The Goldilocks Approach to Cellular Regeneration: Why Your Timing, Delivery, and Strategy for Supplements Needs to be JUST RIGHT Transcript

(Transcripts are generated by AI and may contain errors)

Introduction and guest background

Welcome to the Bio Optimized Summit, where we are exploring the next level of physical and mental health you can achieve through targeted and intentional optimization.

I'm your host, Doctor Amy, and today I have with me Doctor Christopher Shade. You guys are going to love him. He is the founder and CEO of Quicksilver Scientific, and he is the driving force of development and innovation when it comes to supplements, products and testing.

He is literally increasing the power of nature through modern science, ensuring safety and effectiveness. His vast depth and breadth of knowledge, passion for healing and intuitive understanding of chemistry and biology leads to this result of a premium line of products, protocols and test kits.

He is a recognized expert on mercury and liposomal delivery systems, which we will be talking about today. He has lectured and trained doctors internationally and in the US on the subject of mercury, heavy metals and the human detoxification system.

His current focus is on the development of cutting edge, lipid based delivery systems for nutraceuticals, such as the liposomes and the micro emulsion systems.

Doctor Sayed, thank you so much for joining me. I of course, I'm very excited to have you on here and to tell us about what you guys are doing. There is some awesome stuff going on.

Excellent. I'm very happy to be here. I mean. So let's start with this idea that there's different bioavailability for supplements, right? Like not all supplements are the same and the delivery system is so crucial because you've got some gastric acidity that can block bioavailability.

And you guys have been able to really hone in on this and develop these liposomal delivery systems, even the nanoparticles. So explain some of this to us in terms of why an average person who's trying to optimize their health would need to know which form of supplements and delivery systems they should be looking at.

Yeah. I mean, you spent a lot of money on these things which have a great promise. You know, the promise of the nutraceutical. You know, the quercetin is going to be this great analytic resveratrol is going to change your metabolism.

But often these things that are going in aren't well absorbed at all. And, you know, they say you are what you eat, but really, you are what you absorb.

And so the next generation in supplements is these high bioavailability supplements and when which so bioavailability means the proportion of something that you eat that gets into your blood into circulation.

So it can have an effect on the active site that it's going for. And we often don't think about these things. But for instance, like in a study we did with CBD, with, if CBD just in hemp seed oil takes about two hours to get to a peak dose in your blood, you.

Now, if you're taking that because you've got stress and anxiety or you're taking it because of inflammation and pain, you don't want to wait two hours to till it gets to its peak dose.

And the peak dose is pretty low. So CBD is only 6 to 10% absorbed. And it's a really expensive molecule. So if you can increase that all the better. So when we put that in one of these nano delivery systems, we saw the peak is now somewhere between 15 and 30 minutes.

So you get this immediacy like it's going right in. And the peak level in the blood was over seven times higher than the other system, and the total absorbed was six times higher.

Why bioavailability and delivery systems matter

And so you're getting way more in and you're shifting it all over to this immediate absorption. And so when you get that, a lot of the things that we're trying to trigger in the body, especially when we get into biohacking, I'm sure we'll get into talking about a Ampk activation or maybe an of two activation for detox.

And because for metabolism, these are not triggered by low and slow absorption, the barbecue absorption, these are sharp, sharp high points because they're responding to immediate biological stresses and they're activating certain things to have your body respond to that.

And so a short, sharp absorption is what you need. And if you want to do things like staging things like a detox, we're going to throw in all these liver supplements.

We want to get them to mobilize the toxins, activate bile flow and get everything out. And then we want them to metabolize away and be gone. And then we'll come in with what we call a toxin binder or something like charcoal and clay to pick up all the pieces so we can stage that, because everything goes in peaks in 30 minutes.

You come in with your charcoal, you clean it all up, you're done. Something like our Ampk activator called Ampk, charge, berberine, resveratrol, quercetin, dim Silliman, and cinnamon.

Boom. All in so short, sharp that they actually put you in ketosis in about an hour, hour and a half. And this is just your average Joe. This isn't a biohacker.

You take that in the morning. It's so strong of an AMP activator, you start making ketones. And so this is the next generation of these things where we can even go.

And because they metabolize out fast too, because they get in real quick, you know, the capsules are slowly dribbling in. And then they got metabolize out.

These all go in, they all come out. We can actually go through different biochemical, scenarios through the day. We can be a Ampk activated mTOR block at one point, be into autophagy, and later on we can be mTOR forward, eat some, you know, and build on mass so we can do this sort of diurnal cycle, living of different metabolic states.

And that's all because of the deliver in just, probably should have started with what that delivery is. But we do what are called lipid nanoparticles.

So lipid nanoparticles, people have heard of the liposome most and it'll be liposomal this liposomal that. But lipid nanoparticles is an overarching family of fat based particles that are carriers for your actives.

