

Dave Asprey ([00:00:01](#)):

You are listening to the Human Upgrade with Dave Asprey.

([00:00:07](#)):

You are listening to the Human Upgrade with Dave Asprey. Today we're going to talk about this weird intersection between digestion, oxidative stress, and your immune function and what happens to those things when you're doing athletic training. And the reason that you might care about this if you don't care about athletic training is that that's just a proxy for stress. So when you're stressed, what happens in your gut? What happens in your cells and what happens in your immune system? If you know about that and there's something you can do about it, then that would support longevity. Having better brain function, generally being a happier, more functional human being who's harder to program and doesn't want that. And it's this weird, we'll call it trifecta of things that really, really matter. Our guest today is Hannah Klein Field. She is the COO and founding team member at Omni Biotic.

([00:01:06](#)):

This is a really innovative probiotic company. They've been on the show a few times because, well, since 2019 they've been doing things that are very different around delivery systems. And my job for you as you're listening is I just find the cool stuff that I want to use that I don't see on the market, and then I talk to the founders and see if there's anything legit there. So I'm just curating awesomeness here and wisdom whether or not you're interested in picking up on it, you're going to learn something about your gut. Now, one of the areas for biohacking innovation is Germany. A lot of the frequency medicine that we work with, some of the things with lasers, even some of the electrical stuff and other things like sperm aine have come out of Germany because the government funds alternative medicine there. Much like the US government just gives all of its money to big pharma proxies like NIH and NIA and FDA and all that.

([00:02:06](#)):

So Germany is a little bit different there. SOO became the leading probiotic in Germany, Switzerland, and Austria, and it's number three worldwide. But in the US we're just learning about it and it's based on really solid science paid for by other governments than the US which only seems to pay for researching pharmaceuticals and things like that. So that's why this conversation's happening. Most of the world knows about this except us. If you're listening in the US we have lots of global listeners too, but you guys already know about this stuff. Right? Alright, Hannah, welcome back on the show.

Hannah Kleinfeld ([00:02:38](#)):

Thanks Dave. I'm so glad to be here again.

Dave Asprey ([00:02:41](#)):

Before the show, you were telling me just how all Americans are really fat

Hannah Kleinfeld ([00:02:44](#)):

Was not,

Dave Asprey ([00:02:47](#)):

I'm just teasing her. But it is true that in the US we have more obesity, more metabolic syndrome, more chronic illness, and more mental health disorders than most of the world. Why do you think that is?

Hannah Kleinfeld ([00:03:01](#)):

Oh, well that's a deep question to get started on, but I think it's a combination. I mean, any of these kind of chronic illnesses are often a combination of multiple factors, which is why they're so difficult to get under control. But I think one of the big things that in order to help solve those is we have to look at the body as a whole system. And a big part of that is the gut microbiome because the gut microbiome is implicated in so many different functions in the body. And the more we're learning about it, the more we actually see that the gut brain axis is connected to our mood and actually in depressive disorders as well and changes in the gut microbiome can impact our metabolism, can contribute to obesity, can contribute to changes in your blood sugar. So it's all related, but I think at the root cause of it, it's again, multiple factors in including what we're taught in school. Of course our diet, our environmental toxins, our very high stress lifestyle. So many people are stressed and stressed not just for a day or two, but really operating at this highly intense performance for long, long periods of time. And that disrupts so many systems in the body.

Dave Asprey ([00:04:14](#)):

It makes a lot of sense. Some people will blame it just on societal pressure or social media or something like that. I think it's in the gut. I think it's in the toxins that affect the gut and that there's something you can do about it. I've certainly noticed a big difference. I had a reason to take antibiotics, which I almost never do a really fast growing infection a while ago. And normally it takes a while to restore the gut, but I used omni biotic, I used the stress formula and it was within four days everything was normal. It was actually ridiculous. So I'm not recommending that everyone go out and take antibiotics all but there are certain times when it's absolutely worth it. In particular, if the bacteria you have are making high doses of lipopolysaccharides, which are bacterial toxins or neurotoxins, because then if you feel like crap all the time and it's not getting better than you use them because they saved your life, which is great. You're doing something new though because you got sick a long time ago and we've talked about it on the show before and you used Ono to help you with a tick-borne illness. Did I tell you how I got my tick-borne illness? No. Alright, so I'm special and I just want everyone to know. So normal people get a tick-borne illness like Bartonella, not me. I had to get it from a vampire bat.

