Why Making Deposits Into Your Biochemical Bank Accounts Matters Transcript

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Introduction and Clinical Background

Hey, Justine, thank you so much for agreeing to be interviewed. I am just so pleased that you were part of the M. S. and Neuroimmune Summit. You have such insights and such wisdom.

So please introduce yourself and explain why you have this area of expertize. Oh, well, thank you so much for having me, Dr. Wahls I got into this field really because of my clinical experience.

I've worked that side. Dr. Bruce Hoffman from the Hoffman Center for Integrative Medicine for over a decade now, and he's implemented lipid replacement therapy since the very beginning of time.

And we have the honor and privilege of running some really advanced testing out of the clinic, and we run the epigenetic IGL out of Germany, which is an epigenetic mitochondrial test.

And it was really because of that test, the changes that I saw when we implemented phospholipids and fatty acids, that was the catalyst to me going and pursuing my education in this field.

And I was very fortunate to have a few amazing mentors in the fields, lipid researchers and that's really what got me started in this field. And I've been working with Body Bio for a number of years now doing clinical education, and I love teaching about phospholipids and fatty acids.

Okay. So we to have thousands and thousands of people with M. S. in the summit and with neuro immune conditions who know that their myelin and their nervous system are being damaged.

And there a lot of people are thinking, we're going to get drugs that will fix all of this. And I know that that's never going to work because the whole process of making myelin is complicated.

We have to address diet and lifestyle, and hopefully all of you who are part of this summit would learn how to address diet and lifestyle. But then we have to be sure you've got all the building blocks.

So let's talk about the lipid replacement therapy and how that relates to myelin, the synapses and what's going on in the brain, the spinal cord and the peripheral nerves that have been damaged by M. S.

and the autoimmune conditions that attack our nerves, our spinal cords and our brain. Okay, so the myelin sheet is made up of lipids. So those plasma allergens, which are endogenous phospholipids and phosphatidylcholine, is the main phospholipid that's found within myelin.

And these phospholipids are absolutely critical for maintaining the integrity and the function of the myelin membrane. So in individuals with their Ms., the immune system attacks and damages these lipids, and that leads to a decrease in their levels in the myelin sheath.

And the result is an increased susceptibility to damage and inflammation.

Myelin Damage and Lipid Replacement Therapy

And so this leads to further breakdown of the myelin sheath and then worsening of symptoms over time. So lipid replacement therapy is really a treatment approach that involves supplementing the body with specific types of lipids, so plasma allergens and phosphatidylcholine to repair and rebuild damaged cell membranes.

Okay, hang stop for just a moment. I want everyone to know that I firmly believe in this. This is part of my self care program that I personally use because I have a goal of thrive in to 120 and beyond.

So I and correct me, but as we age and mature we have fewer plasma allergens and fewer phospholipids in our cell membranes. And that's part of the aging process, which is why we get more damage the older we are in our most progressive in these other neuro immune things.

Progress is that. Yeah. Absolutely. I actually. Dr. Wiles really like to think about phospholipids and fatty acids as your most valuable deposits in your biochemical bank account.

So when we think about our biochemistry, it's very similar to our bank account. If we were only to take deposits or withdrawals out over the course of our life, we most of us would end up bankrupt and our biochemistry is the same way.

So when we're constantly working at repairing damage to the membrane and we we no longer had those building blocks, that's when we end up having damage on the cell membrane.

And so putting these deposits back into the biochemical bank account, so percentile choline and these essential fatty acids, these are your most valuable deposits in your biochemical bank account.

So you have reserve capacity to be able to go in and repair those damaged parts to the membrane. So that's a very beautiful, easily understood concept.

All of us are wanting to go figure out where we get those elements so we can deposit them into our biochemical bank account. How do we do that? So I think that there is only one place to go and get these phospholipids.

And honestly, that's because of what I've seen clinically. We've used body bio's product line clinically for over a decade like I mentioned earlier, and these products are in a league of their own.