Here they're nutraceuticals. If you were in a pharmaceutical setting and they use these two, they would be pharmaceuticals. Now there's two main types.

Picture this little bubble that's got a skin that looks like your cell membrane. They're made out of phospholipids fosterville coaling being the one that we use just like your cell membranes are.

And if we make them in a bilayer arrangement with the water droplet in the middle, that's called a liposome or liposome. And that's how we deliver water soluble like when we deliver.

And them in nicotinamide mano nucleotide to become NAD or B vitamins or glutathione. That's a liposome. Now, if we're delivering like the CBD or any of those Ampk activators, those are either fat soluble or alcohol soluble.

And the center of the particle then will be an oil droplet with a monolayer of the phospholipids and maybe other surfactants. And we tune the chemistry inside there to host different molecules.

Now, by saying they're nano particles, that means they're below 100 nanometers. And that's not a bad thing. People get afraid of nanoparticles because there was a big hubbub when they started making catalytic mineral nanoparticles like titanium dioxide.

Those would get into the environment because they're so small, they absorb real fast, and they get into the body and they're free radical generators and you can't enzyme matically break them down.

You need a macrophage to eat them and physically remove them so they were they were, a bad thing. The lipid nanoparticles are all part of this system of how you dissolve fat and move fat around the body.

In fact, you make what's called a kilo micron, which goes down to 70 nanometers. And anything below 100 nanometers is a nanoparticle. So that's a lipid nanoparticle.

And it's dietary fat wrapped with fast little choline. And you move it through lymphatic circulation. And that's how you bring fats for energy. And you have all these enzymes called Fuso like basis for breaking them down.

And you use all their components. So when we make our lipid nanoparticles, they're all below 100 nanometers. And the smaller they are, the faster they go into the system.

And these ones, especially between 20 and 80 nanometers, can absorb right through the mucous membranes in your mouth. And intraoral delivery right into the capillaries below there.

And in some of our studies, we see these things in the blood within two minutes because they're like so small that they're able to actually go in between the cells, right.

Like they're not needing the the cells to absorb and go through that process. They're able to go right through the middle of the cells, because how it's constructed and the size exactly when it goes into the cell and through the cell, that's called now I forgot what it goes around the cell.

It's called para cellular. So para cellular above the cell, it slips right between the junctions, and right into the system. Yeah. Anytime that you've got something that's going, I think you were referring to intracellular, right.

Anything intracellular trans cell, trans cellular is the cell it out the other side. But then it's got a fuze into the cell and fuze back out. And it's you know it's it's hard for it to stay intact during that.

But the para cell yeah just slips right around them. And so it's requiring less involvement, less energy of the cells because they're not having to do that transportation system and able to get into the blood and then out to the body much faster.

And isn't it true that the nanoparticles also have a higher stability? They're more stable, longer shelf life because of because of that stability that they have often now?

It depends. So, you can view this liposome like a tiny beaker, and there's water in there and there's glutathione in there. The stability of that system is predicated on the stability of the glutathione.

And in that watery matrix. So what we do to, to, increase the stability is we it's called controlling the activity of water. So we're adding sugar alcohols like glycerin and ethanol.

And they're they're hydrating themselves. And now there's less water to hydrolyze the glutathione. And that lasts

longer. And so that's just as you know, we're pro chemists here and we know how to do that kind of thing.

A lot of the the people making liposomes don't really know that. And they just hack this stuff together. So when you look, you know, we've gotten a lot of those off the market and you'll see 2% of the glutathione left 6%, 30%.

The best I ever saw was 60%, of label claims still left because they don't know how to control the water. They don't want to bother people with refrigerating things.

So they say that it's shelf stable when it's not. So we can do different things to stabilize those. And some of the NaNoWriMo motions, you can increase the stability.

You. Certainly, because then they're pulled out of, the, the matrix with the air and the water, and they're pulled all into this one oil droplet in the middle.

But then the key is to have the lipid, system stable. A lot of the stuff you get off the market, you see, it's all separated. There's oil on top, there's solids on the bottom.

Rs. You'll see.

Lipid nanoparticles, liposomes, and stability

You'll be clear. It's called isotropic means same in all directions. It'll be clear from bottom to top. You can put it in the centrifuge. It won't break.

Those are the kind of stabilities that you're driving for, in these nanoparticle systems. And that's what we solve for when we make these things in our day.

And this is the same delivery system that you're using for the Ampk for. Right. The AMP activated kinase protein, this magic bullet for metabolism. That's the system that you're using.

Exactly. We're using that in the nano emulsion side, because those are all oil and alcohol soluble and I mean, that's just crazy how strong that stuff works, because that's a 27 nanometer meme sized particle, which means it just blasts right in.

