5 Warning Signs of Mitochondrial Damage

This one specifically is how would I This one specifically is how would I know my mitochondria are damaged? What know my mitochondria are damaged? What would tell me that I might have some would tell me that I might have some Pab Dr. A, welcome to the channel. I've Pab Dr. A, welcome to the channel. I've been involved in research and teaching been involved in research and teaching in the integrative and naturopathic in the integrative and naturopathic medical space for 30 years and I use medical space for 30 years and I use this channel as a platform today answer this channel as a platform today answer questions. So, getting right to it, what questions. So, getting right to it, what would be my top five reasons to be would be my top five reasons to be concerned? Now, there's many others, but concerned?

Chronic Fatigue and Cellular Energy Loss

Now, there's many others, but let's just go through the top five. The let's just go through the top five. The first would be anybody who has a chronic first would be anybody who has a chronic fatiguing syndrome. Now, that could be fatiguing syndrome. Now, that could be the diagnosis of CFS the diagnosis of CFS ME. That could be a patient with ME. That could be a patient with fibromyalgia. That could be somebody fibromyalgia. That could be somebody with some other chronic illness that has with some other chronic illness that has chronic fatigue related to it. Could be chronic fatigue related to it. Could be somebody who is recovering from cancer somebody who is recovering from cancer and now they have chronic fatigue. Could and now they have chronic fatigue. Could be somebody who is never better since a be somebody who is never better since a stressor, like a car accident, a brain stressor, like a car accident, a brain trauma, a surgery, something like that.

trauma, a surgery, something like that. So, anything that creates chronic So, anything that creates chronic fatigue, the way you feel to a large fatigue, the way you feel to a large extent, not 100%, but to a large extent extent, not 100%, but to a large extent as far as your energy goes, is the sum as far as your energy goes, is the sum total of your mitochondrial activity, total of your mitochondrial activity, not just in your brain, but in all your not just in your brain, but in all your muscles, your digestive organs, muscles, your digestive organs, everywhere. Your body, right? So, everywhere. Your body, right?

Brain Fog and Cognitive Slowdown

So, chronic fatigue, there's always a chronic fatigue, there's always a component, not all of it, but component component, not all of it, but component that is mitochondrial damage, that is mitochondrial damage, mitochondrial slow down. The next one mitochondrial slow down. The next one that's very common is brain fog. And if that's very common is brain fog. And if you've never had brain fog, you might you've never had brain fog, you might not understand the term, but it's just not understand the term, but it's just what it says. My brain just feels slow.

what it says. My brain just feels slow. I've had patients say I feel dopey, feel I've had patients say I feel dopey, feel tired, feel sluggish, like I'm working tired, feel sluggish, like I'm working through mud, etc. So, the symptom of through mud, etc. So, the symptom of brain fog. Now, it's not uncommon to brain fog. Now, it's not uncommon to have brain fog and a chronic fatiguing have brain fog and a chronic fatiguing illness together, but you can have it illness together, but you can have it separately, too. Well, your brain has separately, too. Well, your brain has some of the most mitochondrially-dense some of the most mitochondrially-dense cells in it. And if you think about it, cells in it. And if you think about it, your brain does everything that you are your brain does everything that you are able to perceive, and it operates the able to perceive, and it operates the rest of your body. So, if those rest of your body. So, if those mitochondria are slow at all, you may mitochondria are slow at all, you may have a feeling that you're unable to have a feeling that you're unable to think or process exactly like you would think or process exactly like you would want to. Now, this could come from a want to. Now, this could come from a known reason like a traumatic brain known reason like a traumatic brain injury. You hit your head good. It could injury. You hit your head good. It could come from brain surgery. It could from come from brain surgery. It could from come from

chemotherapy or other drug come from chemotherapy or other drug therapies. But some people will just therapies. But some people will just come on with a brain fog that's just come on with a brain fog that's just progressive, and they're unsure why.

progressive, and they're unsure why.