I really, really believe power of the body bio phospholipid complex for a number of reasons. So it is a liposomal formula that has all of the phospholipids that are needed to support both the outer and the inner cell membrane.

So about 50% of the outer cell membrane is made up of phosphatidylcholine. Then on the inner membrane we have phosphate, total ethanol, the mean phosphatidylinositol and phosphatidylserine.

And so the body bile phospholipid complex provides all of those phospholipids. So it's not just phosphatidylcholine supporting the outer membrane, but you're also simultaneously supporting the inner membrane.

And then we have to remember that all of our organelles within our cells have biological membranes. So the body is all about compartmentalization. It compartmentalizes from cell to cell with these biological membranes.

And then also inside the cell, we have a mitochondrial membrane and a membrane on the nucleus. And then if organelles don't have a biological membrane, they're interacting with one.

So these membranes are everything. But when we look at the cell membrane, the cell membrane is truly the brain of the cell. Everything happens on that membrane.

We have our proteins, all of our peptides, all of our ion channels, all of our receptors. So healing the membrane really equates to healing the entire system, the entire.

Body just, you know, stop you for a moment so that we get this these these fats from our food as well. But cell membranes are not really implants. Those that have cell walls, cell membranes, that's an animal product.

So we get some of this from our animal products that we consume. But I'm thinking we can't consume enough animal products to keep our bank account fully replenished because everyone knows I'm all about food.

So we want to get great food, great animal products. If you tolerate eggs, they're super good for you because they're rich in all of us. But as we mature, we can't keep our bank account fully flush without targeted supplements.

So that's that's everyone who's listening.

Phospholipids, Aging, and Cell Membrane Repair

That's why you came May be actually be quite enthusiastic about this particular support because and if you're and if you have a autoimmune disease affecting your brain, your spinal cord, our bank accounts have been severely depleted because of that autoimmune process.

So food's not going to be enough for these particular nutrients when we talk to you. Yeah. And also, Dr. Wells, we also have to think about the level of assaults that we are under today.

We don't live in the same world that we lived in, you know, even 30 or 40 years ago. Yeah. We live in a in a soup of electromagnetic frequencies which directly damage our cell membrane.

We, our environment is riddled with toxins that damage our cell membrane. People are taking medications that damage the cell membrane. Our food system is depleted.

Our soil is depleted. So we have so many things working against us. And that's the beauty of being able to take these essential nutrients in supplement form, because you can use therapeutic doses.

And I know you're in this category as well, you're using tablespoons of phospholipids. And if you were to compare that to the number of eggs that you would need to eat egg yolks, and then there's lots of there, you know, there's nuances to eggs because that's a saturated form of phosphatidylcholine.

They're a little bit higher in single myelin than fast potato choline. And we want to have higher ratios of phosphatidylcholine than single myelin. And then we have different anchor positions on a phosphatidylcholine molecule, which I won't get into because I don't want to get too sciency, but that an egg yolk is a saturated form.

So if you were somebody that's willing to eat 8 to 12 egg yolks a day to get those therapeutic levels of phosphatidylcholine, that's really what you would probably be looking at, needing to consume.

And then it's making sure you're preparing the egg properly because if you're cooking the yolk to a solid, you're potentially going to oxidize those fatty acids and the cholesterol in the fossil lipids.

So keeping that egg runny is really critical when you're looking at nutrition through that therapeutic lens so that the supplementation provides you with that insurance policy to know that you're getting in those therapeutic doses.

And I know I can speak from my experience, too. I have run a lot of tests on myself and I've suffered with chronic illness, which is why I got into this field to begin with.

And even for me, I backed off on I've taken 2 to 3 tablespoons of the antibody bio phospholipid complex for years, and because of that I completely restored my mitochondria, completely restored my cellular health.

And then like many of us do, we back off of our supplements when we reach a state of health and we're not as committed. And so I was taking a tablespoon of the C not consistently.

I was traveling a lot. I wasn't bringing it when I was traveling and I retested in February and did my epigenetic IGL and my mitochondria are very dysfunctional again.