Hannah Kleinfeld ([00:05:40](#)):

For real?

Dave Asprey ([00:05:42](#)):

Yes, for real.

Hannah Kleinfeld ([00:05:43](#)):

That's crazy.

Dave Asprey ([00:05:44](#)):

It's nuts.

Hannah Kleinfeld ([00:05:45](#)):

I didn't even know that that was possible.

Dave Asprey ([00:05:47](#)):

It turns out 70% of bats have barella. Wow. And I woke up when I was somewhere around 10 with it feeding on my neck in a cabin. Oh dear. And to make it extra special, it was, I'm the only person that's ever happened to in the continental United States. They don't live here.

Hannah Kleinfeld ([00:06:03](#)):

This is wild. So how did you get diagnosed?

Dave Asprey ([00:06:06](#)):

I didn't get diagnosed until later in life by looking at all the scarring of my vascular system and my skin.

Hannah Kleinfeld ([00:06:11](#)):

Fantastic.

Dave Asprey ([00:06:12](#)):

But I am fortunate, I was very sick as a kid and that was part of it. Toxic mold plus Bartonella looks an awful lot like Lyme disease. So we have that similar journey of just like, man, your health has crashed. It doesn't work.

Hannah Kleinfeld ([00:06:24](#)):

Yeah, it's horrible. It's really the foundation. I mean health and wellbeing is the foundation to unlock all your other things that you want to do in your life, your focus, your mental clarity, your ability to perform to just go about your day.

Dave Asprey ([00:06:38](#)):

And I'm fortunate to have overcome that in lots and lots of different ways. I still have all the stretch marks, dunno what to do about that, but the learnings about gut function were really helpful for me. Just like we realized there's a lot you can do to be healthier and stronger and you had to come from behind. And I switched my goals from I don't want to be sick anymore, which is only really sick people have that goal. I just want to be healthy. If that's your goal, you're pretty sick. And I switched it to, I want to see how far I can evolve and upgrade my systems.

Hannah Kleinfeld ([00:07:14](#)):

I can relate to that. You're now just striving to feel the best version of yourself

Dave Asprey ([00:07:20](#)):

And it's just a different vibe and it's one that we were just talking before the show started at the biohacking conference this year. It was just a great feeling so many people and this how do I just evolve better? And it was palpable. And so if you're on that vibe and I'm on that vibe, that's why I'm kind of stoked because you did all this research I'm guessing in Germany, on what do athletes do with their gut bacteria and what gut bacteria instead of giving you a healthy gut, and I'm sorry that's boring unless you have a sick gut and you're farting all the time, in which case that's great ruins your dating life. But if you're looking for high performance, whether it's physical or mental, it's a different ask. So what are you guys doing that's different with Ono Power, which is the new formula, that's specifically the first one I know of really that's like this is for athletes for high performance.

Hannah Kleinfeld ([00:08:14](#)):

So to start, for anyone who hasn't known antibiotic so far, we have different probiotics targeted to different health outcomes. So we have our formula that Dave mentioned earlier, omni biotic stress release, which really targets the gut brain access and stress management. We have several others and then the new one that we're introducing now to the United States is omni biotic power and that specifically is designed to support performance and recovery both for individuals who are athletes as well as others who are living kind of a similar high intensity lifestyle. So it was developed in Europe by our competence center there and the clinical studies we have, yes, they were done also on European athletes. And the challenge or the things that this product addresses is really this reality that when we're living in these really high performance states for long periods of time, I'm not talking about mild or moderate exercise, I'm talking about really high intense exercise, lots of training like that by professional athletes, but also these other high performance lifestyles like think first responders, CEOs, entrepreneurs, anyone who's consistently pushing their body to its physical limits under high stress that really can have a direct impact on the gut as well as an indirect impact because the gut is linked to so many different processes in the body.

