay. So, I would say that some big red flags, for children of any age, are the inattentiveness, fatigue that's not like other kids. Let's say you take your three-year-old to the park and all the other little ones are running around.

After a couple minutes, your 3- year- old has to sit down. Or your 5- years old, everybody's running like little banshees and your five-years- Got it.

Waking up between two to three in the morning, that's a sign that that master control hormone called melanocyte stimulating hormone is low. Headaches that aren't by any other cause, abdominal pain, and you've ruled out other causes like chronic constipation.

Infection, Mold, and Environmental Toxin Red Flags

Okay. Aches and pains that persist longer than a month or two, these are kids. Now for adults, those things I name too, but if you take your brain fog, your fatigue, and you put it together with abdominal pain, chronic constipation, or diarrhea, tremors, like you feel shaky a lot, you have headaches like migraines, weird pain, pain like ice pick pain.

Thunderbolt pain and it's not related to anything you did, that you know of. Why are you having this stabbing pain in your thigh or your calf? Right. Cramps of your feet and cramps your hands that curl like this.

Yeah, like little seas. Another thing that could point to this biological toxin or mold illness is static shocks. You're walking through your house and you're getting static shocks all the time.

And that has to do with some hormones in the brain and brain chemistry. But the fatigue is the big presenting thing. So you find yourself going to different subspecialists.

You go to somebody for your diarrhea or your chronic constipation. The other is anxiety or depression or panic attacks, because when your endorphins go low, you're tired, can't sleep well, got headaches, and that fatigue and brain fog can be related to what's happening in your brain and your body from that toxin exposure.

Okay, I really love that because you really did just bring in the difference between conventional and functional medicine, which is conventional medicine would send you everywhere where we're saying, well, let's look at all of this at once and start to connect those dots and how they can work together and they could be really speaking to one condition versus all these other things that they'd be sending you to.

So lastly, for someone who's feeling discouraged or stuck in fatigue, what are just some practical tips or where can they start and maybe just kind of go over and putting everything that we've really discussed into like a few simple statements?

You know, that's the thing we all need a shot of hope and just something that can help us. So, so much of this is within your power. That's a theme that we talk about.

You have a lot of power in your kitchen and you can hydrate yourself and move your body. And you can set yourself up for success with your sleep too. And then the quality of the snacks and the food that you give yourself, like having nuts and seeds and grass-fed beef sticks.

We call those chomp bars and things like that. Feeding yourself those kinds of things frequently instead of going for sugar and things like at Starbucks.

Taking care of the lifestyle modifications are within your powers. So hydration, good sleep habits, moving your body, feeding yourself quality food and from the rainbow.

These seem like such basic things, but those are the foundation and that really helps with fatigue. And then If you go to your doctor and you ask for these basic tests, like a complete thyroid panel, even looking for antibodies against your thyroid, vitamin D, your cholesterol, a hemoglobin A1C for fatigue, we also look at vitamin B12 and iron.

Practical Steps and Closing Advice

I mean, if you're anemic, then you can't carry oxygen and nothing works. We mentioned that prognetolum, but you got to go back to the very, very basics.

You know, can't be anemic, okay? Absolutely. Then if all those things are taken off your plate and you also potentially look around your home, you need to find someone who is proficient in chronic inflammatory response syndrome.

That is something that I've been trained in and I'm called a proficiency partner, but all of the medical providers that are practiced practice this type of medicine and we're thinking about that.

Um, so making sure your home is clean and that's not necessarily, it's, not with spore trap testing. So it like you want to ask if someone evaluates a home, if they know what chronic inflammatory response syndrome is and.

That is something to look at. And then of course, we talked about the whole genetic piece because, you know, again, it's a big window. So people can do that and they can see that anywhere internationally with our practice to order the blueprint and we can partner with you and help you with your fatigue.

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