And, in fact, when we were looking at particle sizes, when we scaled up the first manufacturing batch, they used a different source of of one of the ingredients, and they ended up at 70 nanometers.

And it only worked for 50% of the people at 27, 100% of the people that we tested went into ketosis. It had blood. We all did that with blood ketone measurements.

Everybody was above 0.5 micrometer Miller molar, ketones in the blood. Within an hour, hour and a half. And so the particle size and the stability was essential for all these things to rush in.

And there's a couple of different, couple of different ways that you activate Ampk. And, you know, there's a transient ATP synthase blocking. And then there's the three ending 172 upregulation, liver kinase B one.

We we manufactured the ingredients to hit all three of those targets. Oh. There's a calcium MK site. All those at once. And Ampk gets so activated that the body just, you know, starts making ketone, you know, mobilizes fat, makes ketones just like on a dime.

And that is huge, because whether or not a person is doing, the, you know, a ketogenic diet or intermittent fasting, still, there is so much benefit in ketones and even moments of ketosis.

And so with something like this, with the delivery system that you've created and this, you know, targeted bullet to

Like how many people, what percentage of people in your study show that they it was like 100 people and everybody went into ketosis. Wow. Yeah I mean it was it was just crazy.

And there was a guy who just came here and I, I don't think he's even doing intermittent fasting. He came to us from a, you know, like a fortune 100 company.

He was at Molson Coors because we make the delivery systems for the THC and CBD drinks that they're doing in Canada. And so we we apply this to weed to and get people high with it.

And so this guy to come in to work with this, the guy who found us, he's a he's a Berkeley PhD, R&D guy, and he started on this Ampk charge that we used to call keto before six because it was about intermittent keto.

You can be keto in the morning and carb at night. And he lost 15 pounds in two weeks on that. Incredible. You know, it's just like, oh, all the sudden the body knows how to do that.

So it's like an exercise mimetic, a fasting mimetic. And if you then do it with intermittent fasting, maybe just a bulletproof coffee in the morning, you, you know, this 4 or 5 hour window and depending on what you do for lunch, maybe longer when you're in ketosis.

And then that night, you know, you do whatever you want to do. Yeah. This is the diet that I've been on for several years now. We're in the morning, I'm in ketosis, and then evening and afternoon I'm, I'm more, of the carbohydrates and it's it's done wonders for me.

But doctor said I need to. I need to get a sample of of your arms. Okay. Yeah. Yes. So long to develop that that right. Flexibility to be able to generate ketones in the morning.

And I remember when I spoke at, one of the that bulletproof XP and I was talking to, to Dave Asprey and he had just gotten to this point where he was preaching carbs at night so you can sleep.

But most people can't be in both metabolic things in a 24 hour period. But this right there you go. There you go. Awesome. Now, I know one of the other people that you have worked with over the years is Doctor Matthew Cook.

He's one of the other speakers on this summit. And and I think you could say that you saved his life and his career. So tell us how he, like what what were the issues that he was presented with when he came to you and what were you able to work with him?

And then we'll go from there into the nervous system specifically. Yeah. So everybody's used to seeing Matty Cook, you know, looking good and all like wow.

Oh yeah. He's on fire these days. So rewind like seven years when I was just kind of getting big A for him. And you know, we had this little booth. Now we got big ones.

And Matt Cook comes up with this gray skin tone like he looked like, you know, if you're old enough to remember The Munsters now, it was black and white.

So everybody was gray. But that's what I remember him as, you know, it's like one of these characters out of this, you know, this, this horror comedy and, and he was exhausted, and he had one of the hardest jobs for a medical guy.

He was an anesthesiologist. So anesthesiologists are getting chronic toxic doses from fluorinated anesthesia. Fluorinated stuff is meant to be on metabolism.

You know, it's they fluorinated compounds so they don't leave your body real quick. And with the anesthesia, they don't want anesthesia wearing off while you're chopped open.

And so they fluorinated them so that it was really hard to break them down, which meant every time he's putting somebody on there, he's getting some of that and it's building up.

And the guy looked horrible. And so he came. He's like, I got to know about detox. And we were pushing our systems. Then, you know, we had a lot of glutathione, a lot of like punk acid and are of two upregulation as we understand it now.

We had a lot of Ampk activators too. And and when you get when you're talking about detox, Nrf2 is what's up regulating your antioxidant and your glutathione system really detox things.

And Ampk activation is up regulating that we think about it is up the egg up regulating mitochondria and metabolic ASM and fat burning. But it's also a huge liver target.

And it's sealing up the liver. It's opening up the bile pathway. So the first thing you gotta know about detox is that the movement of toxins through the bile is, through the liver is coupled to the movement of bile.

And right when you're highly toxic and then especially when you're neurologically stressed, when you're in sympathetic overdrive, you lock up the flow out of the bile, you just shut it off because you're in fight or flight.

