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**Dave:** [00:00:00] Hey guys, quick reminder. If you're listening to this on your favorite audio [00:00:05] podcast app and you haven't been over to my YouTube channel, check it out. Just search for the [00:00:10] human upgrade or find me under Dave Asprey BPR. I post full video versions of every [00:00:15] episode and a bunch of other cool content outside the pod.

It's a great way to go deeper into the content and [00:00:20] connect with other biohackers like you. So leave a comment for me. Yeah, I'm actually going to read them. And [00:00:25] poke around while you're there. There is a lot of stuff specifically for you. It really helps. And it means a lot [00:00:30] to me. What the heck is a nano V?

**Rowena:** The Nano [00:00:35] V is a medical device that influences the water in the [00:00:40] cells in a way that supports protein activities and [00:00:45] specifically protein folding.

**Dave:** So it hydrates? There's water in the cells?

**Rowena:** It changes the [00:00:50] nature of it, the energy state, into an ordered water surrounding the [00:00:55] proteins. So a layer of EZ water on the proteins.

**Dave:** Okay. Is this that magic thing? [00:01:00] very charged water blessed by angels or something different?

**Rowena:** No, this is [00:01:05] science. Both the water droplets themselves are measured and the impact on [00:01:10] humans and on proteins are measured.

**Dave:** Okay, so what are we measuring?

**Rowena:** [00:01:15] So in the water, we're looking for the ordered nature of it, meaning the water molecules are pressed [00:01:20] closely together in a different energy state, and that is transferred [00:01:25] into the body, across the mucous membrane.

And in the body, we look for every [00:01:30] outcome you might normally measure. And, um, in proteins, we look at [00:01:35] damaging them and seeing what happens if they use the nano v versus a placebo [00:01:40] device or a sham device.

**Dave:** Now, I'm feigning ignorance because, uh, I've used the [00:01:45] Nano V for what, eight years or something like that?

At

**Rowena:** least eight years. Religiously. Yeah. [00:01:50]

**Dave:** You can feel that it's doing something, and your studies show, last I looked, [00:01:55] a 10 percent increase in mitochondrial function.

**Rowena:** Yeah. There's different measures of it, and we just [00:02:00] have some new, um, MiScreen results. Ooh. But, [00:02:05] the mitochondrial function is just indicated by respiratory exchange.

Ratio which [00:02:10] was 11 percent and then VO2 max is also an indicator.

**Dave:** And you improve that as well?

**Rowena:** [00:02:15] Uh, 7. 8 percent and these are in

**Dave:** session. Okay, so [00:02:20] one session of breathing special water. We'll talk about what's the science behind special. But [00:02:25] 7. 8 percent increase in VO2 max. Now, a [00:02:30] 12 percent increase in VO2 max is equal to two additional years of life expectancy.

So [00:02:35] 7. 8 is probably around a year and a quarter. Okay. So, how often do I have to [00:02:40] breathe the Nano V in order to get those kind of benefits? That's one session?

**Rowena:** That was one [00:02:45] session, and it would suggest you just use it regularly would be best.

**Dave:** What does regular mean? Like you

**Rowena:** [00:02:50] do. I, I would, I have it, I use it pretty much daily.

Okay. [00:02:55] But even if it's only used once, uh, most of our studies are done before and after one [00:03:00] session.

**Dave:** Okay.

**Rowena:** So, you know it was impactful and it was helpful just using it [00:03:05] once.

**Dave:** Okay. You're welcome.

**Rowena:** Uh, but really it's something like good nutrition or, you know, [00:03:10] breathing well or whatever, where you want to kind of do it regularly.

That sounds like a non answer.

**Dave:** Like, [00:03:15] what does regular mean?

**Rowena:** Oh, well, okay, let's just say if you're going to a [00:03:20] gym or a wellness center. Like maybe upgrade labs? Upgrade labs. [00:03:25] Go two, three times a week, you know, and use it, use it each time you go. Okay. [00:03:30] And then, um, if you don't have your own, if you have your own, of course, you're just going to use it [00:03:35] whenever, like doing emails, you know, before sleep and so on.

**Dave:** Okay. Now, when we say [00:03:40] use it, what we're talking about is a device that sits on your desk. I've actually had mine [00:03:45] in here on my desk, but I have it downstairs next to my, uh, Big Squeeze, the [00:03:50] Upgrade Labs tech. So, I just sit there in the evening, and then I'll do some compression, and I'll [00:03:55] do the Nano V.

And with that doing it means is you have a little hose that [00:04:00] either goes into your nose, a cannulae, or just blows this kind of hydrated water. [00:04:05] Yeah. But it's not just hydrated. You said ordered water. I think most of [00:04:10] us are like, what do you mean ordered water? That

**Rowena:** makes no sense. Yeah. What?

**Dave:** Tell me more [00:04:15] about that.

I mean, I funded some research in this years ago. I know what it is, but it's hard to explain. [00:04:20] So tell me how you explain it because you do this all the time.

**Rowena:** So we use the term ordered water because that's what's [00:04:25] used in the scientific literature.

**Dave:** Okay.

**Rowena:** And so basically [00:04:30] where that comes from in the device is we bombard humidity, so water [00:04:35] droplets, with wavelengths that can be absorbed by water.

**Dave:** These [00:04:40] are wavelengths of light.

**Rowena:** Well, it's the part of the electromagnetic spectrum, whether you [00:04:45] call it light or not, is, you know, kind of definitional, but they're [00:04:50] wavelengths that change the, nature of the water droplet because they're [00:04:55] absorbed. And so all your other, you know, lasers and red light and everything, they go through the water, [00:05:00] they hit the biomolecules, and they have an impact.

Ours is the only device that's designed to [00:05:05] be absorbed by the water. And so we have it absorbed into the [00:05:10] humid air flow. It changes the structure, the order of the water droplets, [00:05:15] molecules pressed together. And when that hits the mucous membrane, the energy [00:05:20] state is transferred across the water in the body, which is most of the molecules in there are water, [00:05:25] so.

**Dave:** Now there are a bunch of people listening to this who have an education in science or medicine or going, [00:05:30] that is the biggest bunch of bunk I've ever heard. How do we know this is real?

**Rowena:** Well, it's [00:05:35] biophysics, which not every, you know, scientist or biochemist or doctor [00:05:40] is really looking at biophysics, although it is coming on more and more.[00:05:45]

But the key is that you have to study it down to the point [00:05:50] where it can't be disputed. And so what we've done is we've got multiple [00:05:55] different indicators of the impact

**Dave:** on the water. You mean like vaccines can't be disputed? [00:06:00] No, I think we should dispute structured or ordered water, because it, [00:06:05] it's totally fine to be like, I don't believe it.

Yes. And then to talk about the actual evidence, because [00:06:10] there is abundant evidence behind what you're saying, just most people don't know about it. And I think So like, let's [00:06:15] question it and let's, let's teach. We should be

**Rowena:** super skeptical, especially, you [00:06:20] know, in, in the, the, Current world where all this information and stuff's [00:06:25] available all over the place, and how do you know what to is real and what is not?

And [00:06:30] so my answer is you look at the study results, look at summaries of the studies, look at [00:06:35] who did them, and, um, and then, uh, go from [00:06:40] there because there's just so many things that are, are not, you [00:06:45] know, verified, basically.

**Dave:** They're totally not. And I'm going to try something I haven't [00:06:50] tried on the show before.

Oh, oh dear. Hey chat, GPT, [00:06:55] is ordered water scientifically valid?

**ChatGPT:** Yes. Ordered water [00:07:00] is a concept that's been explored in some scientific circles. Essentially, it refers to the idea [00:07:05] that water molecules can form more structured or ordered arrangements under certain conditions, [00:07:10] rather than being completely random.

While it's a bit of a debated topic and not [00:07:15] universally accepted, there is some research in areas like biology and material science that [00:07:20] looks at how water structures can be influenced by surfaces, solutes, or electromagnetic fields. [00:07:25] All

**Dave:** right. And by the way, thank you for not telling me I'm a genius and kissing my ass before you answered [00:07:30] it.

