

The Human Upgrade: Episode 1122

[00:00:00] **Dave:** You are listening to The Human Upgrade with Dave Asprey. Today's episode is an upgrade spotlight. These are episodes where I bring in a guest to explain how and why they built something that can benefit your life, something that's going to save you time, increase your energy, improve your performance, maybe extend your lifespan.

[00:00:21] In this episode we're going to talk about NAD+, which is what some people are calling the aging molecule. I'm not sure I'd go that far, but I have been a major proponent of NAD over the past 10 years. And before that, one of its precursors called niacinamide is something that we've used for 30 years in the field of longevity.

[00:00:42] We just know a lot more about why it works. Dr. Greg Kelly joined the show from the Neurohacker Collective, where he is the Senior Director of Product Development, and I've worked with the Neurohacker Collective, also known as Qualia. You've probably heard them. Talked about both ways. I'm an advisor to the company, and a shareholder, and I think they do fantastic work and very innovative work.

[00:01:07] He was last on the show for Episode 1009 about a year ago in January of 2023 talking about senolytics and zombie cells and a new product category that Neurohacker pioneered. In this time, we're going to talk about a different approach to raising NAD. By now, everyone and their mother in biohacking and longevity knows about NM and nicotinamide riboside, but there's a little bit more to it than that. Dr. Kelly, or Greg, as I'm going to call you, welcome to The Human Upgrade.

[00:01:38] **Greg:** Thanks for having me back on the show again.

[00:01:40] **Dave:** Let's go into it. I said everyone and their mother's heard of NR and NMN. maybe your mothers haven't. So walk me through what is NAD from your perspective in the human body, and why do we care?

[00:01:51] **Greg:** Yeah, so I want to just start at a high level. The audience is going to be familiar with the term genome, the collection of all our genes. That's the ome. The gut microbiome, the O-M-E. There is the collection of all of the gut microbiota in their genes. So what scientists sometimes talk about is the NAD+ metabolome, so NAD plus molecule, but all the other molecules that go into making it, things that are made from it.

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[00:02:16] And the way I tend to think of it is think of these different molecules. We'll just use NAD⁺ as an example to start as a big hub in our cells in mitochondria, and a hub you may think of, like, name the busiest airport you've been to in year, Dave.

[00:02:32] **Dave:** Probably LAX. That's a good guess. Although [Inaudible] was pretty busy too. Who knows?

[00:02:40] **Greg:** Yeah, so we've got these major airports, the big hubs, LAX, Miami, Chicago, here at Dallas, that lots and lots of passengers flow through every day. And in our cells, these hub molecules, think of NAD as being akin to the airport. But many, many NAD molecules pass through it every day.

[00:03:00] So they're passengers. But NR and NMN would be like smaller airports that feed into that. So we want those planes to go from where they started and arrive at the NAD terminal. We don't want those passengers stuck there. And then we want the passengers that are in the NAD⁺ airport to go on to their next destination, which may be NADH, which is critical to make ATP, or NADP and NADPH, which is critical to make antioxidant defenses that help us detox and keep cells healthy.

[00:03:32] Or there's another airport that's called NAD-consuming enzymes. So there's different enzymes in our body. One's called PARPs. The PARPs are a family involved in DNA repair. We want NAD to be able to go in that direction. So fundamentally, when I think of NAD, I'm thinking of the metabolome, this collection of airports, and I want to make sure that the passages flow through to wherever they want to go and don't get stuck somewhere.

[00:03:58] **Dave:** So I'm wondering, is glyphosate or maybe a spike protein of some sort like the TSA that just gets in the way and doesn't do anything beneficial? Or is that just me?

[00:04:08] **Greg:** I would think absolutely. Metabolic stress of all sorts is the one thing that for sure dysregulates that whole transportation system, and we know that's a big metabolic stress.

[00:04:19] **Dave:** I'm actually teasing. I actually have friends in the TSA, and it's a thankless job. So yeah, there's always a few people who are cranky, and there's also a bunch of people who are just there trying to get you through. So you guys have to let me tease you like I tease vegans because they tease me back.