You don't write, just you don't need to detox.

AMPK activation, ketosis, and metabolic flexibility

I need to get the hell away from the lion that's about to eat. Yep. Exactly what priorities you like. That you're chronically holding everything up, and then you get worse and worse at opening that stuff up.

Well, Ampk activation is big for moving bile out into the toxin transporters. In the bile transporters are the same things, so they gotta go together.

So we were giving them glutathione, vitamin C with lipoic acid, polyphenol again. Okay. Activators like Pak is also an activator and binders. And this started him on.

All right. Here's how you think about detoxification. And each year he'd get a little bit better a little bit better. And then he got to where he started using the peptides and the exosomes and the and the stem cells and the light therapies and whoa, he just, like, emerged as this force of nature that he is now.

And, and now he just, we co-branded to line the supplements for, for his clinic and and his whole system, and he's the only guy I let have our nad product, which is a liposomal animal.

And so it's like every time I see a picture of that guy, and I saw it on your summit, I'm like, it's just like a work of art, you know? It's like, right now.

And I wish he had pictures from that. And so this show, the skin cast difference. Yeah. But I mean, this is why I love what you're doing with your work is because you really are just, like, unveiling who people really are, right?

Like, think, oh, this thing, this machine wants to shine. It's made to shine. This brain is made to freakin process everything and be sharp. It can be creative and it.

Yeah, this isn't your natural state. And then you got to take all this shit to, like, bring you up. You know, like, the whole Noah Tropic thing was all speeds and stuff, and, I think I'm smarter now because speed always makes you have better work.

All right? And there are few hours, and then you crash again, right? Because, you know, you do the math. Astbury saying he takes modafinil every day and then like three months later, somebody asked him.

He's like, no, you know, and you're all burned out. But exactly you take away, I always say I can do more for you by taking away than by putting it. Now I do like to put it once we clear the slate so jacking up your nad in the absence of all this other stuff, it's just not that great, right?

But when you detoxify first and you know, in our systems, you know, we have this simple thing, push catch liver detox, that's what we call it. So you take this stuff liver sauce.

It's like A1 sauce for your liver. And and it activates toxins out. Yeah. It activates cellular and lipid level NRF two and Ampk and bio flow. And so that pushes toxins out of the cell.

So that's in the cellular level. They're in circulation activates the transporters in the liver. And they're on both sides. The blood side the transporters pull in the outside.

They dump out. So you take this all and you move it all out. Plus, when you're Ampk activating your mobilize using the fatty deposits in the liver, which are creating inflammation and inflammation, blocks detox all the time.

And all that stuff flows out half hour later. You take your binder. Woosh! It's all gone. So you've got this really universalist system. And then if you want to tune it for metals, you can add glutathione and you can add EDTA if you want.

But everything's going to flow out. And at the same time you're waking up your metabolism. So instead of like being wasted out by detox, you're actually feeling a little better.

And so we'll have people do that where it's more liver detox focused, and then we'll have a move into using that Ampk activator with a binder and some glutathione.

So now you're more metabolic focused, but you're still continuing to detox. And then you can drop the binder, keep on that metabolic activator, and then we start pouring in the NAD, bring the mitochondrial biogenesis up to a high level.

And then you really save it. And what I see most people doing doctors say, which again, like this used to be me. So no judgment here. But what I used to see people, what I used to do and I see people doing is that they they feel that, okay, I need to detox and I need more energy.

So they start taking any supplements that promise them that it's going to help them detox and help them give energy. And it's not really in a very intentional, targeted way.

And so it's very disorganized and it's they actually end up wasting a lot of money because they're not following the natural biology of the body or making themselves aware.

So this is true. I said you got a couple the bile flow to the movement of toxins. So if you take something like lipoic acid, like there was a lot of controversy around like podcasts in the market. Yes, there was me because, you know, and I've seen because I do all the blood testing for blood, hair and urine testing for mercury.

And I, I was very deep in that for a long time. And like podcasts, it will make your cells pump stuff out into the blood. And if you don't couple that with the movement out of the liver, then you just recirculate this stuff.

Now, here's the thing about the liver. So I put my hands like I'm holding the liver here, and every liver cell has is fed by blood on one side and drained by bile on the other side.

Right. And there's these doors that all this is active transporter. So, so this these doors in and then doors out into the bar. And that's when everything's going well.

Now say you block this and you can block that with inflammations and inflammation generators like endotoxin from leaky gut or periodontitis. You can block that from just sympathetic stress

You can block that from estrogen damage. And then what happens? The cell starts building up with both bile salts and toxins.

Detoxification, bile flow, and nervous system support

And the bile salts are important that they're highly regulated. Because bile is there to dissolve fats. And your cell membranes are made out of fat. So bio will dissolve your your hepatocyte.