You did a really good job. I appreciate you. Okay. So if even CHAT [00:07:35] GPT, which has been polluted by big medicine, let's just be really clear, [00:07:40] um, If it'll say that, yes, Structured Water or Ordered Water is real, [00:07:45] and this is interesting. I'm going to ask my team to beep when I say [00:07:50] Structured Water, because a certain well known company run by a man [00:07:55] whose last name starts with Z will censor [00:08:00] anything that contains the words S T R U [00:08:05] C, beep, beep, beep, R E D, water.

Literally. So, [00:08:10] why is that? Maybe because they just don't like people? I don't know. But anyway, it's real. That's what I'm [00:08:15] saying.

**Rowena:** Human Garage got basically taken down and what they got called out on was [00:08:20] structured water.

**Dave:** Yeah.

**Rowena:** It was, it's amazing. But anyway, structured water's [00:08:25] like, there's lots of different ways to structure water.

We can

**Dave:** say order.

**Rowena:** We say order because it's a very [00:08:30] specific way of doing it. Yeah. And it's a certain Coherence, which she, [00:08:35] she met my friend here, mentioned can be initiated by electromagnetic energies. [00:08:40] And those are the ones we use. So we're much higher in the electromagnetic spectrum [00:08:45] than all of the other lights, lasers, and so on.

**Dave:** The way I learned about this [00:08:50] was through my old company, Bulletproof Coffee. To be clear, I have nothing to do with [00:08:55] Bulletproof. I have nothing to do with their standards. Danger Coffee is my new coffee company. Just for, if you're [00:09:00] like, Dave Bulletproof. No, not anymore. So. I wanted to understand if I [00:09:05] ate a couple big bites of butter, which I've done, and then I drink some [00:09:10] coffee.

It doesn't work. I do not get the energy that I want. And [00:09:15] so I finally tracked down this famous in nerd circles guy named [00:09:20] Gerald Pollack. I know you guys have worked with him. And he's in his 80s now. And for decades, [00:09:25] he's studied basic water in biology at the University of Washington. [00:09:30] And I was so intrigued that I actually funded his lab with [00:09:35] 50, 000 of research funds.

And he [00:09:40] explained that Oh, the reason that it works when you blend butter into something [00:09:45] like, I don't know, Danger Coffee, that you get a different effect than if you eat it [00:09:50] and you drink it because it's changing the structure of the water. In a different way than Nano [00:09:55] V is, but It's hard science. And the reality is, your body cannot make [00:10:00] ATP without ordered water in your cells.

And your [00:10:05] body spends so much energy and time trying to order water, and that energy [00:10:10] and time, you don't have to waste it. So, that's why this is such a fascinating device, and [00:10:15] I just have to say, if we compare Nano V with, [00:10:20] say, an hour of cardio, an hour of cardio, Every day, five days a [00:10:25] week, that will give you 2 percent improvement in two months.

One breathing [00:10:30] session of Nano V gives you 7. 8 percent VO2 max improvement. [00:10:35] And that's on average. It might be higher or lower for someone, but that's really an [00:10:40] amazing, amazing result.

**Rowena:** And how long is a session? That might have been a 20 [00:10:45] minute session. Okay. But it's in there somewhere. You know, mitochondria love it.

**Dave:** They really [00:10:50] do. So now when you're doing an interview, you have to hang upside down from a bar, right? Yeah,

**Rowena:** exactly.

**Dave:** It's [00:10:55] fitness. That's the thing. You don't have to do anything. You can literally be on a call. It'll look like you're talking to a [00:11:00] different microphone with air coming out of it. Or you can be on the phone.

Or you can just [00:11:05] read or meditate or do whatever you're doing. So it doesn't come out of your day. It's just [00:11:10] additive. Right, so I like to do it if I'm meditating. I've, would it work if I, [00:11:15] I guess if I'm in a sauna?

**Rowena:** Best to do it after or before, probably after. [00:11:20]

**Dave:** Yeah, when you have lots of blood flow. Right,

**Rowena:** you don't want to overheat the device itself, and you don't want a [00:11:25] long connection to the sauna, so.

**Dave:** Okay, I can have it like right outside the door, and just be like [00:11:30] breathing it right by the door. Okay.

**Rowena:** Or when you're chilling afterwards.

**Dave:** All right, [00:11:35] now I want to address one thing. This is not a consumer grade device. It's a [00:11:40] therapeutic grade device, right? Like, it's expensive. It's a

**Rowena:** medical device, and it is [00:11:45] expensive, but it's amazing that now more than half our sales are made to [00:11:50] consumers.

Because people invest in their health and well being in [00:11:55] ways that they didn't used to even ten years ago.

**Dave:** And it's slightly north of 10, 000, [00:12:00]

**Rowena:** right? No, David, they are, the most expensive one [00:12:05] is north of 10, 000. But we also have a couple models below that. And so they're going to be [00:12:10] just a little around where a molecular hydrogen machine comes in or something.

Okay,

**Dave:** so they're a [00:12:15] high end device, but they, they aren't as expensive as I thought, of course, because we have we have them in some of our upgrade [00:12:20] labs locations. I'm always thinking the clinical big, you know, the big [00:12:25] dog number.

**Rowena:** Yeah.

**Dave:** So, yeah, it's expensive and if you look at the fact you're going to use it [00:12:30] every single day while you're doing something else and get, Well, if we [00:12:35] believe the association of VO2 max and longevity, Eh, just another year, year and a half or [00:12:40] so of additional lifespan, which is, it's a correlation, not a causative thing, [00:12:45] but I know, because I wrote a major New York Times book on it.

Increase mitochondrial function, [00:12:50] and you decrease inflammation, and you increase all of the healing things, [00:12:55] like, the body's ability to get rid of zombie cells, the senescent cell cleanup, the ability to make [00:13:00] hormones, and specifically, cognitive function is driven directly by mitochondrial function.

**Rowena:** [00:13:05] We have been looking at that, and so some of the mitochondrial function we've looked at with [00:13:10] MeScreen in pilot studies to specifically measure mitochondria, [00:13:15] and that showed improvements in mitochondrial respiration, [00:13:20] in cell membrane voltage, mitochondrial membrane voltage, and [00:13:25] in, uh, mitochondrial connectivity, which was really, that was a, [00:13:30] a 12 percent increase in mitochondrial connectivity, which [00:13:35] I didn't know this before, but you knew, I know, but the [00:13:40] mitochondria are not little power plants.

They're actually a power grid. And [00:13:45] so they have to communicate. And that connectivity is what will [00:13:50] increase their ability to boost and to be resilient. And so that was a good [00:13:55] one.

**Dave:** There's so much science in that. And if you're new to the show, a while [00:14:00] ago we had a PhD from University of California, San Diego, Dr.

[00:14:05] Hemal Patel came on to the show, and he talked about something that for me has been a holy grail in the [00:14:10] longevity and cognitive enhancement space. I just want to know how my mitochondria are doing. [00:14:15] So throughout all of history, if you wanted to do that for real, I'd You could maybe look at like [00:14:20] the exhaust fumes, it's called urine organic acids, but it's not very accurate and you don't really get [00:14:25] percentage of function.

So what you have to do is slap a mask on, be [00:14:30] fasted, and exercise at high capacity for like an hour in the morning, and it sucked and [00:14:35] no one was going to do it. So that was a problem. And I'm like, how do I measure this for [00:14:40] people? And he came on the show and said, well, in fact, I went down to his labs before he came on the [00:14:45] show and evaluated what they were doing.

He came up with a new way [00:14:50] to look at mitochondrial function in a lab test called MeScreen. And [00:14:55] I went down and I got mine and was like, okay, you know, here's where I can improve. I don't remember the score [00:15:00] off the top of my head. And they launched at the biohacking conference a couple years ago. [00:15:05] So this is now the gold standard for mitochondrial function.

And you used that gold standard test [00:15:10] with Nano V. And what were the results there? You used three things?