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[00:04:34] What we're doing though is we're using NAD to power different pathways of longevity on aging, on detox, on cell repair. And the reason that we're also excited about it in the field of longevity or just even an athletic performance is more NAD, more power. More power, more whatever the body decides to allocate power to according to the way it allocates power.

[00:04:56] So if you were to come into an Upgrade Labs and you have adequate NAD, when you do the muscle building thing, you're going to put muscle on better than someone who can't make extra power. And if you're doing a longevity track at Upgrade Labs and you have adequate NAD, then your longevity therapies work better.

[00:05:15] And one of the things that I used to do 10 years ago is I'd say, all right, everyone, let's line up for our NAD IVs. And I've done 20 NAD IVs, and it's quite expensive. And it's also very uncomfortable. You feel like there's a weight on your chest and you're going to barf.

[00:05:30] And I don't particularly enjoy it. And it seems like with what we understand with supplements now, you can get your levels of NAD inside the cells I think up about what you could do with an IV, and it's a lot cheaper and a lot more comfortable. So feel like NAD IVs are on the way down because you don't need to to get the results.

[00:05:49] What do you think about comparing the work you've done with multiple factors at the same time for the Neurohacker NAD formula compared to IVs? I know you're biased but you're also a scientist, so you're going to tell me the truth. If not, I'm going to tease you.

[00:06:03] **Greg:** NAD is a big molecule. It's why if we take it orally, there's just enzymes that shred it before it gets absorbed in one piece. And it's a big molecule when we do it in an IV. So trying to get it intact into cells is challenging at best, is some people that are convinced based on actual science that that NAD molecule has to be broken down into smaller things, like an NR as an example, to then get into cells.

[00:06:28] And it's probably limited how much of those enzymes are outside of cells to do that job to start with. So I think there's usefulness in NAD IVs. I also think it's not the most expedient, or like you said, the most efficient way to boost intracellular amounts of NAD if that's our goal.

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[00:06:46] And I think it's a legitimate goal to have as we get older since it's well established that the amounts of passengers in that major airport are decreased progressively with each decade we get older.

[00:06:58] **Dave:** Which is better? NR, or NMN or Niacinamide?

[00:07:03] **Greg:** I think they're all slightly different. So one of the key things you see in cells in biology in general is redundancy. So when there's a really important molecule, which NAD is, is often backup plans for making it. So if you think of NAD, cells can make it from flushing, niacin, nicotinic acid.

[00:07:25] So that's called the price handler pathway. It's its own unique way to get into it. We could start even with tryptophan, and we'd eventually turn that into something in that price handler pathway. But then there's another pathway that's usually called salvage pathway. In that pathway, you've got niacinamide and NR that both feed in to the NMN molecule in different ways.

[00:07:46] And then NMN, again, it's just a big molecule. So the consensus is that NMN has to be broken down to NAM, is usually how you abbreviate niacinamide before it can actually gain entrance. So I think all of these things increase NAD in the cells, but they do it in slightly different-- like coming from different airports fundamentally.

[00:08:06] **Dave:** It's like, which of the rivers that feed into the Mississippi is responsible for the Mississippi? Well, maybe you should enhance all of them a little bit instead of just putting it all in one. And just in the realm of biohacking, when I started, before I knew the name for it, I'm just going to try one supplement and see what happens, and then I'll stop it.

[00:08:28] Then I'll try another one. And I just realized one day, I'm probably not ever going to try all the supplements because I'll die before-- if just one month per supplement, there's too many supplements. And on top of that, what if two supplements amplified each other or just amplified different pathways of the same effect?

[00:08:46] And I literally said, you know what? I don't care if I take five things and only three of them got me the effect and the other two weren't harmful, I'm down because I want to feel the energy right now. And feeling good, and looking good and having energy, those are priceless.

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[00:09:01] And I've spent a year, the first time I was recovering from severe adrenal fatigue, and I took six weeks the next time because I used the biohacking approach, said, maybe I should do more than one thing. So I feel like our job is to break the big pharma viewpoint, that there must be one thing that's a cause of it. That's an untested and false assumption.

