Your Mitochondria Has an ENERGY Switch — 4 Ways to Turn It On Transcript

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Why Mitochondrial Health Matters

In this episode today, what we want to In this episode today, what we want to talk about are the basic tenets of talk about are the basic tenets of mitochondrial health and regeneration.

mitochondrial health and regeneration. And I want to go through four primary And I want to go through four primary areas that we should be thinking about areas that we should be thinking about and doing or trying to get the and doing or trying to get the mitochondria to work again and then add mitochondria to work again and then add Hey, I'm Dr. A. Welcome to my YouTube Hey, I'm Dr. A. Welcome to my YouTube channel. I've been researching and channel. I've been researching and teaching in the integrative and teaching in the integrative and naturopathic medical world for 30 years naturopathic medical world for 30 years now and during that time I've been now and during that time I've been seeing patients mostly in the chronic seeing patients mostly in the chronic illness and cancer worlds. I use this illness and cancer worlds. I use this channel to answer questions that we get.

channel to answer questions that we get. So, let's get into it. First area that So, let's get into it.

The Best Foods to Fuel Your Mitochondria

First area that we want to think about is going to be we want to think about is going to be the diet because the mitochondria not the diet because the mitochondria not only runs based on nutrients that come only runs based on nutrients that come in and and go in through the oxidative in and and go in through the oxidative phosphorylation chain, make ATP, all phosphorylation chain, make ATP, all that stuff, but also that whole chain that stuff, but also that whole chain that passes the electrons down to create that passes the electrons down to create ATP, which is energy unit, is made of ATP, which is energy unit, is made of nutrient substances as well. So, the nutrient substances as well. So, the diet is crucial to feeding the diet is crucial to feeding the mitochondria for their formation and mitochondria for their formation and their operation. So, when you are their operation. So, when you are thinking about dietary substrates, thinking about dietary substrates, dietary things that are going to help, dietary things that are going to help, everybody eats differently and one of everybody eats differently and one of the benefits of the internet, although the benefits of the internet, although you got to be a little bit careful you got to be a little bit careful looking stuff up is you can go and you looking stuff up is you can go and you can look at what you eat and you can can look at what you eat and you can look at I want to find a high this look at I want to find a high this nutrient in foods and you plug that in nutrient in foods and you plug that in and look for the foods and see if you and look for the foods and see if you eat them or not. So, if you're looking eat them or not. So, if you're looking for more B vitamins, you're looking for for more B vitamins, you're looking for minerals, things like that, you can just minerals, things like that, you can just look that up and find out if that's in look that up and find out if that's in your diet. But, the things that you want your diet. But, the things that you want to think about that would be most useful to think about that would be most useful would be a combination of foods that would be a combination of foods that give you a good amount of the B complex give you a good amount of the B complex of vitamins. So, those are normally of vitamins. So, those are normally considered, if you look at a B vitamin considered, if you look at a B vitamin supplement, should be things like supplement, should be things like vitamin B1, 2, and 3, vitamin B5, vitamin B1, 2, and 3, vitamin B5, vitamin B6, and then vitamin B12, and vitamin B6, and then vitamin B12, and then there's folic acid and biotin, sort then there's folic acid and biotin, sort of non-B numbers, but B-like vitamins.

of non-B numbers, but B-like vitamins. And you want to look for all of those And you want to look for all of those things in foods. The next category you things in foods. The next category you want to look for are going to be want to look for are going to be minerals and trace minerals. They're all minerals and trace minerals. They're all minerals, but minerals, your kind of minerals, but minerals, your kind of macro minerals would be calcium, macro minerals would be calcium, magnesium, potassium. You're looking for magnesium, potassium. You're looking for those. Easy to look those up and find, those. Easy to look those up and find, but also you want trace minerals. That but also you want trace minerals. That would include things like selenium and would include things like selenium and chromium and zinc and all of that sort chromium and zinc and all of that sort of stuff. And again, those are

going to of stuff. And again, those are going to be in different types of foods. So, be in different types of foods.