**Rowena:** There were three things that showed. So [00:15:15] this was a small pilot study. And Henl is just absolutely great. And so it's a [00:15:20] delight to work with him. But those, those were the three areas that [00:15:25] showed up in the pilot that we had.

And he recommended we study people over [00:15:30] the age of 60 because they were more likely to to show mitochondrial [00:15:35] changes.

**Dave:** You mean mitochondrial dysfunction is a hallmark of aging? Oh my gosh, well, you [00:15:40] know, yeah, of course. And

**Rowena:** so what that study was was 30 days daily use, [00:15:45] highly compliant people. Okay. That was 20 minutes a day for 30 [00:15:50] days.

Wait a minute.

**Dave:** My parents are over 60. They're not highly compliant. I know,

**Rowena:** but we wouldn't want [00:15:55] them.

**Dave:** Okay. We

**Rowena:** wouldn't take

**Dave:** them. Alright, so you found some people who are really [00:16:00] motivated and longevity, and there's a ton of people, and I'm just kidding, Mom and Dad. Yeah. So, okay.

**Rowena:** And then we measured [00:16:05] a whole slew of other things with these people because they had the device for one month.

**Dave:** Okay.

**Rowena:** And [00:16:10] Hemel thought that was sort of at the short end of what you'd expect to see an impact on mitochondria.

**Dave:** [00:16:15] Mm hmm.

**Rowena:** And so, in retrospect, we should have run the whole thing again after two months. [00:16:20] Because you have more improvements. And some of the adjustments that people made they could take [00:16:25] longer to see the, the full impact.

And so that's something we learned, but it, [00:16:30] now it's a matter of returning to that and, and building on it. So, [00:16:35] it's,

**Dave:** yeah. That's an incredible result, because My [00:16:40] understanding of mitochondria over the last 25 years, when I first developed my [00:16:45] mitochondria fetish, um, because I had a, a chronic fatigue syndrome and fibromyalgia, like, well, I have [00:16:50] no energy.

Maybe I should work on my energy plant. So I'm just a dumb computer hacker. What do I know? It turns out that was a good [00:16:55] guess. So I've just looked at them first. They're the power plants, and what they do is they're [00:17:00] computers and their environmental sensors, so each individual mitochondria. It's [00:17:05] looking at the environment, whatever signals it can get, and then it says, based on all these things, [00:17:10] what do I do?

And if you've read Heavily Meditated, I talk about all the F words, you know, [00:17:15] fear, food, fertility, friend, and then they're driving your emotions and your behaviors. But [00:17:20] before they can do that, they look at the environment, go, okay, am I stressed? Am I not stressed? Do I [00:17:25] need more energy? Should I be repairing?

All the different stuff. And it goes, okay, now let me try to [00:17:30] do it. When it tries to do it, if it can't make enough energy, It says, uh oh, [00:17:35] I needed to do something and I couldn't do it, therefore, I'm sad, or I'm [00:17:40] stressed, I'm anxious, right, and eventually you feel that, right, and then they [00:17:45] don't just do it as a single mitochondria, they're a distributed consciousness, and they [00:17:50] talk to each other, and they vote, and they break off little pieces and send them to the other one, and they have this whole complex [00:17:55] social life, that's really incredible, and, Um, if [00:18:00] you're saying, Dave, you're crazy, no, look at Martin Hall's work.

He's written some beautiful papers on this. So [00:18:05] mitochondria are social creatures. So there's this crazy ass group of bacteria [00:18:10] running your reality that you don't know about. And if you breathe nano V, For [00:18:15] 20 minutes a day, they can talk to each other better, so they better sense reality.

**Rowena:** Yeah.

**Dave:** [00:18:20] And if you want to be a meditator, you want to be more conscious, ultimately consciousness is just about sensing [00:18:25] reality better, and they are your frontline sensors.

So that idea that mitochondria talk to each other better with nano [00:18:30] V is really foundational. So I don't care if you're a meditator, or if you're a longevity person, you're [00:18:35] going to end up being both if you're a biohacker. But whatever your goal is, this mitochondrial [00:18:40] communication enhancement is really important.

Nobody knows about it, and it's such a big deal. So I'm glad you brought it up.

**Rowena:** And so [00:18:45] that's a, that's pilot, we're exploring that more. But what also relates, because you mentioned the brain [00:18:50] earlier, and I think you'll appreciate this, is, um, you can [00:18:55] measure, uh, the prefrontal, Cortex, [00:19:00] and it's um, what is it, uh, near infrared spectroscopy.[00:19:05]

Okay. And so they're looking at blood flow in the brain and looking [00:19:10] at the oxygen metabolism, blood oxygen metabolism in the brain. [00:19:15] And so those were, uh, 9 percent improvement in metabolism, blood [00:19:20] oxygen. Wow. And a 12 percent improvement in cerebral blood flow. [00:19:25]

**Dave:** Okay.

**Rowena:** And so those are also these kind of these indicators of, you know, [00:19:30] the brain is this huge user.

**Dave:** Now you got me excited because [00:19:35] biohacking is really a way of making [00:19:40] neuroscience and cognitive function and meditation and longevity [00:19:45] really cool and accessible. I mean, it's kind of what's behind the why for it. [00:19:50] And one of my books was called Head Strong. And [00:19:55] I think that, yeah, that's the one that was on the science bestseller list, which is kind of an honor because I am both a science [00:20:00] author, but I'm more of an advise how to author.

And so this is my only book that was [00:20:05] sandwiched between. Homo Deus and sapiens on the top 10 monthly [00:20:10] best selling list like this that big of a book.

**Rowena:** Oh, I love those books

**Dave:** and it's like here's how to not get Alzheimer's [00:20:15] and raise your IQ and make your brain work better and One of the massive variables there is [00:20:20] cerebral blood flow.

Mm

hmm. In fact, dr Daniel Amen is the one who influenced me the [00:20:25] most there and I'm now in his board of directors He's been on the show many times. I

**Rowena:** want to ask him to you [00:20:30] know Don't

**Dave:** know what we'll send him the study for sure, but [00:20:35] I know because 20, geez, 23 years [00:20:40] ago, when I was really struggling, I actually was about to fail out of Wharton, [00:20:45] my business school.

And I went and I got my first brain scan, uh, with [00:20:50] Dr. Amon's tech called a SPECT scan. And I had, this is from memory, [00:20:55] something in parts of my brain, five standard deviations less blood flow than average. That's [00:21:00] bad. Oh, I

**Rowena:** didn't know that. Yeah, that was the I thought you had a concussion or something and I

**Dave:** had a concussion later [00:21:05] I had poisoning from toxic mold.

In fact, I had brain damage from mold toxins and [00:21:10] maybe some heavy metals and massive mitochondrial dysfunction and [00:21:15] What they don't talk about is that low blood flow in the brain if you have that [00:21:20] when you're young and you have it consistently for a long time [00:21:25] That's what gives you Alzheimer's. It's not the only cause, and Dr.

Dale Breslin's been You can't detox

**Rowena:** without [00:21:30] the

**Dave:** So, low blood flow in the brain equals dementia or Alzheimer's or maybe even Parkinson's [00:21:35] much later in life. So, you're saying, what percentage improvement did Nano V bring? Uh, the blood flow was [00:21:40] 12%. And that's insane. You take some nitric oxide stuff, and we had a couple episodes on [00:21:45] that, like the Vasconox tech, you could do that to get the blood flow up, and then you do nano V, [00:21:50] and you're stacking these things, and the cool thing is, you can get it at home, and [00:21:55] some of our Upgrade Labs locations have it, you can come and you can try it and see if you like it, but this is one of those [00:22:00] foundational longevity biohacking technologies, I just, I wish you guys would [00:22:05] make it prettier.

**Rowena:** It's not, it's, well, no comment.

**Dave:** So, [00:22:10] and you'll see in the video, we'll cut in for it. Like it, it looks like a piece of medical tech, because that's what it is, [00:22:15] right? I just want it to look like a spaceship, because I'm a nerd.