So they build up, and then you open up a door as a pressure relief valve, and you dump everything back into the blood. So when that door is closed out to the bile, you dump everything back into the blood.

So if you're taking stuff that doesn't coordinate so into liver, into bile, and then the last step of catching it all in the GI, right. Not every toxin reabsorbed, but a whole host of them reabsorb.

So when you don't line that all up you just keep you might mobilize stuff and then just keep dumping it out of the liver and recirculating it. Yeah. And then what do you do.

You feel like shit. And then what do you say to yourself? It's a heart timer reaction. Okay. Talking really hard. Well, you are, but you're toxin. You're not.

You're not doing anything. You're not clearing it out. When you line that all up, it's just smooth as silk. And of course, there's the neurological side and that.

And that's being able to chill yourself out. So we usually we use Gaba, CBD when people are, you know, sympathetic jacked to calm everything down. And then the biohackers also have the problem of overdoing, you know, I'm going to do detox.

And they're like sympathetic about all of their interventions, you know, and they they do have to learn to chill out a little bit. They did. They need to learn how to shift that sympathetic.

Well, I don't even think they recognize sympathetic like that is just their normal their Cho Type-A, so Type-A that this is their normal. They don't even realize that this is sympathetic and this is actually affecting your biology in a negative way.

And this is what parasympathetic even feels like. Let's reestablish that. I remember my friend used to say, I'm going to upregulate my parasympathetic.

She was like so jacked up. And she's like, I upregulate parasympathetic several times a day. I'm like like right now, right. And keep working on that.

Yeah, yeah. So one thing that I really want to talk to you about was this idea of how to help optimize the nervous system specifically. So one thing that I want to talk about is this balance that we need to work with the NAD and methylation, because that's a big part of the nervous system.

But also then a lot of people that I've worked with over the years, they are working on, you know, their different trauma therapies and they're doing the body work, they're doing the therapies that are effective, not the talk therapy, the ones that are actually working with their nervous system, processing stuff through, and they're moving along and then they get stuck.

And what I'm realizing is that they've got these biochemical imbalances, whether it be the detoxification, whether it be methylation, whether it be these different things, and they're nervous system is literally stuck like it has lost its neuro plastic ability because it's struggling like it's it's at its max.

And how can we optimize that. So let's talk about that. That okay. Yeah there's a lot there. There's a lot there. And

A bit of microbe. So we'll talk about that. And those are things that need to be removed. And then we can talk down the NAD methylation, which is balancing and additions.

So all right, say you're, you're trying to do trauma therapy and you're trying to get yourself out of this hyper sympathetic PTSD. Right. And in the neurotransmitters in the brain, glutamate is the one that's associated with being sympathetic, dominant, excitatory.

Yep. Yeah. I mean it's a good thing. It's what gives you memory. But memory of trauma is anxiety and stress and sympathetic overdrive. And then the other side is Gaba.

And that's parasympathetic. It's calming. It's forgetting. It's letting go and it's rest digest repair regenerate, detoxify. Now if you can talk them out of their sympathetic thing and say you're working on some trauma, you know, there's some organ there's trauma in, maybe it's a sexual trauma.

They're all sudden you get them to release and that there's a flush of toxins that come out because, yes, with the traumas are the holding on of the toxins.

And we don't really mechanistically know how that works. But the whole German, group using neuro therapy and stuff, when they would do the injections on these different trauma sites, they'd see all these metals come out and stuff.

We know that those releases mobilize toxins. Yeah, well, most of this toxins, like especially mercury, are glutamate receptor agonist that hyper stimulate the glutamate receptors and immediately put you then in the sympathetic.

So the intentions are locking you back in the sympathetic. Even though you let go all of a sudden you flush this and vicious cycle cycle. And so you need to be when you're doing that, you should have the detox lined up already so the drainage pathways are flowing and then you do your somatic work.

Stuff's released and it goes out to the liver. Instead of going up to the brain. So you've got the individual toxins themselves that are doing that and, you know are everybody's favorite modern toxin glyphosate or roundup is a glutamate excited toxin.

More toxins are glutamate excited toxins. You know, there's a whole host of them that do that. Then you have something called neuroinflammation. So neuroplasticity on the other hand, and, you know, involves synaptic pruning.

And these immune cells called, microglia are the ones that go through and they like, clip little old things and they get rid of plaques and they're like, let new reform.

Yeah, they're like the gardeners of your nervous system cleaning things up. And so all of a sudden they turn into like, agro zombie gardeners and they start hacking your garden down to the ground.

That's called an activated microglia. So there are immune cells, and immune cells can all release pro-inflammatory cytokines. But when they're nice gardeners, they're not doing that right.

And certain things get into the brain. They turn into activated microglia. And then they start releasing all these pro-inflammatory cytokines and generating free radicals and doing all this nasty shit that peripheral immune cells are supposed to do to kill bacteria and viruses.