And I had a ADX attached. I had formaldehyde and aldehyde attached to my DNA, toxins accumulating in my membrane again. And those PC prevented all that.

PC cleared all of it initially, and we can use Phospholipids as a prophylactic to prevent toxins from accumulating in the cell because they're such a powerful detoxification agent through a number of mechanisms.

But one of them is that when we have adequate amounts of phospholipids in the cell membrane, toxins are not able to get into the cell that acts like a barrier to entry.

But the other quality of phosphatidylcholine is that it can actually work its way into the cell and clear these attics that are attached to our DNA. So those are toxins that accumulate on our DNA, which eventually will lead to cancer.

So that's the power of using phospholipids to not only not only as a prophylactic, also as a detoxification agent. And this is gentle. This is not stripping a person.

This this is building reserve capacity as you gently detoxify as well. Absolutely. You know, it was certainly I took a very substantial amount of PC for years.

My amount is not quite that substantial now. But, you know, I was very, very ill. I could not sit up. And now, you know, I just jogged in my neighborhood for 30 minutes and that's really quite remarkable.

So so the PC very helpful for supporting myelin. Very helpful for gently decreasing toxin exposure. Would that also be helpful for some of the bio toxins?

I am thinking things like tick borne illness, mold exposures at it. I would I would go so far to say that if you are a practitioner that that is not using phospholipid and you're treating people with Lyme and mild illness, you are missing the most important piece.

And I say that with humility. I don't mean to I mean, there's lots of things that I don't know. But just from what I've seen, actually, I do not believe that you can keep a person well, long term without giving them those building blocks that they need to go in and repair damage to the membrane.

Those bile toxins directly damage the cell membrane. And if you don't have the building blocks to go in and repair, that is those individuals are not going to get well.

I mean, this is the same thing for many, many different things that did a damage to the membrane. When we end up with chronic illness, we've lost that reserved capacity.

The body no longer has what it needs to be able to go in and repair, and the body has this amazing, miraculous ability to heal. But it needs to. We need to get it what it needs to heal in order for that to take place.

So the other thing to Dr. Walz that I wanted to mention with phospholipids, yes, they repair the myelin because they're a main component of myelin.

Essential Fatty Acids and the Brain

Myelin is that so we're looking at phosphatidylcholine, we're looking at oleic acid stearic and palmitic acid omega seven is a really powerful anti-inflammatory for the brain that can help to calm down neuroinflammation.

It's not fatty acid that's that's found in myelin, but very important in that whole mouse picture as well. Then we have cholesterol, which is that myelin is made of fat.

So this is where we can use fatty acids to really, really help to support repairing myelin. But phospholipids have powerful anti-inflammatory effects as well.

So when when the brain is inflamed, we know that happens with mice, that there's that neuroinflammation component. We we end up using more of these phospholipids up to mitigate the inflammation that when we provide

the body with with phospholipids, we can help to mitigate that inflammation through using phosphatidylcholine ethanol.

I mean, Inositol and Sirin as well, they provide neuroprotection, they're supporting the gut brain axis, but there's a critical component in that whole story as well.

So there's so many different mechanisms in which lipids are supportive. These phospholipids are just the most beautiful molecules and so, so healing. And everyone who's listening, I hope you are following me on Instagram and if you aren't, you really need to be.

You can see what I'm eating because one of the things you see that is by my my plate every day is a quart jar of the phospholipid complex smoothie that I make that I have every day as really part of my healing journey.

Because I personally have seen the big impact of paying very close attention to this lipid repair. And I certainly encourage all of my patients to rely on lipid repair using these compounds.

So we've talked about the PC, the lipid complex. I also use olive oil, extra virgin olive oil and essential fatty acids in my smoothie. So let's look.

I'm sure many people have heard about the benefits of olive oil, and there's a lot of research about olive oil. But let's talk about the essential fatty acids, because I don't think people appreciate that there are some molecules that we really need that we can't make.

That is exactly right. And those essential fatty acids are two of them. So we have two essential fatty acids. So we have linoleic acid or omega six and alpha linolenic acid or the plant based form of omega three.