**Rowena:** Yeah, let's just say you're [00:22:20] investing in the guts of this device that does remarkable things for the, [00:22:25] for the body.

and the brain, um, rather than, you're not [00:22:30] investing in aesthetics. You can just look at the bubbling water and it's really pretty.

**Dave:** [00:22:35] I never asked you this before. I know there's a lot of mitochondria in skin. Is there [00:22:40] like a nano v face mask or something that would get the water vapor into my skin?

**Rowena:** We really need to [00:22:45] go water to water and the skin's too much of a barrier.

**Dave:** Oh, it's not, it's because there's oil, so you need like [00:22:50] a mucous

**Rowena:** membrane. Because we're transferring an energy state across the water. Okay. And, uh, the [00:22:55] skin is, you know.

**Dave:** You gotta breathe it.

**Rowena:** Yeah, it's, it, it can't move [00:23:00] through there.

**Dave:** And you can't drink nano B water, right?

**Rowena:** You need the surfaces inside the [00:23:05] cell, so no.

It's not like you could do it into a glass of water because they, those, [00:23:10] the ordered water only forms on surfaces.

**Dave:** Exactly.

**Rowena:** And the glass of water has very little [00:23:15] surface area.

**Dave:** And to visualize this some people have heard about activated charcoal. [00:23:20] I, I put that as one of the first supplements ever made.

Forever ago. Yeah. And it's a [00:23:25] very interesting compound because you have this little capsule, but it's so wrinkly. The surface area is so high [00:23:30] that if you took that little capsule and you spread it out, it's as big as like a football field. [00:23:35] That's how big the surface area is. So, you can have tiny little particles with massive surface [00:23:40] area, or you can have a glass of water and the surface area is the edges of the glass and the top.

So, by making [00:23:45] these micro droplets of water and charging the water, you're getting the most surface [00:23:50] area, which is why it can go into the mucous membrane and transfer the energy that it's transferring.

**Rowena:** Yeah, we need [00:23:55] the humidity. 'cause droplets have a lot of surface area.

**Dave:** Okay. And you say it's transferring [00:24:00] energy or I said that, is it that it's change?

Is it transferring the structure of the water or is it actually [00:24:05] electron flow?

**Rowena:** It, it's a coherence. Okay. So it's It's a state transfer. Yeah. And [00:24:10] so it's entropy, it's going from, it's ordering it, chaos to order, order to [00:24:15] chaos. Okay. And the protein does the reverse, so if the water's ordered and [00:24:20] the protein's kind of chaotic, it needs to fold into a 3D shape.

**Dave:** Okay.

**Rowena:** It needs energy [00:24:25] to do that, and it gets it from the water.

**Dave:** Mmm, okay. And so

**Rowena:** it becomes highly [00:24:30] structured, the water loses that order and needs to be recharged all the time.

**Dave:** Mmm.

**Rowena:** [00:24:35] Naturally, in the body, that comes from a reactive oxygen species that emits [00:24:40] at a certain wavelength. That we copied.

**Dave:** You copied something in [00:24:45] biology to be able to upgrade

**Rowena:** it?

And that was Hans Eng, the person behind [00:24:50] this, was, that's where he was like, wait a minute, I can now do this outside the body [00:24:55] and emit that wavelength to humidity. And so, [00:25:00] um, the, it became possible to do it technically, and then it also [00:25:05] became possible to upgrade it even further with the wavelengths that are more readily absorbed by the [00:25:10] water.

**Dave:** One of the things that traumatized me years ago was, [00:25:15] the state of California. Actually, they've traumatized everyone just by their mere existence. Sorry, I was a Californian for a long [00:25:20] time. Um, it was the, the State Franchise Tax Board. [00:25:25] Just kidding, guys. Please don't say anything mean about me. But [00:25:30] what they did, they decided that they didn't want water to evaporate from reservoirs.[00:25:35]

So they took black ping pong balls, and they floated millions of them [00:25:40] over the surface. So

**Rowena:** the thug didn't clean the water reservoir anymore?

**Dave:** Sunlight contains all the [00:25:45] frequencies, and it does change water. So they created dead water for everyone to drink. [00:25:50] And it's like, man, if you lined up everything that makes people sick, That's what they're recommending.

And [00:25:55] critters grow in there. Yeah. So they kind of create these lifeless pools. And sunlight interacting [00:26:00] with water does things that are necessary for life. Correct. And you can say, Dave, that's BS because you can [00:26:05] drink water from a well that didn't get except that water was in sunlight. And then when it comes [00:26:10] out, if you take it and you put it in a blender, you swirl it around, you put it in the [00:26:15] sun for a little while, it will help to change the water, but there's no surface area to speak of [00:26:20] versus what you guys are doing.

Right. And there's something else in biohacking that [00:26:25] It is just so incredibly important. It's that the body has [00:26:30] enormous amounts of communication capacity. So like if I make a fist, [00:26:35] right, or I flex my arm, okay, well, Dave, your nerves are transferring stuff from your [00:26:40] skin and your proprioceptors and all that, and that's all that's going on, but that's not.

Actually, all that's going on, [00:26:45] that's what we perceive. Right. If we measure it, there's actually stuff happening in the fascia. [00:26:50] Yeah. Of the body. And the fascia makes a little bit of electricity when it moves, oh, if [00:26:55] there is ordered water present. Correct. Right? And when it does that, there's cell level [00:27:00] signaling, there's subcellular signaling, there's hormonal signaling, there's stress signaling, there's vibrational signaling.

Yeah. [00:27:05] So a lot of biohacking is just saying, well, what are the signals inside the body here? [00:27:10] And how do we go in and create signals to tell the body to do what we want? It's the [00:27:15] very definition of biohacking, change the environment around you and inside of you so you have control of your state. [00:27:20] Right.

That's biohacking. What's happening? And so what you're doing with Nanavie, okay, we [00:27:25] figured out that the body, the cells need this specific thing in water [00:27:30] and They can make some of this because if you drink water The body has to go to a lot of [00:27:35] work to transform that water into structured water And if you do that, the body's like, oh, less stress.

I got what I need. Let [00:27:40] me go do my thing So it makes sense and

**Rowena:** the body's creating this ordered [00:27:45] surfaces on the proteins Constantly we wouldn't live a day without that because [00:27:50] the proteins wouldn't work. And when you clench your fist, every single thing you do is a protein [00:27:55] function. There's no biochemical reaction in the body that's not involving protein [00:28:00] somehow.

**Dave:** This is, and

**Rowena:** so it's pretty fundamental.

**Dave:** [00:28:05] Wow. All right. You showed me another study that really blew me [00:28:10] away. And If you're brand new to the show, you didn't see the recent episode with [00:28:15] Roland McCready from the HeartMath Institute. But we went really deep on what is heart rate [00:28:20] variability, and it's not just what you get from your aura ring, or your whoop, or your ultrahuman, or one of [00:28:25] those.

It's a fundamental stress signal in the body. You guys, Looked [00:28:30] at heart rate variability and what happens when people breathe the nano V ordered water. [00:28:35] What happens

**Rowena:** when they breathe the nano V for 15 minutes testing [00:28:40] before and after showed a 45 percent drop in the stress [00:28:45] index and a 19 percent growth of the parasympathetic [00:28:50] system.

Wow. And the way it was measured was continuous [00:28:55] monitoring. So they're.

**Dave:** So [00:29:00] people, you let them sit, so they were chill, you knew what was going on in their nervous system. [00:29:05] They breathed for 20 minutes, this nano V, and then they saw a 45 [00:29:10] percent reduction in stress.

**Rowena:** Their stress index dropped, and in our continuous [00:29:15] monitoring, we show that that takes place at about minute 7 or 8 for most [00:29:20] people.

Wow. And then at about minute 13 or 14, then you [00:29:25] see the parasympathetic building.

**Dave:** Okay.

**Rowena:** So, even 10 minutes is [00:29:30] going to drop a person out of stress mode pretty effectively.

**Dave:** I have definitely [00:29:35] noticed that, like if I come back from a flight. I am highly resilient at this point in my [00:29:40] life, I do everything when I fly, I've got compression pants on, I'm doing my ketones, I've got [00:29:45] EMF blockers, I've got my true darks, like noise cancelling, I'm dialed in and I can fly [00:29:50] anywhere and I'm good, but it still takes time.