Right. And what that does then is create this inflammation in the brain, and it hits the glutamate receptors and hyper activates the glutamate receptors.

And because there's danger now there's danger. And now they start releasing other stuff, to like, work against the microglia. And then they get into this war.

It's like having Fox News and MSNBC in the same room. You know, nobody's ever caught up, and they're just like at war, you know, and somebody's got to get them high.

And I say that because CBD is really good for stopping that down. Of the it just immediately deactivates the microglia and stabilizes the glutamate receptors.

All right. So what are the things that wind up this neuroinflammation now from the microglia side the most prototype or activator is called endotoxin.

So endotoxin are little parts of bacteria that are coming from areas where there's a lot of bacteria. It's not a whole bacteria, but your immune system sees it as a potential whole bacteria and raises the alarm because it thinks there might be some sort of septic like infection.

Yeah. So where are you going to get these? Leaky gut is the most gut. Have leaky gut, and your leaky gut can be from, a poor diet. It could be, you know, a bad microbiota which comes from a poor diet.

It could be from toxins, or it could be from stress. And so all those things make you hyper permeability. This stuff gets into the blood, one that people miss a lot.

And when you're working with, addiction, you gotta go for this one. Periodontitis is highly correlated with depression because it's highly correlated with endotoxin.

Mia and drug addicts don't brush their freaking teeth. And so flossing and toothbrushing and, you know, really getting some antimicrobials in there. We have a artemisinin gel that we use for that.

You know, it's a little bitter, but it'll like, you know, the the pockets and everything. Everything will go away. They'll clean up everything. Other things like chronic sinus infection, jaw infection, UTIs all, all bring endotoxin into the blood and activate this pathway.

There's a number of, other toxins that'll do that, too. But then there's all the toxins that are glutamate excited toxins. They have the ability to start this cycle, too.

So you need to stabilize that. We use a combination of Gaba and CBD. You could kind of pick your poison there.

NAD, methylation, and mitochondrial resilience

Gob is really good in addiction work because, you know, ethanol is a Gaba agonist. And so when you're used to getting those drinks, you're looking for a job at tweak.

And that's why you're anxious and you need the drink. And so bring in and Gaba really calm things down. So I know a lot of addiction people that use that so will calm down that nervous system.

Then we'll activate all those drainage pathways. And then you can do all your work to release everything. And it'll be a much more stabilized situation.

Yeah. When you have a ton of inflammation, you're not going to be draining things. The system is going to be clogged. It's going to there's going to be more even just fluid rushing to that area that a lot of cells rush into that area.

Inflammation is going to block that drainage. Yeah. And on that liver side it just inflammation just blocks that drainage of the bile and the toxins. So it's doing all these things.

It's doing localized infiltrations and demons. And then it's doing in this gated network. It's shutting the different gates, shuts the cellular gate. It shuts the the liver gate and everything just stays where it is.

And this really does then dictate the pace at which your body can recover and do different therapies. Because if if you're running up against these activated microglia, if you're running up against your toxins, then that's going to slow your body down and your nervous system is going to stop and be like, well, like I've got to deal with this first.

And so this really is one way to optimize and accelerate your, you know, path to recovery and healing and getting back to who you really want to be. And then absolutely.

And then the other blockage is how much energy do you have to do this? Right. So the mitochondria become these limiting factors for how many reactions can be accomplished in a day by your system.

And when you've got low mitochondria, you have to parse out, what am I going to do to stay alive here? And these things like detoxification are luxuries.

When your energy's really low, I just have to keep the system running right. That brings in the NAD in methylation, which. So, mitochondrial activity is limited by NAD levels and mitochondrial density is limited by an a D levels.

All right. So you've probably a lot of people come in and lecture on NAD. But you know some of the some of the things that people don't see is like when, when you just toxic by like there's great animal studies where they just throw a toxin in and the NAD levels drop in half and the mitochondrial density drops in half.

So when you're in chronic toxic doses, you're chronically long running at a low level, whereas if they keep the if they pre-treat with NAD and then the toxin comes in, they deal with the toxin totally.

In fact, the toxin then becomes a hermetic tonic and they actually raise their NAD levels. They have enough currency to deal with the problem, respond to it by up regulating the whole system, and it actually does them well, whereas they're on the lower side of NAD.

It just takes the whole system down. So and this is really where I see like even even emotionally on the emotional level, what that looks like is someone who is faced with a stress and is able to respond to it and actually grow from it and thrive in it versus getting overwhelmed by it, because their biology is being overwhelmed and they shut down and they kind of give up because it's too much for their body and their nervous system to handle.

And so that also feels like on the on the emotional level, also giving up. Totally. So you see it on the bodily level and emotional. The whole track together.