Now those are our two parent oils. Those are really those are essential. The body cannot make those those are powerful signaling molecules. Those make downstream metabolites and there are also some of them are active in the cell membrane.

So we have four main fatty acids that are active in the cell membrane. We have linoleic acid or omega six arachidonic acid. And speaking of myelin, that's rich in myelin.

Arachidonic acid, we have oleic acid or omega nine and we have DHEA. So those are your four main fatty acids that are found in the cell membrane. So two of those are three of those are essential fatty acids.

So DHEA is a downstream metabolite. We often need to support that through eating. I always recommend supporting that through eating wild caught Alaskan salmon.

And I've seen over and over again that we can keep almost perfect levels of that DHEA as long as we're consuming about three servings of eight ounces of wild caught Alaskan salmon per week.

And then we need to make sure that we have the optimal ratio of those to essential fatty acids. So it's scientifically it's been determined that we need about a 4 to 1 ratio from the linoleic acid side to the omega three side.

So those are two critical fatty acids for supporting the central nervous system, but for supporting our immune system, for our hormones. I mean, there's a whole laundry list of benefits to those as the acids.

And when it comes to myelin, we know 70% of that brain is made up of lipids. And myelin, like I said, is rich in oleic acid arachidonic acid cholesterol phosphatidylcholine stearic palmitic acid.

So we have all these beautiful fatty acids that need to be supported by those essential oils. Absolutely. Absolutely. So all of that goodness is in my cocktail plus, you know, some berries and spices that I rotate through to keep it totally delicious.

And that is my treat to my brain, to myself, my mitochondria, and to me and to my taste. So. Well, let's talk about another molecule that I think is some interesting research.

Tucker. And what are you seeing with that in multiple sclerosis, in neuro immune issues? So Tadka is a really incredible molecule. So it has because of bile salt.

So it's called the acid conjugated uterine. So this is a biological substrate. We make this in the human body, but it plays it has a number of pretty incredible characteristics.

But when it comes to amass, as we see it, really beneficial for its anti-inflammatory effects. So Tad has really been studied quite extensively actually in the field of neurodegenerative diseases because it has such a protective, it protects the endoplasmic reticulum from oxidative stress.

So it's reducing the stress on the endoplasmic reticulum. Therefore protecting the folding of proteins and lipids.

TUDCA for Neuroinflammation and Gut-Brain Support

But tadka is a powerful anti-inflammatory, so it's actually been shown to have those anti-inflammatory effects by inhibiting the production of pro-inflammatory cytokines and promoting the production of anti-inflammatory cytokines, which we know is going to be beneficial in reducing inflammation that contributes to mice.

It has powerful antioxidant effects, so it may be beneficial in protecting against oxidative stress that's known to contribute to AMD. It actually protects the old liver dandruff site.

So those are the cells that make up myelin. So these are a type of glial cells. So we have two different types of brain cells in the two different types of cells in the brain we have those neurons in the cells and then the glial cells are further broken down into a number of categories and all clear gendros sites are one of those.

And Tabqa has been shown to protect these cells, which again are the cells that produce myelin in the central nervous system. And we know that the loss of myelin is a hallmark of asthma.

So protection of those cells is critical. Tabqa also regulates autophagy. It has neuroprotective effects. Hang on, let's define autophagy for for people.

Sure. So that's that's just regulating cell death. So autophagy is programed cell death. So that's the process in which cells can remove damage or dysfunctional components.

So dysregulation of autophagy has actually been implicated in the development of that mess. Hang on. I like to think of that as the self-cleaning cycle on my oven.

So I want my cells to do autophagy in the right way to take out the garbage so everything's clean and ready to go again. No. Yeah. So and everyone is listening.

I do include tadka in my self-care routine. So yes, I think that can be super helpful. Yeah. And you know, Dr. Ball's tadka has actually been shown to block some really potent inflammatory pathways at all as well.