[00:09:24] And what you're doing with the NAD+ formula that you have as you're feeding multiple pathways at the same time, which is why I think it works as well to get levels up as you're going to see with a lot of people who do IVs.

[00:09:35] **Greg:** I agree. I think that redundancy is super important.

[00:09:39] **Dave:** Now, one thing we haven't talked about before we go into how you're doing this is sirtuins. You talked about PARPs before. What's a sirtuin? I read about these in my longevity book, and a lot of longevity listeners may have heard of these, but define sirtuins and talk about the latest research on what NAD does for sirtuins in longevity.

[00:10:00] **Greg:** So sirtuins are basically enzymes, so they're products of genes of proteins. And there's six sirtuins, so one through six. But that family of enzymes, I think just in the biggest sense, is involved in cells responding to stress, mitochondria responding to stress. Depending on the family member, it may be more in the cell. Another family member would be more in the mitochondria.

[00:10:25] So I took biochemistry 30 years ago, and at that point, NAD prominent in biochemistry for its role in fundamentally two things, creating ATP, so that's the NAD-NADH redox pair, and NADPH, which is another redox pair. That's our detox antioxidant defenses.

[00:10:44] So what eventually became known more about 20 years ago is that there's this entire other use case for NAD independent of those things where the NAD molecule basically gets eaten or consumed to drive these enzymes. And one family of those enzymes is the sirtuin family. And so you need NAD to basically activate that family.

[00:11:07] And then sirtuins, I think of where they really shine is allowing cells in mitochondria to respond to metabolic stress. Not so much in like, oh, sirtuins are going to make you live super long. But I think there's just so many things that cause metabolic stress. We want a fuel supply of NAD to be able to deal with it.

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[00:11:26] And then the PARP family, that's a DNA repair family of enzymes. They also consume the NAD molecule. So that third use case I just think of as the consumption use cases. We need a certain amount of NAD just to be consumed. And just to put it in perspective, riboflavin also is something that is used in a redox pairing.

[00:11:51] An FAD, FADH. The daily value of riboflavin, I don't know, 1.2 milligrams. The daily value for niacin, niacinamide is more like 16. And the reason is because in the toggling between the redox pairs, eventually the molecules get used up and eliminated, but they're conserved somewhat.

[00:12:11] They're just flipping back and forth. But when NAD is consumed, you're using it up. So you just require a lot more of that co-factor because it's being consumed, many, many times through a 24-hour day.

[00:12:25] **Dave:** So you want to raise sirtuin levels for longevity, cognitive performance, and to do that you have to raise NAD levels. And to raise NAD levels, you do it via different pathways that all lead to more NAD.

[00:12:41] **Greg:** Yeah, and what's thought is that one of the reasons, and there's many, that NAD tends to be lower as we get older is because some of the consumption pathways are basically eating most of it, leaving the other ones starved.

[00:12:56] **Dave:** That makes so much sense, and it's a relatively complex biochemistry. If you're listening to this eyes crossed, that's okay. What's going on here is we have a bunch of really smart longevity and supplement scientists getting together, saying, what are all the things we could do at the same time to raise NAD to get all of these downstream longevity, anti-aging benefits.

[00:13:18] And if you look at what they first started NAD IVs for, it was actually for alcoholics, because when they would do a bunch of NAD IVs, it would fix their mitochondria, and then they would stop craving alcohol in a surprising amount of the time. So I believe having enough energy in the body is an anti-addiction strategy because even down at the cellular level, the cells, when they have enough energy, they feel safer and more able to handle the world around you, which means you're less likely to reach for a substance.

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[00:13:46] And yes, there's trauma, yes, there's all sorts of other things. When you start at the very high levels, and you work all the way down into the subcellular stuff, it always ultimately equals energetics. So I don't know if oral raising of NAD has that effect, but I know IVs do, and I believe oral is now reaching the same efficacy as IVs because you're doing multiple pathways, and IVs are just straight NAD.

[00:14:09] And also, cost effectiveness, like orders of magnitude more affordable to do the Neurohacker formula versus IVs. So what did you put in there? After all the research and all the different pathways, what is in the Qualia NAD+ formula?