Fats, Phospholipids, and When to Supplement

So, wherever you eat on the spectrum, just wherever you eat on the spectrum, just look up within the foods you eat where look up within the foods you eat where you're going to be getting those things.

you're going to be getting those things. Then, the next thing would be fats and Then, the next thing would be fats and these would be fats that are used to these would be fats that are used to help in the formation of the membranes help in the formation of the membranes of the mitochondria and the cells, etc.

of the mitochondria and the cells, etc. So, these would be your phospholipids, So, these would be your phospholipids, things like phosphatidylcholine.

things like phosphatidylcholine. And you can look up, you know, foods And you can look up, you know, foods that have phosphatidylcholine and that have phosphatidylcholine and choline proper. And then when you're choline proper. And then when you're thinking about, "Okay, I'm I'm going to thinking about, "Okay, I'm I'm going to work on my diet, but I might want to work on my diet, but I might want to supplement." The supplementing things supplement." The supplementing things that would be most helpful on the that would be most helpful on the dietary support, we're going to talk dietary support, we're going to talk about specific ones later, but the about specific ones later, but the dietary support would be a good dietary support would be a good multivitamin that has some trace multivitamin that has some trace minerals and the B vitamins and minerals and the B vitamins and everything in it. And maybe if you find everything in it. And maybe if you find that the foods you're eating don't have that the foods you're eating don't have a lot of phospholipids, a little bit of a lot of phospholipids, a little bit of phospholipid supplement. In the olden phospholipid supplement. In the olden days, we would get people lecithin.

days, we would get people lecithin. That's a phospholipid supplement. You That's a phospholipid supplement. You also get phospholipid supplements in also get phospholipid supplements in pills. But, something just to augment pills.

How Movement Triggers Mitochondrial Regeneration

But, something just to augment the diet. Number two, moving your body, the diet. Number two, moving your body, also known as exercise. Now, a lot of also known as exercise. Now, a lot of people, especially people who are people, especially people who are fatigued, will say, "Well, I have fatigued, will say, "Well, I have fatigue. I don't want to move my body." fatigue. I don't want to move my body." And it's kind of a catch-22 because you And it's kind of a catch-22 because you have this need to keep your skeletal have this need to keep your skeletal muscle, the stuff that holds us up and muscle, the stuff that holds us up and moves us around, moving. And we know moves us around, moving. And we know that when we move the muscles in the that when we move the muscles in the body, we send signals out that are body, we send signals out that are pro-healing. But, the other thing is pro-healing. But, the other thing is that movement of the muscles maintains that movement of the muscles maintains the mitochondrial turnover and when we the mitochondrial turnover and when we make new cells, we have to make new make new cells, we have to make new mitochondria. Part of that is supported mitochondria. Part of that is supported and stimulated by regular movement of and stimulated by regular movement of your body. So, if you're already in good your body. So, if you're already in good shape and you're exercising, great, shape and you're exercising, great, you're there. If you're, you know, not you're there. If you're, you know, not terribly fatigued and you just need to terribly fatigued and you just need to kind of get out and do more exercise, kind of get out and do more exercise, you can start to make a goal to do that.

you can start to make a goal to do that. Being former athlete, what I have to do Being former athlete, what I have to do now in, you know, my older age is I just now in, you know, my older age is I just set it up in my calendar so that I have set it up in my calendar so that I have scheduled times because I do a lot of scheduled times because I do a lot of work behind desks, see patients, do all work behind desks, see patients, do all the stuff. I'm not usually running the stuff. I'm not usually running around or lifting weights while I'm around or lifting weights while I'm doing that. So, I have to put it in my doing that. So, I have to put it in my schedule so I make sure I hit it and schedule so I

make sure I hit it and then pretty soon it's just habit like then pretty soon it's just habit like anything else. But, what if you're anything else. But, what if you're really sick? We've had people that's really sick?

Exercise Strategies for Fatigued or Recovering People

We've had people that's right after surgery or they just got right after surgery or they just got done with chemotherapy or they have done with chemotherapy or they have really fatiguing illness like chronic really fatiguing illness like chronic fatigue, fibro. What we do is we still fatigue, fibro. What we do is we still focus on this, but you have to go in focus on this, but you have to go in baby steps when you're sick. What does baby steps when you're sick. What does that mean? That means that where you that mean? That means that where you might have to do the entry level might have to do the entry level exercise for 4 to 8 weeks and then do exercise for 4 to 8 weeks and then do another baby step up. It can be a bit another baby step up. It can be a bit frustrating, but it's called graded frustrating, but it's called graded exercise tolerance because you're trying exercise tolerance because you're trying to go from maybe no activity or to go from maybe no activity or post-surgical activity to just a little post-surgical activity to just a little bit more and then you get used to that.

bit more and then you get used to that. So, you could train into that and then So, you could train into that and then the next baby step might only take, you the next baby step might only take, you know, 6 weeks if the last one took 8.

know, 6 weeks if the last one took 8. Then the next one might take 4 weeks. Then the next one might take 4 weeks. But, you don't want to go from no But, you don't want to go from no exercise to tons of exercise and hurt exercise to tons of exercise and hurt yourself. You want to just keep your yourself. You want to just keep your body moving. What are the most important body moving. What are the most important muscles to move? Those are your big core muscles to move? Those are your big core muscles, things that hold us up, the muscles, things that hold us up, the legs, and then the arms are going to be legs, and then the arms are going to be your two biggest friends for this. Quick your two biggest friends for this. Quick interruption from the regular video. If interruption from the regular video. If you are a healthcare practitioner and you are a healthcare practitioner and you have an interest in this topic, you have an interest in this topic, we're going to put a link in the we're going to put a link in the description below to my CE website and description below to my CE website and specifically the webinar that is about specifically the webinar that is about this topic. So, we'll see you over this topic. So, we'll see you over there. Thanks. Number three, sleep and there. Thanks.