It takes a toll and you get [00:29:55] back and then I breathe it usually 15 20 minutes while I'm doing something else [00:30:00] usually probably on my phone and then you feel better and it's [00:30:05] that stress of circadian disruption and travel and altitude change and all [00:30:10] that. And then you feel better. Yes. But here's my question.

If you [00:30:15] exercise, like you say you lift heavy or you do some kind of high intensity interval training, [00:30:20] after that, don't you kind of want a stress response? Like, is it a bad [00:30:25] thing to breathe in and out of heat after training? If

**Rowena:** you want that hormetic response, yeah, [00:30:30] wait another couple hours, probably. If you're trying to kind of overtax the [00:30:35] body, really stress it, that's a good question.

And then when you get to the recovery point, that's [00:30:40] when you use the Nano V.

**Dave:** Do you have data? That's the first thing you just said, because I don't think you're right.

**Rowena:** I don't [00:30:45] have data.

**Dave:** Okay.

**Rowena:** But I think that it, I think it, you don't want to use it [00:30:50] right away if you're trying to kind of upregulate yourself.[00:30:55]

For most people, they want to recover faster after they've overexerted. [00:31:00] And then they just use it right away, and it's great, and we have the, we have a double blind [00:31:05] placebo controlled study on that recovery in athletes.

**Dave:** Like people recover faster when they use nanobase. Yeah, [00:31:10]

**Rowena:** it kicks in the immune system, and they recover faster.

**Dave:** So, the way that I do use [00:31:15] it, and from my understanding of just biological pathways, If [00:31:20] you train hard and you want to improve, you should use Nano V right away [00:31:25] afterwards.

**Rowena:** Oh, really?

**Dave:** Because Nano V is not an antioxidant. You don't use antioxidants because antioxidants [00:31:30] block exercise response. You need free radical production.

What Nano V is doing is [00:31:35] it's increasing cellular efficiency.

Yes.

And it's making the [00:31:40] cells be in a recovered state. So, I've looked now at [00:31:45] exercise as a signal and when people come to upgrade labs, there's now 10 years of data, we [00:31:50] get 187 million data points from a client when they come through per year.[00:31:55]

So, I think this is based on some pretty good understanding, but I haven't structured all the data [00:32:00] to be perfectly quantitative or I'd tell you that. So, If the body is [00:32:05] stressed, and then you put it in a state of lack of stress, [00:32:10] it will transform. But if the body is stressed, and it stays stressed, the amount [00:32:15] of transformation goes way down.

As an example, we have this thing called the, the the [00:32:20] AI bike. That's a part of our stack at Upgrade Labs. And, If you do [00:32:25] two 20 second intervals of this rehit training, there's a couple episodes about [00:32:30] that, you can improve your VO2 max by 12 percent in a couple months. It's like [00:32:35] 15 minutes a week that you spend at UpgradeLabs to get this.

But if you do four intervals [00:32:40] instead of two, you do not get the same improvement. It goes down. And so what I found is [00:32:45] 80 percent of the tech at UpgradeLabs recover faster so you can transform. And [00:32:50] I use Nano V at UpgradeLabs. Yeah, go do our AI cheat machine where we're just blowing out your [00:32:55] muscles.

It's

**Rowena:** hard.

**Dave:** Yeah, it's hard. But it takes very little time. And then you're putting on your [00:33:00] muscles. And then do the Nano V. Right? Yeah. And not every location has Nano V. It's an [00:33:05] optional thing. But where we have it, people, people really like it. And it's because [00:33:10] Oh, stress signal, safety equals transformation.

Stress signal lasts for a long [00:33:15] time, much less transformation. Because all the time the body was stressed, it wasn't improving. [00:33:20] Interesting. Do you have any studies that say that's not real?

**Rowena:** I don't.

**Dave:** Okay, just making sure, [00:33:25] because I could be wrong.

**Rowena:** Because we haven't looked at that, but what we find with trained athletes is [00:33:30] they just use it right after.

Yeah. And they get it's pretty measurable performance [00:33:35] differences.

**Dave:** And trained athletes, no. Yeah.

**Rowena:** They can tell. Yeah. And most of us can tell [00:33:40] when they use the Nano V. Just, you know, it's often apparent when people feel [00:33:45] less stressed or more mental clarity is really common. But for athletes, it's just [00:33:50] one or two percent and they'll notice it.

**Dave:** Yeah, they're running right at the edge there.

**Rowena:** Yeah.

**Dave:** [00:33:55] Another thing that's super cool is that, You know, the, the true dark glasses, the, the ones for sleep, [00:34:00] um, one world famous trainer observed a 6 [00:34:05] percent increase in people's max power lift when they're wearing the glasses that true dark [00:34:10] designs for sleep because it reduced stress on the body.

So then you could funnel the stress into picking up the [00:34:15] bar, 6 percent max lift improvement just from true dark. [00:34:20] Now, what I would say, if I was a competitive power lifter or something, I would [00:34:25] be breathing nano V. And then go hit your [00:34:30] PR or go into competition, you'll look a little weird in your red glasses, but [00:34:35] that combo, more mitochondria, more muscle output, it's how it's going to be.

**Rowena:** And [00:34:40] depending on what you're going to do, if lactate's an issue, we have, again, [00:34:45] double blind placebo controlled, the reduction in lactate when [00:34:50] they were pre treated with Nano V was 17%. [00:34:55] 17%. I mean, it's huge. That's incredible. Yeah, so if [00:35:00] there's the opportunity to use it right before performance, How long does that last?

Well, we don't [00:35:05] know some of those details. We did it for an hour, and um, we kept [00:35:10] taking blood for an hour, and it lasted the whole time. So there was a [00:35:15] statistical significantly, a statistically significant difference [00:35:20] for that full 60 minutes, but that's [00:35:25] after exertion.

**Dave:** So could I mount a Nano V? Actually, I don't do chronic cardio, but if I [00:35:30] did, and I was a cyclist like I used to be when I was really, when I was really fat.

And in my teens and [00:35:35] early twenties, I would do long distance cardio to try to lose weight. It never worked. Um, but when I was doing that, [00:35:40] I would want to nano beam matter to my handlebars so I could breathe it. They're too heavy for that, but.

**Rowena:** Well, that, along those [00:35:45] lines, it's one of the only things out there that's not doping.

Because, [00:35:50] you know, Even if you add hydration, it's doping. But this [00:35:55] isn't, there's no substance. They're allowed to

**Dave:** drink water.

**Rowena:** No, but you can't, you can't IV in, [00:36:00] hydration, and so on.

**Dave:** We're going to destroy all those rules. The Enhanced [00:36:05] Games, uh, Aaron, the head of the Enhanced Games, was on the show. I'm an advisor to them.

[00:36:10] And we're like, let's take the gloves off so any Enhanced Games athlete could use NanoB if they want to.

**Rowena:** Yeah, [00:36:15] we had a swimmer, I have a swimmer out of Australia that was going for the [00:36:20] games.

**Dave:** Oh yeah?

**Rowena:** Yeah. And, uh, I need an update on that one.

**Dave:** Okay, that's super [00:36:25] cool. Wow. Rowena, there's more benefits that we never talked about before [00:36:30] that you're kind of blowing my mind.

**Rowena:** There's other ones we've done that you'd probably be interested in [00:36:35] and we're going to do more along these lines, but we've looked at, uh, self [00:36:40] reported sleep fatigue. pain [00:36:45] mood, which is depression, anxiety, stress, and that self [00:36:50] reported difference over the course of a month was 53 [00:36:55] percent in these mood variables.

**Dave:** So people were less anxious and less depressed when their [00:37:00] mitochondria worked because of nano V? Shocking.

**Rowena:** It's like, if you think about it, every single [00:37:05] one of these, including pain, because your body can better adjust and [00:37:10] normalize and get rid of inflammation and all this stuff, if the mitochondria is working better.