[00:14:26] **Greg:** So we use the nigen nicotinamide riboside, which is, by far, the most studied form of that nutrient for increasing NAD levels and doing other things in humans. We also put a bit of the flushing niacin form, but below the threshold you should flush to support that way of making it. And then some niacinamide.

[00:14:45] So we wanted to cover those three different ways of making it. But then one of the things that I think is so underappreciated-- I know when I was originally hearing about NAD, the thing I constantly hear is like, oh, well, NAD is super important to make ATP, which is true.

[00:15:03] That's one of its oldest known functions, that NAD-NADH pairing can't make ATP without it. From carbs, from fats, you name it, NAD is involved. But what I've never heard anyone talk about is how instrumental ATP is in making ATP. And so just quickly, to make NAD from nicotinamide riboside, that's two steps.

[00:15:28] So you go and basically changing over planes somewhere, but the second one requires ATP. To make it from niacinamide, the same. It's two steps, but the second one requires ATP. To make it from the flushing niacin, it's three steps, but two of the three require ATP. And I know you know the name James Clement.

[00:15:47] **Dave:** Oh yeah. He's been on the show a couple of times. Known him for 25 years, a longevity guy.

[00:15:51] **Greg:** So he did a study probably about 2018 or '19-- it was published-- called the NAD+ Metabolome is Dysregulated in Plasma With Aging, something along those lines. And

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what I found super interesting about that human study is NAD levels first were declined with age, so we expected that.

[00:16:12] But other airports in the metabolome, some of them had fewer passengers. Some of them had more. So it seemed like in some instances the molecules were stuck somewhere, not getting onto the next stop in the metabolome. And at the time, I pulled up a biochemistry drawing, and what popped out to me is that there was ATP in all these places, but anywhere ATP was, the front end of that.

[00:16:37] So the place in the metabolome before that is where people were stuck or these molecules were stuck. And the other end of it was where they were lower. So the unifying thing that helped me make sense of what he saw in that study with some molecules being normal levels, others being too high, others being depressed, was that anywhere ATP was needed, work wasn't getting done to move things along.

[00:17:03] And flex is what ultimately matters in cellular health. And so one of the things we did in this Qualia NAD product, is we wanted to do things that supported ATP. And another thing I don't hear mentioned enough is that whenever you see ATP, think ATP magnesium complex. The two are always together in our cells in mitochondria.

[00:17:24] So without that magnesium complex on, ATP-ATP wouldn't do any work. So because of that, we wanted to make sure there was magnesium in this product to help create the flow through this complicated network of molecules.

[00:17:40] **Dave:** One of the things that I think every one of the listeners is doing is taking magnesium in one form or another right now because I've been talking about it for so long. And I would say you don't have a full dose of magnesium for daily repletion in the formula, but you have enough to kick start this.

[00:17:57] So it's inconvenient that magnesium usually takes several pills in order to get enough if you're going to get five or 800 milligrams. But I like it. You put some in here because you want it at the same time. And what caught my attention with this too is that you added other long-term, like 40 years of being used, things like resveratrol, which is something that I think most of us could probably benefit from.

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[00:18:23] Although the research is mixed for longevity, it seems like it's got more benefits than downside by a long shot. What about your B vitamins? You chose specific forms of B vitamins in here. Walk me through that.

[00:18:34] **Greg:** Yeah. So the B complex family of vitamins is either directly or indirectly always involved in making ATP. So some are involved in taking carbs and sugars and turning them into the next step on the path to ATP. Others are involved in taking fat and turning it along. Quite a few of them are in the Krebs cycle, which is the hub where whether carbs or fats eventually funnel into.

[00:19:00] And then some are involved in the mitochondrial process of the final step. Oxyfoss is what it's called. So since ATP is so important to get flux through the NAD pathways, we just thought it's an area that's just mixed or missed so often. I see all these NAD boosters that just give an NR or NMN in isolation and never give some of the other B vitamins.

[00:19:27] And what we decided to do at Neurohacker was use a fermented yeast extract. So basically, it's a yeast extract that has super high amounts of these different B complex vitamins, but a yeast cell, just like our cells, would have all the airports represented. So it would have fundamentally, the entire NAD metabolome, not just flushing B3 or niacinamide.