([00:09:38](#)):

So most direct impact changes to digestion. 30 to 50% of athletes report digestive issues like bloating, nausea, diarrhea, constipation, it changes how we're absorbing nutrients. And then more indirectly, because the gut is the house of 70 to 80% of our immune cells, it compromises immune function, increases inflammation in the gut and in the body and basically puts the body in a constant state of oxidative stress, which is kind of a warning word in itself because oxidative stress leads to cell damage,

DNA damage, inflammation and the list goes on, but you really don't want to be in a consistent state of oxidative stress. So Ono Power was really designed to counterbalance that and really help us support us during these high intense periods.

Dave Asprey ([00:10:32](#)):

It's interesting, I just heard Peter Atia who's sort of like an anti longevity doctor, he says, can't extend human life. Just yesterday he was out there saying there is no upper limit to how much exercise has beneficial for aging. And I'm like, oh my god, this is going to harm people because over-training affects your gut bacteria, it affects your muscles. People, they wear out their hips and their knees and it just seems kind scary because what I've seen is that if you get the right dose of exercise and then you recover that you transform. But if you just keep training, training, training, this is when you get cortisol belly.

Hannah Kleinfeld ([00:11:09](#)):

Yes. Well, cortisol belly, as we just said, oxidative stress, systemic inflammation, it shoots your immune system. It's a vicious cycle. But again, it's that fine line between, of course some exercise is really good for you and science has shown that over and over again. We're really talking about these more extreme states.

Dave Asprey ([00:11:30](#)):

So what's going on when someone decides that they're going to maybe lift weights six days a week the way I used to when I couldn't lose a pound of weight over 18 months of doing that, and this is as a young man, not as a middle-aged person, God forbid, but what was happening in my gut? Why was my gut doing that?

Hannah Kleinfeld ([00:11:50](#)):

Yeah, so I think first and foremost, anyone who is in these really intense physical periods in their life, the most direct thing is these intense times divert blood flow away from your intestines to other parts of your body like your muscles, your heart, your brain, because that the body deems that more necessary in the moment and because of that, it changes your bowel motility. Many athletes either struggle with constipation or with diarrhea because of that, it also impacts how your nutrients are absorbed because if you don't have all the blood circulating through your intestines, it's just not picking up as many nutrients as it should be picking up. And because of that, then oftentimes everything kind of starts falling apart in the gut and you start getting imbalances, opportunistic bacteria start overgrowing. People start getting basically a dysbiotic or imbalanced gut.

Dave Asprey ([00:12:45](#)):

So over training either through cardio or weights every single day, starves the gut of blood for a meaningful part of the day,

Hannah Kleinfeld ([00:12:54](#)):

Essentially. Yes. And if we're then doing this over and over and over again, it basically doesn't give the body and the gut enough time to recover from that.

Dave Asprey ([00:13:05](#)):

This is a really interesting thing. I've never thought of it like that, but it's kind of like a seesaw where you need enough time to digest your food. This is why intermittent fasting is an important part of my thing. You don't need as much blood in your gut if there's no food there.

Hannah Kleinfeld ([00:13:17](#)):

Exactly.

Dave Asprey ([00:13:18](#)):

But let's say you're intermittent fasting and then you have exercise when you're eating, then you're going to be competing for blood in the gut and in the muscles. The answer would be then eat and have appropriate gut bacteria after you train, before you train. What's the right order? When I'm thinking about how to use antibiotic food and exercise,

Hannah Kleinfeld ([00:13:43](#)):

Yeah, I would almost say replenishing gut bacteria, it should just become part of your overall wellness routine or daily routine. And if you're consistently taking good care of your gut and making sure it has the right bacteria, the right balance, it's keeping out some of these unwanted bacteria that could be making us sick, then it doesn't matter as much what time of day, it's more just this ongoing nurturing. I would almost think about it as a garden bed. You are constantly nurturing it with good fertilizer and good water and everything and then from that you sprout a lot of really good vegetables and you're keeping the weeds out.

Dave Asprey ([00:14:26](#)):

Can I ask you a really controversial question? Sure. The thought occurred to me the other day that after I took those antibiotics and then I took the antibiotic, my gut seemed to work better than before I took the antibiotics for people who've had really bad gut bacteria. I was on antibiotics for 15 years when I

was a kid. Is there a case for just once every year just kind of mowing down all the grass in there with an antibiotic and then replenishing with antibiotic or fecal matter or something?