[00:37:15] Wow. And, and so all of those indicators are, are pretty remarkable [00:37:20] differences. And we did also studies that where we cross checked surveys, [00:37:25] so they reported in a few different ways. And so it was pretty compelling, and [00:37:30] we want to do more.

**Dave:** Do you ever look at cell phase angle as a variable?

**Rowena:** We have looked at it, and [00:37:35] it wasn't something we expected to see a difference in.

And I don't think [00:37:40] we saw a difference in it.

**Dave:** Okay, I'll explain what that is really quick for, [00:37:45] uh, for listeners. Cell phase angle is a, uh, a very little known [00:37:50] measure of how well your cell membranes are working. And I could see why with Nano V, that's [00:37:55] not the pathway that it uses. The reason I was asking is that the specific [00:38:00] types of minerals in Danger Coffee will typically raise people's phase [00:38:05] angle.

**Rowena:** Ah, that makes sense.

**Dave:** Which makes sense. It's because of the [00:38:10] electrolyte and because of the ionic minerals that are in Danger Coffee.

**Rowena:** And all that gating is all, [00:38:15] yeah. Well.

**Dave:** So I stacked that with Nano V, different pathways all [00:38:20] around mitochondrial performance and around lowering stress in the body by having [00:38:25] better cellular function.

**Rowena:** Yeah, and one of the things Hemel showed was the mitochondrial membrane. [00:38:30]

**Dave:** That that does improve.

**Rowena:** Right, and that was, it was 5%, so it wasn't enormous, [00:38:35] but that was over the course of the month.

**Dave:** I mean, I've written whole books about mitochondrial enhancement, and there's a [00:38:40] lot of nutrients, Are there any specific supplements that are likely to make Nano [00:38:45] V work better?

Like what's the actual, is it CoQ10, is it low carnitine, like give me some, give me some biohacking [00:38:50] juice here.

**Rowena:** This is, I'm going to bail on this a little bit, but it's so individual. It's like, [00:38:55] what are you missing? What do you need? What's helpful to you? You know, and so it's really hard [00:39:00] to generalize. I will say that getting the right stuff in there, Which becomes [00:39:05] more and more important as you get older because you really aren't producing all the stuff you need as well as you used [00:39:10] to, is key.

And, and a device like NanoBeat can't make up for [00:39:15] that. And, you know, good nutrition, exercise, breathing, you know, [00:39:20] some kind of a mindfulness practice or whatever, all those things, this is kind of in [00:39:25] addition, they're complementary.

**Dave:** I respect that answer a lot. People [00:39:30] have given me so much crap over the years because like, Dave, you take 150 supplements a [00:39:35] day, give me the list.

No. And exactly, I have never published a list, [00:39:40] and people have offered me a lot of money for it even. I'm like, no. If you copy me, Unless you have [00:39:45] exactly my biology and lifestyle and my history of being obese and autoimmune and all that stuff, [00:39:50] you're going to take what I take and you'll get a headache or fill your pants or maybe both at the same time.

[00:39:55] Nobody is like you, Dave. It's personalized and no one's like you and no one's like anyone listening to the [00:40:00] show. So it has to be personalized. So I love your answer. And there's some things that are likely to [00:40:05] stack with it. So I'm going to provide that list because I'm the mitochondria guy.

**Rowena:** And we know the really [00:40:10] basics.

If you're low in vitamin D or magnesium and some of these things, it's like you [00:40:15] need those, you know, calcium channels. You need all these different things in there.

**Dave:** They're [00:40:20] foundational.

**Rowena:** And they're foundational for the mitochondria and everything else. And then in addition [00:40:25] to that, we have pretty good evidence that CoQ10 is good for heart health long [00:40:30] term.

And mitochondrial. Pretty well studied. Yeah. Yeah. But the thing that's better studied than [00:40:35] anything on the planet is Exercise.

**Dave:** Yeah, getting some [00:40:40] stimulation in there is good.

**Rowena:** It's just like exercise will improve, you know, all kinds of [00:40:45] things. And so it's do all that stuff.

**Dave:** My top list of things, uh, supplements I would [00:40:50] take that would stack with, uh, with Nano V would be things like [00:40:55] Timeline.

There's 10 years of good data behind that for mitochondrial enhancement. And what I'm [00:41:00] looking at is I want my mitochondria to work better. And you just had amazing data about Nano V. [00:41:05] And I would also look at FATI 15. It's another one that's really good. [00:41:10] And of course the foundationals, there's vitamin dake, and it's one I make, vitamindake.

com, very [00:41:15] affordable. And the reason that the fat soluble vitamins like that are so important is that [00:41:20] they direct minerals into the cells. So of course then you need minerals 101. And you need trace minerals. And [00:41:25] so there's a reason that I'm selling the least sexy supplements on the planet, which is vitamin D, minerals 101, and then, you [00:41:30] know, Danger Coffee has amazing minerals in it, but minerals aren't sexy.

But if you don't have minerals, [00:41:35] you can do your Nano V, you do your exercise, and the body's like, I needed to make something, now I [00:41:40] have the right ordered water to make something, but I didn't have zinc. Oops. And then you just [00:41:45] get cell stress. So malnourishment or lack of nutrients stops everything from [00:41:50] working, including Nano V from working as well.

And the body's like, at least I got some ordered water here, but I'm stressed [00:41:55] because I can't respond to the inputs of exercise or emotional stress [00:42:00] because I needed energy. And that's where Nano V comes in, right? And then I needed building blocks. And for that [00:42:05] you need minerals, you need adequate protein, the right amino acids and fatty acids.

And I'm just [00:42:10] thinking of all the other things that might be beneficial. [00:42:15] Acetylcarnitine is usually a good mitochondrial enhancer, but not everyone needs it. Um, and then [00:42:20] I'm just going through a list on my, my shelves. Certainly CoQ10 we talked about. [00:42:25] What else would be really powerful here? Um, there's some more esoteric ones that are out [00:42:30] there.

And I probably have a whole episode on that. And certainly. I think that the summary [00:42:35] of those is in Superhuman, uh, my longevity book, so for people listening.

**Rowena:** Yeah, I [00:42:40] think there's lots of good things you can do with supplementation, good quality supplements. [00:42:45] Okay. And, uh, and that, that's so complimentary.

And I want to say that about [00:42:50] everything because Nanavie works at such a base level.

**Dave:** Mm

**Rowena:** hmm. And to give [00:42:55] people an idea of how, how fundamental that is, the DNA has, the [00:43:00] purpose of the DNA is to be the blueprint for proteins. And that's where [00:43:05] nano V intervenes, so it's at such a basic level, uh, that everything [00:43:10] else is on top of that, and therefore it's complementary with all of these other things.[00:43:15]

There's no possibility of contraindications, it can't override anything, it lets the [00:43:20] body's wisdom prevail.

**Dave:** There you go.

**Rowena:** And, and it [00:43:25] just supports whatever else you're doing. And so that's why you see it used with [00:43:30] lymphatic drainage or red light or PMF or, you know. Right. Molecular [00:43:35] hydrogen and the clarity there because they both have bubbling water.

So that's highly [00:43:40] confusing.

**Dave:** Oh, yeah. Some of the hydrogen machines have bubbly water.

**Rowena:** Molecular hydrogen is a really, [00:43:45] really great antioxidant. It scavenges free radicals. But it won't do [00:43:50] anything to repair the damage that the free radicals do. Yeah. That's where nano V comes in. It [00:43:55] repairs the oxidative damage.

**Dave:** There's no reason that you can't have the cannula from nano [00:44:00] V going and have molecular hydrogen running at the same time. You just have a double cannula. I might have done a video.

**Rowena:** I [00:44:05] do double cannulas all the time. And it's a time thing, and you're sitting there anyway, and it's [00:44:10] actually not uncomfortable.

You don't even notice, I think, so.

**Dave:** Yeah, if you're [00:44:15] going to do it, you might as well. And you just might look a little interesting if you're doing it on camera. But [00:44:20] it's

**Rowena:** Nano V that I use every single day because I'll do that before I go to sleep, [00:44:25] as well as during the day.