It's been shown to block and off Kappa B, it's been shown to support the blood brain barrier, and it's actually been shown to be able to convert primed or activated microglial cells.

So those microglial cells have so those are glial cells, which I just talked about. Those have when once they're primed, they are forever primed. And it's our responsibility to make sure that we keep them in an even keel state.

So there's a couple there's three different stages that they go through. So M0 is an even keel, steady state. That's the state that we want them in. That's when they're in that survey and state.

So these are these are part of our immune system in our brain. Then we have the M1 stage and that's the activated and primed state. So that's when they are releasing all these inflammatory cytokines and we want to get them out of that stage.

And two is the regenerative stage and Tadka has the ability to convert those microglial cells from a primed M1 state back to that. That's even keeled, steady state, M0 state.

So there's there's some pretty let's. Repeat that again, that is really quite profound. So when we're in that prime state, the microglia is damaging our synapses, damaging the myelin because it thinks they've been destroyed and it's attacking our brain.

So it's important to get them off that primed state. Yeah. And the autoimmune response, the autoimmune process with the mice further exacerbates that, right?

So it is able to convert those primed microglial. So M1 State back into the M0 stage that that steady state. So that's a powerful quality that Tiger has.

But we also know that there is that whole gut brain axis. So Ted has been shown to have a lot of gut benefits as well through those anti-inflammatory and antioxidant properties that it has.

So it improves the environment in the gut. So it's improving the ability for your commensal bacteria to proliferate, improving junction integrity, improving the health of those colonies sites.

Just through those antioxidant and anti-inflammatory effects. Okay. So super helpful. Again, I think of all of this as just more adjunct support to your great diet, your great lifestyle.

I want my microglia to be further calmed, further youthful, and so tadka would be a very useful adjunct to add in. Is that something that I would put in my smoothie?

That's a supplement. You'd want to take together after meals or on an empty stomach. So the research is kind of split. So when it comes to neurodegenerative disease, they often give Ted got on an empty stomach.

And you want to make sure that seeing that throughout the days that you're keeping blood levels high, the half life of TED spends about 6 hours. So for somebody that has active mass or has any other form of neurodegenerative disease, I would typically recommend that you would do two of the TED got about three times a day and you may want to add another dose of Tadka just before you go to bed, but the upper dose for Ted is about 1500 milligrams in the literature now there's very few side effects even when you go above that 1500 milligrams that that is kind of the the dose that they recommend as your upper dose the 1500 milligrams.

So empty stomach throughout the day for the most optimal effects. Well it's it's split there. So clinically we use that after a meal we combine it with ox bile because we want to make sure that we have a balance in those bile acids.

And there's a little bit of literature showing that if you are creating imbalances in those bile acids in the gut, you can end up producing toxic metabolites.

So we we always give that tadka with ox bile and we take that that patients after meals. Now keep in mind when we look at lipid replacement therapy and a diet to support cellular health, we need to make sure that we have glucose tightly controlled, which you know all about this.

Butyrate and Final Takeaways

We typically recommend a higher protein, higher fat diet and low hydrate just to make sure that you're not shooting your blood glucose up, which actually will activate an enzyme called Phospholipids H2.

And that enzyme damages the cell membrane. It acts like a lipid scissors, so it clips the phosphate, the fatty acid

tails off of the phosphate head or choline molecule.

So we really want to make sure that we are not activating that enzyme and damaging our cell membranes, especially when we're actively working to repair them. So the diet is okay.

So our lipid support is the lipid complex central fatty acids and like little olive oil with that tadka in ox bile, is there anything else that that you would particularly value for your MSK patients, your MSA new immune patients.

Gatorade's sodium nutri 100%. So we've used body bio's sodium beta eight for years as well. And I have done an extensive amount of research around beta eight and this four carbon chain fatty acid is nothing short of miraculous.

So Beta eight is a short chain fatty acid. So it's made through the fermentation of dietary fiber and this is also a biological substrate. So we make this in the microbiome by your commensal bacteria, specifically, specifically bifidobacteria make beta eight through the fermentation of dietary fiber.