Hannah Kleinfeld ([00:14:59](#)):

I would say there is definitely a case to be made to take care of your gut, even if it's just once a year for a gut reset. We actually have a gut health reset program that was designed pretty much for this purpose of resetting your gut and really improving it once a year. But I wouldn't necessarily say that that should be done with antibiotics because that also wipes out all your good bacteria what you could be. I would think about it in two ways. If you feel like you actually have some unwanted or bad or pathogenic bacteria, do a stool test to figure out what's going on and then work with a functional medicine practitioner or a naturopath or anyone who's really well-versed in gut health. There are some really good microbial protocols you can do to get rid of whatever pathogenic bacteria you have. In addition to that probiotics, specific probiotic strains like the one in our ONO AB 10 formulation, they have actually known properties to fight off and kind of clear out some of these bacteria that could be making us sick. So definitely also consider incorporating the right kind of probiotic to help restore and replenish the good and keep the bad out.

Dave Asprey ([00:16:13](#)):

That makes sense. I'm not recommending listeners go do that. I noticed when I took a prebiotic, this was years ago when I was writing a superhuman, the diversity and number of bacteria in your gut correlate with your age. In other words, if you have lots of different species, you're younger and if you have only a few species, you're older and we can predict your age based on that. So I quadrupled the number of species in my gut by using prebiotics, which is a part of the delivery system that you have in antibiotic.

Hannah Kleinfeld ([00:16:43](#)):

Yeah, I mean prebiotics are basically the food for your good gut bacteria and our gut bacteria are divided up loosely speaking into two to three different categories. The one that thrive in oxygen rich environments, and those are easy to make into supplements. The others are anaerobic species. They basically die when they come in contact with oxygen. So those are very difficult, almost impossible to make into a supplement. And for those in order to make sure that they can thrive and flourish, prebiotics are actually a really good way to make sure that they're getting the right foods and nutrients so that they can thrive in your gut. So I'm not surprised that you were able to quadruple the diversity because you were essentially feeding all your good bacteria.

Dave Asprey ([00:17:26](#)):

Another challenging question for you, why are germ-free mice so powerful?

Hannah Kleinfeld ([00:17:32](#)):

Interesting. Well, I think first of all, the nice thing that is, it's basically a clean slate. You don't have all these other germs that are competing or possibly skewing your outcomes. And then you can also very specifically test, say you take a germ-free mouse and the one thing you're inoculating them with is C giff, for example. Then the things that are changing, especially if you do this with many mice, are most likely due to that one thing you change. They

Dave Asprey ([00:18:00](#)):

Mostly die when you do that. Right?

Hannah Kleinfeld ([00:18:01](#)):

That is true too. Yes. I mean, yeah, that's a whole other issue. I mean especially if you think about germs as also your not germs, but your good bacteria, A germ-free mouse is also free of good bacteria. So you're also taking away a lot of the good microbiome that lives on the specific species

Dave Asprey ([00:18:21](#)):

Where I've ended up after 20 years and I've tried well over a hundred thousand dollars worth of probiotics, I've swallowed an electrical stimulator to stimulate the inside of my intestines.

Hannah Kleinfeld ([00:18:34](#)):

I've never heard of that before.

Dave Asprey ([00:18:35](#)):

It's as you would predict a Russian device. But I've tried everything on the planet. I put coffee in places, coffee doesn't go. You should cool it first if you're going to do that. And just all the things, everything you can think of, lasers and all that. You have a lot of bad bacteria in your gut and getting rid of the bad is more important than supporting the good, but if you support the good in the right way, they will crowd out the bad and you don't feed the bad. Exactly. And that protocol of stop the bad first is just so critical. So there's toxin, binders and all that, and then there's not eating stuff that feeds the bad guys and then there's just representing the good guys so that the population of bad guys goes down. And that's why I would say it's since you guys brought the products to market since 2019, I've regularly been using omni biotic because it works really well for that. And I think there is some prebiotic in the powder, right?