**Dave:** I have a question. This is new information [00:44:30] about Nano V putting you in a parasympathetic state.

And we know that getting deep sleep [00:44:35] in that first half of the night is really, really critical. And going into a parasympathetic [00:44:40] state earlier in the night equals more deep sleep. And that's where a lot of people are deficient. [00:44:45] Do you have any data showing Nano V affecting deep sleep levels?

**Rowena:** We have not [00:44:50] done that.

I've talked to Dave at Heads Up Health about it. Because it's such an obvious one to do because [00:44:55] people get, uh, they have an aura ring, they have a nice history, and then they add the [00:45:00] Nano V device, then that would be the time to start measuring, right, and [00:45:05] looking at that difference. But we haven't constructed the whole thing, um, [00:45:10] It's just a matter of

**Dave:** priorities, like Like aura or eight sleep or something like [00:45:15]

**Rowena:** that.

It's just like the stuff with Hemal Patel is so

**Dave:** That's

**Rowena:** hardcore biology. so [00:45:20] fundamental science that we're trying to get those pieces in place. But [00:45:25] one thing we are doing is more consumer oriented is we have a lot of Nano V [00:45:30] devices in medical centers or fitness centers or, and so on. And so this is [00:45:35] just a very short survey before and after one time.

But when we [00:45:40] can accumulate enough data from different centers, it's HIPAA compliant, and it's [00:45:45] validated so that you can collect data all over the place. and combine [00:45:50] it and that way we will capture the experience in one session [00:45:55]

**Dave:** because so

**Rowena:** many people regardless of how good something is for you, [00:46:00] they want to feel it.

**Dave:** Oh yeah.

**Rowena:** It's like, it's not cocaine.

**Dave:** [00:46:05] I see a lot of cell phone companies now adding something I'm, I'm [00:46:10] just highly skeptical. It's a caffeine metabolite called parazanthine. [00:46:15] And right off the bat, like no caffeine, I'm like dude, there's 300 milligrams of metabolite, which is. 500 [00:46:20] milligrams of caffeine and no wonder people feel that it's because it's legal to say no caffeine But I [00:46:25] don't think parazanthine is is something that you want to do, you know, and if it works for you, great [00:46:30] But I I just feel like sometimes I want to feel it right now.

Some [00:46:35] manufacturers will do things that maybe make it so you're not feeling what you think you're feeling. [00:46:40] Even methylene blue, like do a high dose of methylene blue, congratulations, you have an antidepressant. [00:46:45] You do a low dose, you have mitochondrial enhancement, and you're only going to feel it if your mitochondria were already [00:46:50] weak.

And so if someone does nanoV and like, oh my god, my whole life changed, congratulations, you [00:46:55] are totally wrecked. That's why you felt it so much.

**Rowena:** But it's interesting, because [00:47:00] the high performers also, they're so tuned in, they'll notice it in the brain [00:47:05] and the body. And Panoe, the company that measured the VO2 max, [00:47:10] found that people that were more fit actually showed bigger gains [00:47:15] than people that were less fit.

I believe it. Because they thought that the mitochondria was more tuned [00:47:20] up to work better. When people were already paying attention to it.

**Dave:** I do notice [00:47:25] most things in my brain first. Sometimes I'll feel like in the chest area, like [00:47:30] more shamanic, energetic, Daoist kind of stuff. Uh, so when I first use Nano [00:47:35] V, I'm like, Oh, look at my brain.

That's interesting. But I also have a history of very bad [00:47:40] mitochondrial function. So I know what it's like to be running at, you know, 10 or 20%. And just [00:47:45] any slight, Improvement, which is like, wow, the lights are coming back on. [00:47:50] Everyone with long COVID or chronic fatigue, which is pretty much the same thing mast [00:47:55] cell activation syndrome, POTS, EBV, toxic mold, heavy [00:48:00] metals, all of those people have mitochondrial dysfunction, and they're going to feel nano [00:48:05] V very, very quickly, most likely.

**Rowena:** And that month long study looking at fatigue, I think it [00:48:10] was, it was 38% reduction in fatigue, reported [00:48:15] fatigue. Wow. Because over the course using it daily, people are [00:48:20] just kind of coming back online. Okay. And we also did an intermediate [00:48:25] point, and usually they showed some improvement at 15 days and [00:48:30] then more at 30 days, but some things took a little longer for them to, to [00:48:35] register like pain.

In 15 days, they may not have felt Showed something significant, but after [00:48:40] 30 days, then they would feel

**Dave:** it. Makes sense. One of the, the [00:48:45] longevity and biohacking strategies for performance enhancement and living longer is [00:48:50] reducing stress in the system. And not all stress, but just useless [00:48:55] stress, like metabolic stress that wasn't, you know, what doesn't kill me makes me stronger.

It, it's like [00:49:00] walking around dragging a bowling ball all the time. It's not a good thing. You do it, drag it [00:49:05] some of the time and then rest, right? So I look at all the technologies that can take you out of a stress [00:49:10] state so your body can better be in the world, let's say. And there's things [00:49:15] like vagal nerve stimulation, like ZenBud, a little ultrasonic thing.

There's [00:49:20] psychedelics. There's HeartMath Institute HRV feedback. How does Nano V [00:49:25] compare to those, if you have any data, just around reducing stress? Because you [00:49:30] have a big stress reduction from Nano V.

**Rowena:** We haven't compared it directly with any of [00:49:35] those. Uh, so you'd have to look at their results over, you know, over, over [00:49:40] time as well.

And generally, they're going to be complementary. Uh, but some [00:49:45] of the things for stress, like breathing, Mm hmm. [00:49:50] It's free, and so then if you do it together, [00:49:55] it's even better.

**Dave:** So if you read Heavily Meditated, my book that just came out as we're [00:50:00] recording this, it became the number one best selling philosophy book in the country, which is [00:50:05] weird, because I was writing a book about meditation and what else you can do, so that's cool.

It's based [00:50:10] on 40 years of Zen, you know, 10 years. of putting executives through this really [00:50:15] high performance brain training where you're just pushing your brain to the [00:50:20] very limits. And I use everything. They're all the mitochondrial enhancers, special diets, [00:50:25] ketones, everything, just so people can get enough input to their brain to really transform.

It's like a [00:50:30] marathon with your brain every day around reprogram and resetting [00:50:35] So, of course I have Nano V there because I want [00:50:40] people to be able to drop out of stress and to be able to increase their heart rate variability. And I didn't [00:50:45] know that, that you did it quantitatively, but I could feel the difference and I could measure people can go [00:50:50] longer in the training when they're doing Nano V.

So, now we understand why, [00:50:55] because when your heart rate variability increases, which is a marker of parasympathetic function, your [00:51:00] alpha brainwaves also increase. Now, Some people [00:51:05] fetishize alpha brainwaves, like oh my gosh, I got alpha! Guys, if you want to get alpha, here's how to do it. Close your [00:51:10] eyes, and focus on the middle of your forehead.

Congratulations, you've tripled your alpha brainwaves. [00:51:15] They're not that hard to do. It's like, I play the C note on a guitar. I just held a, it doesn't matter. [00:51:20] But, what's interesting is, if you're playing the right song on the guitar, now [00:51:25] you've got something, and you want to be able to play it louder. And what I believe is happening [00:51:30] with Nano V, and with these changes in HRV, is that we're able to increase the [00:51:35] size of the brainwaves, but you still have to know what you're doing.

So it's not just having alpha, it's that I have [00:51:40] more ability to play a certain type of note, to play it [00:51:45] loudly and cleanly. And that comes from mitochondrial function and from heart rate variability, which is why nano v [00:51:50] is a really cool thing, especially if someone's blown out. I'm like, oh, you can't meditate anymore?

Go do that, and then they can [00:51:55] meditate.

**Rowena:** I think it's a great compliment there for all the reasons you're saying, but I think there's one more piece of [00:52:00] it Because you use it during our 40 years of Zen, which I [00:52:05] loved that we went my best.