Chronic Pain Linked to Mitochondrial Function

Well, one of the reasons we want to look Well, one of the reasons we want to look at would be some kind of mitochondrial at would be some kind of mitochondrial dysfunction, mitochondrial damage. The dysfunction, mitochondrial damage. The next one would be chronic pain. Now, next one would be chronic pain. Now, again, just like chronic fatigue, again, just like chronic fatigue, chronic pain is not 100% mitochondrial chronic pain is not 100% mitochondrial damage, but if you consider, you can damage, but if you consider, you can have either a central pain syndrome, have either a central pain syndrome, which comes from the pain generating and which comes from the pain generating and sensing areas in your brain, and or a sensing areas in your brain, and or a peripheral pain syndrome, where your peripheral pain syndrome, where your muscles just ache all the time, for muscles just ache all the time, for example, or maybe your joints ache all example, or maybe your joints ache all the time, or maybe everything aches all the time, or maybe everything aches all the time. So, it can be a mixture. Now, the time. So, it can be a mixture. Now, we already talked under brain fog about we already talked under brain fog about how sensitive the brain is to these how sensitive the brain is to these things. So, central pain can have a things. So, central pain can have a component of mitochondrial damage, but component of mitochondrial damage, but also peripheral chronic pain. People, also peripheral chronic pain. People, and again, crosses over, people with and again, crosses over, people with chronic fatigue syndrome, fibromyalgia, chronic fatigue syndrome, fibromyalgia, other chronic illnesses often have other chronic illnesses often have chronic pain. And yes, the only reason chronic pain.

Depression, Anxiety, and Sleep Disturbance

And yes, the only reason is not your mitochondria, but until they is not your mitochondria, but until they are made to work more at a appropriate are made to work more at a appropriate speed and level, they're not going to speed and level, they're not going to help out working slowly. So, chronic help out working slowly. So, chronic pain. Number four, affective problems, pain. Number four, affective problems, neuropsychiatric problems, etc. Might be neuropsychiatric problems, etc. Might be aggravations of depression, could be aggravations of depression, could be aggravations of anxiety, aggravations of aggravations of anxiety, aggravations of sleep disturbance. When mitochondria are sleep disturbance. When mitochondria are a reason for neuro or neuropsychiatric a reason for neuro or neuropsychiatric symptoms being more noticeable, the symptoms being more noticeable, the reason is not necessarily that, you reason is not necessarily that, you know, those areas that create the brain know, those areas that create the brain chemistry to help me not be as anxious chemistry to help me not be as anxious or whatever, have specific mitochondria or whatever, have specific mitochondria damage. They might, but it's usually not damage. They might, but it's usually not that. It's more that the way I feel as a that. It's more that the way I feel as a human but then maybe expressed or maybe human but then maybe expressed or maybe I don't tell anybody but I feel it as I don't tell anybody but I feel it as I'm more depressed or I'm more anxious I'm more depressed or I'm more anxious or I have more sleep trouble or I have or I have more sleep trouble or I have other things going on. The more my brain other things going on. The more my brain is stressed and the worse the is stressed and the worse the mitochondria are performing, the more mitochondria are performing, the more the balance of neurochemistry, which is the balance of neurochemistry, which is very, very dynamic, gets imbalanced. And very, very dynamic, gets imbalanced. And everybody has imbalances that are under everybody has imbalances that are under their subthreshold, they're under the their subthreshold, they're under the radar. If I stress the brain enough, radar. If I stress the brain enough, they may become super threshold, above they may become super threshold, above the radar. And so, I might tend to get a the radar. And so, I might tend to get a little down more than other people or little down more than other people or something like that, but you know, I something like that, but you know, I don't qualify as being depressed or I don't qualify as being depressed or I wouldn't think of myself as depressed.

wouldn't think of myself as depressed. But if I get enough mitochondrial But if I get enough mitochondrial

dysfunction in my brain modulation is dysfunction in my brain modulation is not able to, you know, modulate not able to, you know, modulate appropriately cuz the mitochondria are appropriately cuz the mitochondria are not kicking in like they're supposed to, not kicking in like they're supposed to, then my subthreshold feeling down a lot then my subthreshold feeling down a lot will turn into maybe a depression, just will turn into maybe a depression, just one example. Could be sleep problem, one example. Could be sleep problem, could be anxiety, could be a million could be anxiety, could be a million things. But that's the other one. And things. But that's the other one. And what would the fifth one be? And this what would the fifth one be?