And the more we learn about this. Yeah. It's a it was like all body mind like seemed like woo woo. But it's like, oh wait a second, it's totally and it probably couples mostly through the autonomic.

But the more we go, the more we see how well coupled the whole thing is to the nervous system. And, so you need to develop that resiliency. So and that is one of the biggest things for resilience.

We just said if it's high this stressor makes you stronger. If it's low the stressor kills you. So there's that knife edge. So we want to bring in NAD.

So you've had people talk about Ivy. And now ivy is a punctuation with a high amount of ivy, kind of nad coming in right at once. But as we'll start talking about the interrelation with methylation, a lot of the negative symptoms that people had from that, people would say, what, detoxing is the hurt timer reaction.

Often it's an uncoupling with the methylation cycle. So we're bringing NAD on a day to day basis. So I say the game is playing on a day to day and the IVs are what really punctuate it.

And so we use a liposome of nicotinamide mononuclear tide and men to build the precursor for NAD precursor direct is the immediate precursor for it, and it needs the least activation, the least amount of ATP.

The enzyme that takes it into NAD is the least blocked by any pathologies, where other ones are very blocked by

inflammation. So that and nicotinamide right beside is the other one.

But we use that in and we put it in a liposome to get really fast delivery. You know what happens if you take just a lot of NAD and you don't supplement it with everything, you start draining your methyl groups.

Now, why is that so? And what people, people who were taking at Neogen found this all the time, like subgrade for a little while. Then it just stopped morphing for a little while.

Then I felt crappy and then everybody's, oh, I must be moving all the toxins because now I have more cellular energy. No, it's usually the methylation. Exactly.

So NAD activates a sirtuin or goes through a part to fix a gene or cd38 to fix a type junction. And you're left with nicotinamide that was known as the non flushing B-3.

All right. So if you're feeding it near or enema and you keep doing that and generating nicotinamide. Now there's an enzyme supposed to bring nicotinamide back to men.

But often that gets blocked by and inflammatory processes. And if you're putting in these high level precursors you're going to pull up nicotinamide. Now nicotinamide is an inhibitor of the Or to it.

So as it builds up first it inhibits the sirtuins. So you stop getting the benefits of the NAD or at least the metabolic and might have conjugal benefits at the NAD.

So how do you get rid of the NRM you methylated? It was Sammy, and Sammy is the one, you know, I mean, that's your core methyl methyl donor. You're training Sammy.

And that's incidental to seal methionine and building up as adenosine homocysteine, which builds up homocysteine, which then is a cardio toxic. So your methylation groups are going down.

When your methylation goes down, your mast cells start losing their stability. You start creating more inflammation out of your immune system. Then you start feeling crappier.

And then your brain, your nervous system is blocked by all those inflammatory cytokines. And so there you've unbalanced those two. And whereas if you just drive methylation, you look back, you know, during the lunch Matsuko methylation is killing me for days.

Everybody take methyl folate right. So then you start driving methylation cycles and what do you do then you drain down, you start methylated all that NLM and you're not putting in high level precursors.

DNA was your source of of recycling back to NAD and you crusher. And they did pools. So people would feel great for a month as they pulled down all this neuroinflammation and then they would crash.

And what they say, oh well I started detox because methylation makes solidifying and I'm detoxing and I'm like, what are you talking about? You were crashing your mitochondria by draining that down.

I have this killer paper. It's a biochemical anthropology paper. And it's looking at, evolution of cultures through time and their ability to balance, nad and methylation.

And they said, as they were able to balance them and raise the levels, they raised the limit on human potential, you know, raising the methylamine and, and the proteome and, you know, having the mitochondrial density, this made great civilization.

Whereas when they were mismatched, you got, what they called proton baths. And it was basically you start it, especially when you're over methylated under nad you drain down the ability of the mitochondria to generate the electron transport chain.

Basically the electron transport chain that makes all your ATP is coated half in the nucleus, half in the mitochondria, and they have to decide to make an exquisitely matched set.

Here we're back to matching a match set of proteins in the mitochondria for the electron transport chain. And when the NAD is low, the messenger from the nucleus doesn't get to the mitochondria to tell them how many to make and the mitochondria doesn't make enough.

And then the electron transport chain is non stoichiometric, meaning it's imbalance. And it just generates free radicals. And this paper goes on to suggest that Alzheimer's Parkinson's and other metabolic diseases are all of mitochondrial origin, from the failure to match NAD demethylation.

So I think that we need to develop a t shirt that says powered by methylation and NAD. There you go. And you you know what they call that nuclear mitochondrial protein balance.

So yeah. And that's really where it is.

Immune resilience and closing remarks

And that's and so we can put that in a t shirt I love it I love it when I was talking with Ben Greenfield and doing, talking to him on the summit, he mentioned making sure that people test for their methylation status before starting NAD, especially IV nad not.