[00:19:54] Now, we have to label it in the way that the FDA requires. But a yeast extract will have, just think of it as the entire system of airports for the NAD metabolome. And the same would be true for any of these other vitamin co-factors. And I think that's important because at the end of the day, all of these things are important. What's critical for health as we get older, as you well know, is energy. But energy is above flux through all these complicated pathways.

[00:20:23] **Dave:** So one of the questions that I do have-- I'm looking at the bottle of it. Your B6 is not the standard pyridoxine, HCL. You are basically fermenting it with yeast, which transforms it biologically. Does that mean it's P5P? Does that mean it's co-enzymated? What is that fermentation process doing?

[00:20:47] **Greg:** So we have to label it based on what they add in to the fermentation before, but then what the yeast will do is it will turn that into the co-enzyme form. So B6, B12, it'll be in that food matrix in those active forms.

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[00:21:04] **Dave:** So this is really important because people are asking from the Upgrade Collective. And if you're new as a listener online, you can be part of the studio audience. And they're all logged in here with Zoom, and they're asking me questions. And this actually is a reminder from someone there. And look, it was Coach Deb, said, hey, what about B6?

[00:21:24] So I did a post a while ago about how the standard form of B6 and supplements pyridoxine clogs up our B6 receptors for long periods of time, and only about 5% converts to P5P, which is the active form. So we're stuck where a lot of brands are just throwing B6 and everything, and they're not using a yeast ferment, and they're not using P5P.

[00:21:49] And I think that's a serious problem. And I wouldn't have you on the show here if you'd had the wrong form in there. So there you go guys. There's your answer. All right. And I have another question for you here.

[00:22:00] Why did you put coffee berry? It's just something I love. In fact, years ago, when I was running Bulletproof before I started Danger Coffee, Bulletproof was the first company to put coffee berry in a supplement, at least according to the manufacturer. So I've been a long-time fan of it, but I was interested to see it was in your formula for NAD. What's the relationship between coffee berry? What is it, and how does it affect ATP?

[00:22:27] **Greg:** Coffee berry is a coffee fruit extract. So it's the outer layer of the bean fundamentally of the right fruit. And it has polyphenols, caffeine, and so the coffee berry is an organic fruit extract that's standardized for caffeine. So it's a way to get a natural food source of caffeine plus some of the coffee polyphenols.

[00:22:50] And then the why in here, I think, is super interesting. So as you mentioned, we care about additive effects whenever possible. Is there something that if we do these two things together, we'll get more than one on its own? And so I saw this study, and it's in vitro, so preliminary. But NR boosted the amount of NAD in neurons as an example that were one of the cell lines used in the study.

[00:23:19] Caffeine did as well, but in a completely different way. The step that gets from NMN to NAD or from the final output of nicotinic acid before NAD uses a family of enzymes. NMNAT is the abbreviation for them. But the key thing is just think of the last step to turn NMN or the final metabolite and get it to go to NAD requires this enzyme.

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[00:23:45] And so in neurons, caffeine upregulated the activity of that enzyme, so on its own, caused NAD levels to go up. And when you added NR and NAD together, they were additive. You got more NAD in neurons than either on their own. So that was the reason.

[00:24:02] **Dave:** It's almost like big pharma just got slapped in the face with that one because you show that taking two things together works better than either one alone. Who would've imagined? But that's how it works. And you've got 28 milligrams of caffeine. That's half a shot of espresso, which is the lowest caffeine form of coffee.

[00:24:21] So about 50 milligrams in the average shot of espresso. So I'll say trace amounts. I like coffee berry because it's one of the few supplements along with properly extracted lion's mane, which is not what you usually find when people put lion's mane in coffee. It needs to be alcohol and heat extract.

[00:24:37] But when you find a good lion's mane. It'll raise BDNF, and coffee berry, in studies, will raise BDNF. And if you're saying, Dave, what is BDNF? I don't remember that term. Brain derived neurotropic factor. For that, you have to read Headstrong, which is my how do you make your brain work better book, and you just realize if you can have more neuroplasticity and more energy, you will have a better brain. You might have to reduce some toxins along the way to raise energy.