**Dave:** Ah, so good.

**Rowena:** Um, they use [00:52:10] it during cap training where they're really stressing the brain.

And everybody says, that's the [00:52:15] hardest part. You know, I never liked that part. Let me explain

**Dave:** what that is just so people don't get confused. So [00:52:20] this is a specific type of training. We have a 3D printed custom cap [00:52:25] and you sit and you look at this thing. And it's like a picture of your brain, and you hear some [00:52:30] sounds, and you think, this isn't that hard.

And then five minutes later, like, the world is spinning, like, what is going [00:52:35] on? And it's not an effort based training. It's, we're putting a signal right into your brain, and you get to [00:52:40] pick the signal. But it is so tiring. And when you hit the wall, you're like, I [00:52:45] can't even, like, my eyes are rolling back my head, I can't do anything.

But with [00:52:50] Nano V, they don't do that. They go longer.

**Rowena:** Correct. They go way longer. Yeah. And [00:52:55] that brain endurance. Is what we see with better [00:53:00] brain function, less oxidative damage, because when you're concentrating, you're burning more [00:53:05] oxygen and then you're going to have more oxidative damage. So if you can clean that up on the [00:53:10] fly, and improve that whole environment, you've got more endurance.

**Dave:** You know, I've worked with [00:53:15] two Uh, World Series of Poker Champions at 40 Years of Zen. And I [00:53:20] just realized that's one of the most cognitively demanding things. So if you can grind [00:53:25] all the other people down because they want to go to bed, you're like, No, I've still got this. I, I know one guy [00:53:30] who won. We worked a lot on that.

So he's like, Nope. Until everyone agrees that we're done, we're, [00:53:35] we're done, so he would just grind him down and he made a lot of money. So, [00:53:40] what I would do if I was a professional poker player is I would do Nano V for [00:53:45] 20 minutes before a session. Yeah. So you'd come in with more cognitive resilience.

[00:53:50] Absolutely. That's cool.

**Rowena:** That's the last five minutes of a football game or something. Everything else [00:53:55] can wash out, but it's the really critical part where people need focus. And we [00:54:00] have had mixed martial arts fighters that say that they can go into the [00:54:05] ring like dead calm, high energy, high alert, you know, all the [00:54:10] ability to anticipate all of that just in overdrive, but they feel settled and [00:54:15] calm instead of agitated.

**Dave:** One of the things that happens with traumatic brain injury, and I, I [00:54:20] study this both because I have a neuroscience company, but also because I took a titanium knee to the head at high speed, [00:54:25] I don't know, like seven years ago, and I swore all the time and couldn't play [00:54:30] go fish with my kids, like I was I scrambled my eggs, let's put it that way, and I looked at my before and [00:54:35] after brain scans, and it was atrocious.

I had to go back and retrain my brain. So [00:54:40] not a good situation. But before that happened, Had my mitochondria been [00:54:45] better able to communicate, you know, what nano V does I Would have [00:54:50] taken less of an injury from that Because one of the biggest [00:54:55] things that's happening with a brain injury like you get punched in the face or a car accident or [00:55:00] something Falling hit your head is that the mitochondria networks need to be able to communicate with each other and the [00:55:05] communication is disrupted and then you have a direct, it's called ischemic injury, [00:55:10] but you get a huge wave of oxidative stress.

So I would need to do other things that block [00:55:15] oxidative stress. And

**Rowena:** then you get inflammation, and you cascade, and. [00:55:20]

**Dave:** I guess what I'm saying is, if someone's going to get hit in the head, so [00:55:25] hockey, football, Soccer, MMA, [00:55:30] you probably want to pre treat with Nano V.

**Rowena:** It's a great idea. I think all of those things, like, [00:55:35] it just sort of comes together that you're preparing yourself for [00:55:40] whatever is to come.

And I used to think of Nano V as this, it's for recovery. People bounce [00:55:45] back from, you know, illness or injury or exertion. And it's really about [00:55:50] repair, regeneration, and recovery. But I've realized, um, partly with some of the [00:55:55] testing that was done on proteins, that it's a resilience machine. It's [00:56:00] the resilience is huge, and some of that testing on proteins showed that [00:56:05] pre treatment followed by damage had [00:56:10] significantly less damage afterwards

**Dave:** to

**Rowena:** the proteins that were [00:56:15] viable, even pre treatment, and so that suggests they were more [00:56:20] stable and more resilient to damage.

Wow. And so, it, the, it, They [00:56:25] also showed that if it was treated after, that it was [00:56:30] beneficial, which we would assume. But the pre treatment was really interesting, and the one [00:56:35] type of damage that it didn't make any difference on was heat damage.

**Dave:** Okay, so [00:56:40] Nano V isn't going to help with burns, necessarily.

**Rowena:** Pre treating, but it definitely [00:56:45] helped dramatic improvement, over 45 percent improvement of burns.

post.

**Dave:** Oh, yeah. You're going to [00:56:50] heal from everything faster. So

**Rowena:** you want to, you want to, you always use it after, but in most cases [00:56:55] before made the, made you more resilient.

**Dave:** Got it. So Nano V's a [00:57:00] resilience generator, and I fully support that just from Pathways. Yeah. And [00:57:05] a while ago. I did a documentary, a free one, it's at daveasprey.

com [00:57:10] slash heal, and this is how do you recover twice as fast from surgery as you're supposed to. So I went [00:57:15] and I did all this stuff, and Nanabee's part of the stack. Oh, that's right. Right, and for that one, [00:57:20] they cut the bone in my foot in half. I took three millimeters out, and [00:57:25] then I had to heal from that, and the surgeon, in fact there was a whole episode about that a [00:57:30] while ago.

Dr. Ali Sadri down in Beverly Hills who [00:57:35] specializes only in toe surgeries and he was like I remember he came up [00:57:40] to my hotel room at the Beverly Hilton and he took the bandage off after two days [00:57:45] and he's like, What is going on here? It doesn't even smell like a wound. Like, like, like, I've never [00:57:50] seen this and it was really kind of, it, and it's a stack of all the things.

Resilience to [00:57:55] pre treat before you go in for recovery, or before you go in for surgery. And then how do you recover right [00:58:00] away? And isn't it weird that having ordered water that facilitates [00:58:05] protein folding would make you heal faster? Of course it would! You don't have to be a PhD to know that. And nothing [00:58:10] heals you if it's

**Rowena:** not protein functions.

**Dave:** Yeah, exactly. Well, Rowena, you've [00:58:15] got a really interesting piece of biohacking tech with Nano V. And thank you for [00:58:20] sharing all this new research with me. The stuff about stress recovery is particularly interesting. But [00:58:25] the most interesting thing that you've shared is that Nano V [00:58:30] is a resilience generator.

It's the pre using it before an event, before a [00:58:35] stressful day, before a big talk, all that kind of stuff. And then if you do need to recover, use it for [00:58:40] recovery. But I really like that perspective. Yeah,

**Rowena:** you really want to do both, and we just can't [00:58:45] build enough resilience given the current environment.

There's stressors all over the place.

**Dave:** [00:58:50] It doesn't matter what the environment is. More resilience is always a good thing. It makes you live longer. It makes you [00:58:55] happier. It makes you more functional in your community. It's really what it's all about. Thank you. [00:59:00] That's so fun to be here. Thank you. Now if you wanted to try Nano V, [00:59:05] you could do it.

But you're going to have to remember the world's second worst URL. [00:59:10] And it's E N G 3, the number three, [00:59:15] dot com slash Dave. So imagine, you're spelling ing wrong, E [00:59:20] N G, because in English it'd be I N G, so it's E N G, and it's the, the [00:59:25] number three, not typed out, three. And if that confused the hell out of you, it's E N G [00:59:30] 3 dot com.

dot com slash Dave,

**Rowena:** like engineering or English.

**Dave:** [00:59:35] Exactly. So you could go to in three dot com slash Dave, [00:59:40] or if you can't find that, just go to Dave Asprey dot com slash nano V that's nano [00:59:45] VI and I'll redirect you there. See you next time on the human [00:59:50] upgrade podcast.