Sleep Optimization and Stress Management

Number three, sleep and stress management. Oh boy, you know, we stress management. Oh boy, you know, we have an epidemic of stress that is not have an epidemic of stress that is not well dealt with. We have an epidemic of well dealt with. We have an epidemic of basically sleep deprivation among basically sleep deprivation among people. And so, it's one of those things people. And so, it's one of those things where you don't solve the problem where you don't solve the problem usually, you keep working at it. It's usually, you keep working at it. It's kind of like movement and exercise. So, kind of like movement and exercise. So, one of the things that you can do in one of the things that you can do in regard to sleep are sleep hygiene regard to sleep are sleep hygiene measures. Now, I'm not going to go measures. Now, I'm not going to go through them all, but these would be through them all, but these would be things like having a digital sunset, things like having a digital sunset, shutting screens off at a certain time, shutting screens off at a certain time, all of that stuff. So, if you look up all of that stuff. So, if you look up sleep hygiene, just like dental hygiene, sleep hygiene, just like dental hygiene, only sleep hygiene, look that up. You're only sleep hygiene, look that up. You're going to find tons of articles and tips going to find tons of articles and tips on how to engender better sleep. So, you on how to engender better sleep. So, you know, it's going to involve when you know, it's going to involve when you eat, when you're looking at screens, and eat, when you're looking at screens, and all sorts of stuff. So, optimizing sleep all sorts of stuff. So, optimizing sleep as you can. Now, you can also do things as you can. Now, you can also do things like get a biometric device. So, you like get a biometric device. So, you could get one of the rings that tell you could get one of the rings that tell you about your sleep or one of the wrist about your sleep or one of the wrist watch kind of things that tell you about watch kind of things that tell you about your sleep. They do give you good your sleep. They do give you good feedback and you can see if you're feedback and you can see if you're sleeping, you know, better or worse, sleeping, you know,

better or worse, etc. And with stress management, one of etc. And with stress management, one of the things that's kind of nice here is the things that's kind of nice here is that point one and two feed into stress that point one and two feed into stress management. Now, they don't take all management. Now, they don't take all your stress away, but having a good your stress away, but having a good well-balanced diet that works for you well-balanced diet that works for you and moving your body actually are ways and moving your body actually are ways to help mitigate some of the negative to help mitigate some of the negative effects of stress. So, the bottom line effects of stress. So, the bottom line is we all have stress or we'd be dead is we all have stress or we'd be dead basically. Life is a stressor, but we basically. Life is a stressor, but we also now have stressors, you know, that also now have stressors, you know, that are socially and societally kind of are socially and societally kind of different than they were 100 years ago.

different than they were 100 years ago. So, we have a constant availability So, we have a constant availability through our devices not only to us through our devices not only to us personally from people from the outside, personally from people from the outside, but we also have our devices and we can but we also have our devices and we can have availability of constant stressful have availability of constant stressful information like the news and like all information like the news and like all sorts of other stuff. So, we have to sorts of other stuff. So, we have to manage that. You know, very few people manage that. You know, very few people can just go be a hermit, but we have to can just go be a hermit, but we have to manage the way that we interact with the manage the way that we interact with the world or the way the world interacts world or the way the world interacts with us to the degree we can. So, on the with us to the degree we can. So, on the base of better diet and better movement base of better diet and better movement and exercise, we want to look at ways to and exercise, we want to look at ways to manage the stress that's coming at us manage the stress that's coming at us and also to realize that some of the and also to realize that some of the more healthy responses to stress, cuz more healthy responses to stress, cuz it's really your response to stress it's really your response to stress that's more important than the level of that's more important than the level of stress, are how we deal with that. And stress, are how we deal with that. And that can be helped by things such as that can be helped by things such as mindfulness or meditation or whatever mindfulness or meditation or whatever you want to call it, but that can be you want to call it, but that can be very, very useful. There's a lot of very, very useful. There's a lot of strategies you can do. Now, if you have strategies you can do. Now, if you have a ton of things going on and you have, a ton of things going on and you have, you know, a bunch of sick family and you know, a bunch of sick family and there's all sorts of stuff and you feel there's all sorts of stuff and you feel overwhelmed, obviously, you need to get overwhelmed, obviously, you need to get some outside help. That's another thing some outside help. That's another thing that you can do. But, in the long run, that you can do. But, in the long run, it's what you do with yourself that's it's what you do with yourself that's going to help. And then number four going to help.