So think fiber plus fermentation equals beta eight. But actually when it comes to be right, there's a whole laundry list of benefits and I'm happy to go through them with you.

It comes to specifically and studies have actually shown that Beta eight can stimulate the differentiation of ugly gender site progenitor cells into a mature, ugly tender site and promote the production of new myelin.

So that is pretty profound. Butyrate also has amazing anti-inflammatory effects. It's been shown to decrease inflammation in the brain and spinal cord by reducing the activity of pro-inflammatory cytokines.

It has neuroprotective effects. It's been shown to protect neurons from damage and death caused by toxins, oxidative stress and inflammation. It also has been shown to improve cognitive function and memory in both healthy individuals and those with neurological disorders.

It supports the blood brain barrier. It's been shown to strengthen the blood brain barrier, which helps to prevent toxins and pathogens from entering the brain.

And we know that that breed, that breach blood brain barrier is part of that whole EMS equation as well. And then it also modulates neurotransmitter activity.

So beta, it's been found to modulate the activity of our transmitters like dopamine, serotonin, GABA, which can have a positive effect on mood and behavior.

So, so many different mechanisms. It supports mitochondrial function, it has metabolic benefits, so it improves the insulin receptor. It helps to regulate blood glucose levels.

It optimizes the in the gut, it helps with GI motility. And not to mention that whole gut brain access BUTYRATE is the number one fuel for your colonic sites, those cells that line the colon.

And it also has a characteristic where it is able to peel those pathogenic pathogenic intestinal permeability so it heals and seals those tight junctions back together, or what is commonly referred to as leaky gut.

Okay. So is this something I would be taking all day long or I'm adding to my PC smoothie? How do people, if they decide to supplement with Butyrate, what's the best approach here?

I think the best approach to supplementing with brain is to take it after meals, because that's when we would typically be making it because it's made through the fermentation of dietary fiber.

When you look at the literature around Butyrate and the studies that have been done, most of the studies are done using about four grams of food or eight.

So I typically recommend about two capsules of sodium butyrate three times daily. So after breakfast, after lunch, after dinner. Now in some individuals that have sleep issues, there's there's studies that show that taking butyrate before bedtime can help to improve sleep quality because there's that relationship between low levels of short chain fatty acids in the gut and insomnia.

So in those individuals, I would say it might be wise to throw on an additional dose before bed, but you'd want to keep the dose between four six grams would be more of a therapeutic dose.

And Dr. Wells, that's what they use in studies mice, Parkinson's, Alzheimer's, Huntington's disease. They're using about four grams of sodium butyrate in those studies that I've read.

Great. Well, you know, I could talk all day, but we should probably work on wrapping this up. So what is the one take home message that you want people with a messenger, immune conditions to take from this wonderful conversation?

I just want them to understand the power of using lipid replacement therapy, using phospholipids and fatty acids to heal, to restore myelin, to restore their brain functioning.

And nobody does that best. Nobody does that better than body bio. I can say that wholeheartedly. Okay. This has just been wonderful. And where can they learn more about lipid replacement therapy?

So if you voted the body by a website, there are plenty of blog posts on the website that help to explain a little bit more about lipid replacement therapy.

There's lots of literature, so if you are interested and curious to dove into the research, if you just plug in lipid replacement therapy into Google scholar PubMed, lots of different studies will come up on the benefits, not only on neurological help, on mitochondrial health, on healing from chronic fatigue syndrome, from a number of different chronic illnesses and diseases.

And I would say that's probably the best place to start. Okay, excellent. And where do we find body bile? Body bile can be found on Instagram, at body bio online, at body.

Viacom is their website and they have a lots and lots of information. Just puts out a ton of amazing information on the Instagram page. She's also on Tik Tok.

So if you want to learn more about phospholipids and all of body bio's products, be sure to follow Bonnie. Bio sounds wonderful. Thank you so much for this really amazing interview.

Oh, thank you so much for having me, Dr. Walz. It was an honor and a privilege.