Impaired Detoxification and Cellular Waste Buildup

And this one is a little bit harder because it one is a little bit harder because it gives me other symptoms. I don't gives me other symptoms. I don't necessarily feel this as a primary necessarily feel this as a primary problem. So, I have to be careful with problem. So, I have to be careful with this. But number five is impaired this. But number five is impaired detoxification. And you might say, "Oh detoxification. And you might say, "Oh god, you know, everybody on the internet god, you know, everybody on the internet talks about detox and all this." Well, talks about detox and all this." Well, what I'm talking about is the actual what I'm talking about is the actual process that's built into mammalian process that's built into mammalian physiology to keep us alive. And there physiology to keep us alive. And there are two technical terms, but we usually are two technical terms, but we usually jam them together into one term we call jam them together into one term we call detoxification, detoxification, detoxification, but impaired elimination. There are but impaired elimination. There are processes in your body that are called processes in your body that are called depuration, and then there are processes depuration, and then there are processes in your body called detoxification, and in your body called detoxification, and they have different sort of medical they have different sort of medical implications. But for the sake of fun, implications. But for the sake of fun, we'll just call them elimination or we'll just call them elimination or detox. Built into the way that your detox. Built into the way that your cells work, and right in the middle of cells work, and right in the middle of this process I'm about to describe sit this process I'm about to describe sit your mitochondria. So, built into the your mitochondria. So, built into the way your cells work, there is not only a way your cells work, there is not only a way to have cell respiration, so that way to have cell respiration, so that oxygen goes in and carbon dioxide comes oxygen goes in and carbon dioxide comes out, but also good things like nutrients out, but also good things like nutrients go in and feed the cell organelles and go in and feed the cell organelles and the cell membrane and the mitochondria the cell membrane and the mitochondria and help you run the mitochondria and and help you run the mitochondria and make energy. But what happens then? If I make energy. But what happens then? If I do respiration with my lungs, I breathe do respiration with my lungs, I breathe good things in and I breathe some bad good things in and I breathe some bad stuff out. With cell respiration, I take stuff out. With cell respiration, I take all the good things in, I have to have all the good things in, I have to have bad things go out. If my mitochondria bad things go out. If my mitochondria slow down, I build up cellular metabolic slow down, I build up cellular metabolic garbage. Some categorize as toxins, some garbage. Some categorize as toxins, some are just irritants, some are build-ups are just irritants, some are build-ups of oxidants, some are other things that of oxidants, some are other things that we don't like. So, if the mitochondria we don't like. So, if the mitochondria are damaged, slowed down, whatever are damaged, slowed down, whatever euphemism you want to use, a slow down euphemism you want to use, a slow down in the ability to move the garbage out in the ability to move the garbage out of the cells occurs. Now, that, as I of the cells occurs. Now, that, as I say, generally we don't wake up one say, generally we don't wake up one morning and think, "Oh, I'm not morning and think, "Oh, I'm not cellularly respiring as well, and I'm cellularly respiring as well, and I'm not moving the garbage out like I ought not moving the garbage out like I ought to." But that does build up over time, to." But that does build up over time, and there's actually research now a lot and there's actually research now a lot in the cancer world looking at movement in the cancer world looking at movement of, you know, immune cells and of, you know, immune cells and chemotherapy and all kind of stuff that chemotherapy and all kind of stuff that really backs this concept up. It's not really backs this concept up. It's not like it automatically happens, and it's like it automatically happens, and it's always perfect. The slower your always perfect. The slower your mitochondria are, the more backup you're mitochondria are, the more backup you're going to have. And then that will make going to have. And then that will make you feel whatever way that's going to you feel whatever way that's going to make you feel. So we have chronic make you feel. So we have chronic fatigue, brain fog, depression, anxiety, fatigue, brain fog, depression, anxiety, other affective problems, chronic pain, other affective problems, chronic pain, and then slow downs in elimination of and then slow downs in elimination of toxins, toxicants, etc. None of which toxins, toxicants, etc.

Next Steps to Tune Up Your Mitochondria

None of which are good for you. So these all be are good for you. So these all be reasons why your integrative health care reasons why your integrative health care provider, naturopathic doctor, whoever provider, naturopathic doctor, whoever may say, you know, okay, you don't have may say, you know, okay, you don't have a genetic mitochondrial problem, but a genetic mitochondrial problem, but maybe we need to just work on tuning up maybe we need to just work on tuning up your mitochondria. Well, how might we your mitochondria. Well, how might we tune up the mitochondria? We're going to tune up the mitochondria? We're going to do that in a separate video. Thank you, do that in a separate video. Thank you, new subscribers. Like, share, subscribe, new subscribers. Like, share, subscribe, do the notifications if you haven't. Let do the notifications if you haven't. Let your friends know, and I will see you your friends know, and I will see you