Targeted Supplements for Mitochondrial Function

And then number four would be things that might go on top of would be things that might go on top of what we've talked about in one through what we've talked about in one through three as far as supplementation. Now, three as far as supplementation. Now, supplementing your regular diet, I supplementing your regular diet, I talked about a good multivitamin talked about a good multivitamin mineral. We talked about maybe mineral. We talked about maybe phospholipid supplements if you're not phospholipid supplements if you're not getting enough of that in your diet.

getting enough of that in your diet. But, specific supplements, and this But, specific supplements, and this sometimes will confuse patients. If I sometimes will confuse patients. If I have somebody under a lot of stress and have somebody under a lot of stress and their mitochondria are really, you know, their mitochondria are really, you know, kind of behind the curve, I may have kind of behind the curve, I may have them want a multivitamin multimineral them want a multivitamin multimineral and a B complex both. And they'll say, and a B complex both. And they'll say, "Well, there's B vitamins in my "Well, there's B vitamins in my multivitamin that I'm taking." And you multivitamin that I'm taking." And you say, "That's true." But, the levels in say, "That's true." But, the levels in most multivitamins are quite low because most multivitamins are quite low because they got to put it all in, you know, they got to put it all in, you know, one, two, three pills, right? So, a B one, two, three pills, right? So, a B complex on top of the multivitamin is complex on top of the multivitamin is often very good. The next thing would be often very good. The next thing would be sometimes we do the same thing with sometimes we do the same thing with trace

minerals. So, your multivitamin trace minerals. So, your multivitamin mineral might have calcium and mineral might have calcium and magnesium, maybe some potassium, and magnesium, maybe some potassium, and then maybe a little tiny bit of zinc or then maybe a little tiny bit of zinc or some selenium, but it may not have a some selenium, but it may not have a bunch of trace minerals. So, we'll give bunch of trace minerals. So, we'll give the B complex, the multivitamin mineral, the B complex, the multivitamin mineral, and sometimes a multi-trace mineral, and sometimes a multi-trace mineral, too, to get those trace elements in too, to get those trace elements in there. Now, things that might help there.

CoQ10, Alpha-Lipoic Acid, and NAD Explained

Now, things that might help specifically with function from a specifically with function from a nutrient point of view at the level of nutrient point of view at the level of the mitochondria, coenzyme Q10 and the mitochondria, coenzyme Q10 and alpha-lipoic acid. We've done stuff on alpha-lipoic acid. We've done stuff on those before. Those are specific. They those before. Those are specific. They help everywhere in your body, but they help everywhere in your body, but they have specific effect in the have specific effect in the mitochondria. And then we've done a mitochondria. And then we've done a bunch of content on NAD, which is bunch of content on NAD, which is nicotinamide adenine dinucleotide. It's nicotinamide adenine dinucleotide. It's a nicotinamide is a form of B3. There's a nicotinamide is a form of B3. There's nicotinic acid and nicotinamide.

nicotinic acid and nicotinamide. Nicotinamide is in the pathway of making Nicotinamide is in the pathway of making NAD. So, some people on the, you know, NAD. So, some people on the, you know, more cost-effective end of things will more cost-effective end of things will will supplement nicotinamide. And then will supplement nicotinamide. And then some people will supplement things that some people will supplement things that will jack up the NAD faster like will jack up the NAD faster like nicotinamide riboside. That's kind of up nicotinamide riboside. That's kind of up to you. All right, I hope that clears up to you. All right, I hope that clears up some of the questions that we triggered some of the questions that we triggered with our other mitochondrial discussions with our other mitochondrial discussions that we've had. I'm Dr. A. This is my that we've had. I'm Dr. A. This is my YouTube channel. I answer questions YouTube channel. I answer questions here. Thank you so much to all the here. Thank you so much to all the subscribers. The community's growing subscribers. The community's growing really, really well. It's growing fast.

really, really well. It's growing fast. We really appreciate all you guys. We really appreciate all you guys. Please remember to subscribe if you Please remember to subscribe if you haven't. Do notification bell. And then haven't. Do notification bell. And then like, share, do all the stuff. We like, share, do all the stuff. We totally appreciate it. Thank you a lot totally appreciate it. Thank you a lot