It's not as crucial for the oral, but especially for the IV because of that rapid influx. So much right once and then you can crash your methylation groups relatively fast.

And so that's yeah, he picked up on this language. I've been like beaten this drum for, for a while. And of course you take a shit. So now it's good to see that language going out into the NAD community.

You didn't hear that shit at all. And even, you know, I think, you know, foreign had they were selling Nigeria, they had picked up on that. And that's really where I got it from is is listening to, Bob Rountree talk about it.

Yeah. And then I, I just dug way deeper into it. Now. Yeah. You geek over the biochemistry of it. Yeah, yeah. Awesome. And then I know that you also have, some products.

I think it's the immune guard. Is this a new product that you guys. Yeah. So that's a quick. So you know we all want immune resilience right now. And let's just hit a couple of things that we talked about that cycle back to the immune system.

And the immune charge that we're going to talk about is an immediate vitamin based stimulation for the immune system CD a a little K and E to balance it.

And your powerful anti-inflammatories, you know like boom, you know and they're all renin angiotensin system balancers and, and Ace2 balancers. So they're really good for the current environment.

And that's an acute look but real depth to the immune system. You got to get the toxin load down because what it does is the toxin load down. It distorts the toxin load, distorts the immune response.

You have the wings TH1TH 2 to 817. The TH2 17 are kind of more negative, hyper inflammatory aspects. And when the toxin load is high, it brings glutathione down and it shifts you to these two imbalances where inflammation, instead of going to the locus of infection, starts just kind of going willy nilly all over the place.

And as you get older and, and more ill, that inflammation loads into the lungs, which is why we see people died way that they do now. So the toxin load keeps the immune resilience.

And you know, glutathione is a key mediator there. Now. And what is that tag? So. And activation. Hooks

mTOR, activates autophagy, the cell feeding.

So we're going in we're pruning parts of cells like bad mitochondria. We're pruning coal cells. Well, guess how you do pattern recognition on, the microbes so that you can make antibodies against them through autophagy.

But it's called zen off at or various words like that. So you take a bacteria, you put it in, a little vesicle, just like an auto phagosome, which is what you put a bad mitochondria into.

Then it fuzes with the lysosome that brings in the enzymes to break it all down. And then you read the membranes and make, antibodies to it, a virus. Same thing of parasite, same thing.

So if you don't have good autophagic response, you won't be able to have that that second layer of the really strong adaptive immunity. And that's all based on that.

So the more you're Ampk activating, the more the body can rapidly bring these things on rapidly make autophagosomes liposomes. I mean, lysosomes, they're made to go into that thing and then mitochondrial density immune cells use, freakin ton of energy, just like cardiomyocytes.

You know, your heart cells are 20, 20% by volume. Mitochondria, the immune cells. I don't know what it is, but they use a lot and they use nADPh oxidase to create the free radicals to kill things.

So they're NAD dependent and they're mitochondria dependent. In fact, I have, this paper here, I found mitochondria is the central hub of the immune system.

Yes, I love it. You want a real immune system. That's what you focus on. The mitochondria, you know, before you fly, you take immune charging, you get, you know, you got to keep the D up.

You've got to keep the, Yeah. You got to keep C and all these things give you a big resilient and balanced immune system. But these metabolic factors are much deeper much more crucial.

I saw a paper yesterday doctor said that said that vitamin D levels are. Now they're finding the biggest predictor for all cause mortality. Yeah. You mean in like in Covid.

So yeah that's I mean it's huge. And that stuff started coming out right away. And then of course, you know the people that want to tell you vaccines kind of squashed all that.

And now you just can't you just can't resist it because it's the stabilizer. Exactly. Helping you make all of the, you know, what's that catalyst side in in the lungs.

It's your anti-microbial. You make it's balancing the pro anti-inflammatory balance. It's balancing the inflammasome. It's stabilizing Ace2 because Ace2, that's the attack point.

And as it loses its stability, ace wins over Ace2. So ace easy one is the pro-inflammatory. Ace2 is the anti-inflammatory. So the attack on it's destabilizing it.

But DNA a re stabilizing it so you can have some balance. You know if you're infected you have some balance in the system. Right. And really like coming back to just this idea of harnessing the power of the body, harnessing what is already there and just enhancing and optimizing rather than introducing something.

Yep. Exactly. Doctor Sayed, thank you. We have run out of time. I could talk to you forever. You know this. Thank you for thank you for sharing this time with us and sharing your experience, your knowledge.

Thank you very much. You're welcome. Thank you so much. And thank you for joining us today on the summit. I am your host, Doctor Amy, and make sure you get the discount price while it is still available for the content recording, etc.

because once that discount price is gone, it is gone forever. And I would just love to see you inside be able to connect with you more together. Let's find that next level of health and aliveness.