[00:25:03] But if you were to take the Qualia NAD+ form that we're talking about here, you would get the energy from NAD, and you would get some of the coffee berry, which raises neuroplasticity independent of other things like exercise or intermittent fasting that also increase it. So wouldn't that be crazy if you took something to raise your cellular energy levels, and as a side effect, your brain work better?

[00:25:29] Could happen because when I read the label, that's what I would predict would happen. Does it happen, though? Do you guys see cognitive improvement when people try this formula?

[00:25:37] **Greg:** We haven't done cognitive testing. What we've done is really using questionnaires, surveys, which are commonly used. And what we see super frequently is people saying that they just have more energy. We've even had a few people that have tried multiple

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different NAD boosters, and they've told us this is the first one they've really felt sharper and more energetic during their days.

[00:25:58] And the other thing I want to talk, since we brought up caffeine, is timing, which I personally think is important. And there hasn't been a lot of research on NAD boosting and the body clock circadian timing. When's the best time? And when science doesn't know, what you often see is people default in studies, oh, just take this thing twice a day, once at breakfast, once at dinner.

[00:26:21] But there are some human studies, most old, that when they looked at NAD levels in the blood, it had a clear pattern. It tends to peak somewhere late morning to 2:00 in the afternoon on average. And there was an animal study, so preliminary, but in the animal study, one of the things that's common with NAD boosting in animal studies is it improves metabolic health.

[00:26:42] So think of your blood sugar, and insulin, and body fat. So they infused NAD either at the beginning of the animal's active cycle or the beginning of its rest cycle. And when they did it at the beginning of the active cycle, metabolic health rocked. It improved in all these areas. But when they did it 12 hours later, it worsened those same things that it had improved.

[00:27:05] And then to test whether an oral boosting strategy did, they gave niacinamide in the same way, and again, they found timing mattered. If the niacinamide was given at the beginning of the animal's active cycle, then metabolic health improved. But when it was given at the wrong timing, it worsened it. So one of the things I think is underappreciated, but maybe super important is that we do these NAD boosting strategies earlier in our day.

[00:27:32] So I know I take Qualia NAD myself right at the beginning of my day because we want to boost it going into when we're most active. And so the caffeine in it helps also with that. It's a great beginning of the day nootropic substance.

[00:27:48] **Dave:** The circadian timing of nutrients, it's been important for a long time, and it's funny. If you were to eat a meal at midnight, if you've been listening to the show for a while, you know what that does to wreck your circadian timing, your blood sugar levels, your sleep quality, and all that.

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[00:28:06] Given that supplements are basically concentrated foods, supplement timing ought to make a difference. And people forget, vitamin D, you should take that in the morning because if you take it at night, it's a sunshine vitamin.

[00:28:19] It turns out the peak time for most of the energizing things is around 2:00 in the afternoon. And it makes sense because mitochondria floating in the ocean, eating algae. When did you have the most food? Between noon and 2:00. So the levels of energy metabolically would be highest around 2:00, and that's why if you want to exercise, exercise at two.

[00:28:38] If you want to figure out the peak of your fasting window, the very center should be 2 o'clock. It's just that sucks for the way life works. So we don't usually do that. And you can do stuff in the morning to raise your levels during the day, and they'll still be raised at 2:00. But if you took it at 10:00 AM versus at 6:00 AM, you might be more aligned circadian wise, but you don't take it at night.

[00:29:00] So the things that energize go in the morning. Things that enhance mitochondria but aren't directly energizing and stimulating help with sleep, which is why magnesium, its peak level is at noon, which is surprising because we all take it for sleep because I've been talking about that forever as well.

[00:29:18] But about six years ago, my recommendation changed to take half your magnesium in the morning, and you have it in the Qualia NAD+, and take half of it at night because it's calming for sleep, but it's energizing during the day. And I'm just constantly fascinated by when should you take what, for who, to get what result? And with AI, we're getting better and better, and I think your formulas are improving as well because this is a really cool way to do it.

[00:29:42] **Greg:** I think so as well.