Hannah Kleinfeld ([00:19:35](#)):

Yeah. So you mentioned two important points. So the first is it's a powder, it's not a capsule. And that was very intentionally done because when omni formulation was tested, we actually tested it against



several leading US brands quite recently. And you see that Theo powder has an 83% survival into your gut compared to an average of 7% across these other leading US brands

Dave Asprey ([00:20:01](#)):

Only 12 times better,

Hannah Kleinfeld ([00:20:04](#)):

But that's why it's a powder. The bacteria get the chance to rehydrate and water before you ingest them, before they have to pass through this very acidic environment in your gut. So it increases their survival. In addition, what you just mentioned, the prebiotics mixed in. So those are the specific prebiotic nutrients that the bacteria in the formulation. And when you mix that powder in water prior to intake, the bacteria rehydrate, so they kind of wake up from their freeze dried state, they find their favorite foods to eat and basically begin to metabolize them. And then as you drink the liquid, they're really strong and you can basically imagine them as the biohacked bacteria. They're so energetic and happy that it's easier for them to get through this hard journey through the upper GI tract and more of them survive the journey to the intestine. However, I would say it's the prebiotic quantities in our powder are not the same as just taking a fiber supplement. So if someone is really looking to also increase their fiber intake through a prebiotic supplement, I would consider either our line of logic, precision prebiotics, or just working again with someone who is very well versed in gut health to find the right fiber product for you.

Dave Asprey ([00:21:20](#)):

That's a really good idea to find the right one. For instance, inulin, which is using a lot of the say, lower end formulas out there, and sometimes in higher end ones in very small doses, but large doses of inulin are shown to cause gut inflammation similar to gluten.

Hannah Kleinfeld ([00:21:41](#)):

Well, it's interesting, right? Because it also really depends on how the overall state of someone's gut, many naturopaths who I have spoken to, they will really tailor whether you give individuals short chain fibers, medium or long chain fibers depending on how much their gut can tolerate. So someone who is maybe just coming off of antibiotics or had just had sibo, you would start them on the most gentle fiber possible to make sure that their gut microbiome can slowly adjust. Otherwise, most likely they would run into a lot of GI discomfort just because it's kind of mayhem in the gut with kind of the wrong types of fibers they're consuming. So I'm not surprised that different people respond differently to fibers. And also, again, you want that diversity. You don't just want one fiber in huge amounts because different gut bacteria, like different fibers. That's why I think they also say eat the rainbow. Make sure you're getting your good fibers from your diet as well as if needed from a supplement.

Dave Asprey ([00:22:48](#)):

It's one of those things where it's just as complex as taking supplements. What am I going to do here? I have so many options. The thing that stands out is the 7% versus 83% survival way. So I will admit I absolutely hate putting little powder packets in water and drinking them because there's like 15 companies who want me to do that, and so can I mix 'em all together? No, actually you can't. Right? So then now I've over hydrated on all this. So when I first was like, seriously, you're going to give me a powder? This is the only powder besides just electrolytes, I'll put in water. It's the antibiotic because saying, look, imagine if you rehydrated our bacteria with clean water and with some food for them, they're going to be resilient. Versus you take a pill, it goes into your stomach and it rehydrates with stomach acid and it dies.

Hannah Kleinfeld ([00:23:43](#)):

Exactly.

Dave Asprey ([00:23:43](#)):

And this is kind of obvious, but it's not for most of us, it's that the delivery system for any supplement, whether it's a mineral or a vitamin, the particle size, the encapsulation, all of it matters way more than even what the material itself is. So your arguments and your clinical results this way, or the number three bread in Europe, right? Yeah. Oh my gosh, it works. So in the morning or sometime during the day, you'll see me open up a packet of antibiotic and I'm using the stress cause I don't have the power one yet.

Hannah Kleinfeld ([00:24:15](#)):

Yeah, well send it to you. Absolutely.

Dave Asprey ([00:24:18](#)):

The stress one works and then I'll just pour it in. I take it when I travel so I don't get weird jet lag gut and it's because it works in water. And are there things that I could mix in the water? Could I put collagen or colostrum or something? I wouldn't put electrolytes because they're likely to sell water. I'm not good for bacteria, but what else can I put in there if I want to be efficient?