[00:29:44] **Dave:** Now, you are one of the few companies who really focuses on clinical trials. You do beta studies. What did you find from using the Qualia NAD+ and the clinical trials you did?

[00:29:58] **Greg:** So I'll start with our N of 1. So I know your audience is familiar with that. So I was the first self-experimenter with Qualia NAD+, and I used it. Did a before and after NAD+,

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took the product for 20 days in a row, first thing in the morning. And what happened for me is my NAD+ levels in blood went up 156%.

[00:30:21] So it's like, oh, this is doing what it's supposed to do for me at least with that marker. And then one of our other team members, Nick Bitz, a naturopathic doctor that works at Neurohacker Collective, he did just a shorter self-experiment, 10 days. His went up 49%. So cool. Worked great and fast for him. And then more recently, Bob Troia. He is well known in the biohacker space as Quantified Bob. I know you know him well, Dave.

[00:30:48] **Dave:** Yeah, Bob came to the very first biohacking conference 10 years ago. That was how he became a biohacker. Yeah.

[00:30:55] **Greg:** We sent him the before and after test kits and a bottle of Qualia NAD, and said, take the product, do before and after, and see what happens. And then feel free to share it on your social media, your login. And recently he shared those with me, and his results over, I think it was 28 days, increased 96%. So almost doubled.

[00:31:16] So in the N of 1 testing, it's done really well. Your audience knows. Well, that idea of your mileage may vary. A very common acronym in the nootropic space. And you see that constantly in an NAD study. If they publish the individual results, you see some variants.

[00:31:33] Some people are super responders. Some are good responders. So in this sense, I would think of myself more like the super responder in the group. Bob was a good responder, and Nick, not quite as good. So because of that, we decided, okay, let's do a bigger placebo-controlled study of NAD. And we literally just got the results yesterday afternoon for the first cohort.

[00:31:58] **Dave:** Oh, wow. I'd want to hear it.

[00:31:59] **Greg:** So we have another cohort that'll be going through, and for the audience, a cohort means one group of people went through the study this fall, early winter, and one group is going to go through the study in January and early February.

[00:32:10] But the first group, we just got theirs, and compared to placebo, there was a significant increase in NAD with Qualia NAD, and the end result was the average increase was 82% over one month.

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[00:32:22] **Dave:** Wow. How does that compare to an IV?

[00:32:25] **Greg:** There's just not much data published on what IVs do to boost intracellular levels of NAD. I think Jinfiniti, that lab, he's done the most, and what he's communicated to me is that he just doesn't see big intracellular increases in his measurements, at least his analysis of results with NAD infusions or IVs.

[00:32:47] **Dave:** I think you get a huge spike. And it clearly has some benefits. Some of it enters the cells because I've felt benefits from it, but it's just a very expensive spike. And then it goes down, and it goes away, and you have to do, usually 10 of them relatively closely spaced. Or you could maybe just take Qualia NAD+, and you're getting almost a doubling of levels from a supplement that costs 10%, about, of what you'd spend on one or two infusions.

[00:33:16] So that's a big deal. So just in terms of economics and time and needle sticks and all that, Qualia NAD+ looks just like a better use of energy, and time, and dollars, which is why I wanted to have you on the show to talk about it.

[00:33:31] **Greg:** Another thing, when I think of why I want more resources to make NAD, it's because of what you mentioned earlier, like the TSA agents, metabolic stress. And a lot of stress is just unpredictable. We don't really know when it's going to hit us. So I want my cells fueled in advance of that where an NAD infusion is going transiently boost that. But that's different than having enough resources day in and day out.

[00:34:00] **Dave:** Yeah, it's different animal for sure. All right. There has to be some things that you thought were going to work in Qualia NAD+ but you didn't include for one reason or another. What's the most interesting one?

[00:34:13] **Greg:** Well, one of the things we thought long and hard about was NMN. And really the main reason we didn't was just because the FDA decided, in the midst of our creating our product, that it wasn't a dietary supplement anymore. So I still think NMN does a good job at boosting--

[00:34:27] **Dave:** Was that really the FDA? Certainly, I've seen the FDA make some very questionable decisions over the past three years, we'll just say at least. But in this case, it looked like it was a competitive thing that someone said it was a drug, and that triggered the FDA

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action, but it was one of the companies registering in as a drug that caused a cascade, almost like a misuse of regulatory policy. But I don't think it was the regulators who did this. Usually it is, but in this case, it wasn't.

[00:34:58] **Greg:** Yeah, so what would happen and when a pharma company wants to investigate a drug, they would file what's called an IND, an investigational new drug application. And then once the FDA gets that and thumbs up, that substance now is in the drug pipeline that really can't get out of it.

[00:35:16] So a pharma company under a different name. It was like it [Inaudible] something, they designated it. It was NMN. And around the same time, it's hard to say when-- we don't know when the FDA would've got things, but in the supplement world, for a new substance like NMN, it's called a NDI, a new dietary ingredient, so the same.

[00:35:38] You would send paperwork to the FDA notifying them of that. So what the FDA fundamentally claims is that the paperwork from pharma came in first, and what happened is that pharma company notified the FDA, like, hey, our molecule is actually NMN. It's already in your drug pipeline. It can't be sold as a dietary supplement, and the FDA agreed with them, is what went down.

[00:36:03] **Dave:** And it wouldn't be the first time that one company has misused regulatory policy to try and get a monopoly on something. In fact, the great majority of the medical system is based on this misuse of regulatory power, so we don't have to worry about that. What I do know is that if I can get that 80-something percent increase by taking, we'll say, a multi-ingredient formula like the Qualia NAD+, there's no point to taking NMN, and this is more affordable than NMN, and you've got great results, so okay.

[00:36:39] You guys can have that. We don't need it. You're talking to a guy-- I bought a kilogram of NMN when the very first study came out. I had it sent in from China. I've taken NMN. I've taken NR since it first became commercially available, niacinamide, even niacin, going back to the '90s.

[00:36:56] So all of these pathways matter. Just having them stacked up in the right way with all the co-factors in a single formula, I like it. It's going to save me a lot of time and energy. So

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Qualia NAD+. We work together because I always ask people to come on to talk about their stuff. Guys, you get your NAD levels up by at least 50% and get 50% off.

[00:37:19] Go to neurohacker.com/davenad. That's neurohacker.com/davenad, and save some substantial money, especially compared to NAD IVs. All you got to do is take a couple of pills a day. Levels go up. Seems pretty straightforward. You've got that one checked off on your box for longevity, and you can invest your time and your dollars somewhere else besides sitting around with needles in your arm for this.

[00:37:47] **Greg:** And one more thing, can I just add? So this would be something internally our science team talks about, and it would be along the lines of, we care about NAD, but we also care about it because of what it does, not just increasing it in isolation. So in our original beta test, one of the things we did was we asked questions about all types of symptoms that occur as men and women get older, so exhaustion and sleep problems, you name it.

[00:38:15] And we just saw tremendous improvements across the board in those, which is one of the reasons we thought, oh, we're on the right path doing our more complicated Qualia NAD product than just giving a single NAD booster. And we still have to verify those results in a bigger placebo-controlled study, but one of the things I would just encourage the audience is that you want your NAD booster to give you energy to make aging feel not as old.

[00:38:43] **Dave:** Beautiful. I've been a long-term fan of NAD. Not going to stop. I just like to not spend all my time and money getting it. So this is a cool episode for me. Thanks for walking all of us through the science and about how you made the decisions you did make for Qualia NAD+.

[00:39:01] Guys, one more time. neurohacker.com/davenad, and save 50%. This is one of those things it's a no brainer. If you are going to accelerate your NAD production, I don't know a better way to do it than this right now, and it just happens to be very affordable compared to the thing that I've been recommending for years, which is to do IVs.

[00:39:23] So this is a quantum leap in biohacking, totally worth it on a per dollar and per effort perspective because NAD is such a broad-spectrum compound in your body for cognition, for longevity, for energy levels, for brain fog, all that kind of stuff. So go very low in your

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foundational levels and get more results across your entire body. This is a big one. Thanks again, Greg. It's always fun to chat and just hear how you think about it.

[00:39:50] **Greg:** My pleasure. Thanks for having me today, Dave.