Hannah Kleinfeld ([00:24:41](#)):

Yeah, I think that's a great question. So in general, what we don't want in there as you just said, is anything that's too salty, too acidic. So electrolytes, lemon juice, grape for juice, coffee is even most smoothies we probably want to avoid.

Dave Asprey ([00:24:56](#)):

Well, you wouldn't want to rehydrate bacteria with ingredients in a smoothie. It'd be too cold and there'd be shots and

Hannah Kleinfeld ([00:25:02](#)):

Yeah, exactly. Exactly. But I do think we've seen that many people actually, if they don't want to just do water, they'll do a dairy or non-dairy milk or they will do yogurt or kefi or anything kind of. So to your point, yeah, colostrum you could probably do because similar, it's like the similar kind of environment. But yeah, I would be careful with anything that's coffee or too acidic.

Dave Asprey ([00:25:29](#)):

Okay, so no coffee, nothing too acidic. I just use water.

Hannah Kleinfeld ([00:25:35](#)):

And the nice thing is, even though it says, I think on our packaging it says four to eight ounces, I sometimes dissolve mine in just an ounce or two of water, and you almost take it kind of like a shot, you chug it, so it's not that you have to drink eight ounces of water just to get your probiotic in.

Dave Asprey ([00:25:51](#)):

Yeah, that makes it so easy. It's literally a little shot class. So for people listening that I take 150 supplements a day, I think it is a very terrible idea for you to take the same 150 supplements that I do. In fact, you're almost certainly going to get negative results from that because I know that I take more of a certain form of B six and more biotin and more zinc than your genetics probably need, and I know my mitochondrial status, so it's tuned. And so if you do what I do, you won't get the results. And if you do what your husband or your wife does, you won't get the same results. So I'm all about personalizing it versus mixing a whole bunch of stuff together in a multivitamin or in a powder and just taking it. But hey, if it works for you, great because it works for a broad number of people.

([00:26:41](#)):

You're not the average, I promise you, you're not or the average human, some parts of you're average, some are below, some are above, but you have an endless number of ways of looking at yourself and through different lenses, you're higher or lower. And that's why I use AI to tune what you take instead of saying, well, this large group of people just needs to all do this. What worked for me? I promise you, you're an outlier on something important, but you're probably not an outlier on the fact that over exercising or heavy exercise messes with things inside of you that you can now counter.

Hannah Kleinfeld ([00:27:15](#)):

Exactly.

Dave Asprey ([00:27:16](#)):

You taught me about something in the research for the show called IDEA one one. Yes. What is ID O one?

Hannah Kleinfeld ([00:27:23](#)):

Yeah, so that is an enzyme and basically that increases when the body is in these intense physical states. And the issue with ID O one is that it degrades or depletes our tryptophan levels and tryptophan is essential for our body because it supports muscle recovery, muscle building and maintenance. It's also really important for our immune system and it helps with neurotransmitter production. So if you're depleted in tryptophan because of an increase or a very consistent increase in this ID one enzyme that can lead to a lot of issues. And again, the studies with omni biotic power, they have actually found that in a lot of athletes, especially endurance athletes and elite athletes, that ID o enzyme is elevated and tryptophan is therefore depleted, which shoots their immune system and makes them more prone to infections.

Dave Asprey ([00:28:17](#)):

So tryptophan is important. People have heard of this because you think that your Thanksgiving meal makes you tired because of tryptophan. It doesn't. It's all the junk food and sugar. But if you were to take tryptophan out of your diet entirely or break it down excessively because you're over training, then you'd end up with less serotonin. Exactly. And recently researchers said serotonin isn't what's responsible for depression. That doesn't appear to be true. In my case, it's associated. I did try a weird supplement. It was a topical supplement, and I'm not going to name it because it's I think a dangerous one. I've never really experienced real depression in my life after four days of putting something on my skin that reduced serotonin dramatically, I was like, there is no reason for a living. This is terrible. Oh wow. It's true that excessive serotonin is bad for you, but if you're exercising all the time, you probably don't have excessive serotonin.

([00:29:20](#)):

You probably are raising idea one because of over training even I guess you're not going to think it's going to extend your life because if you're like a Peter ATT fan, you're more in the lines of, well, at least I'll be healthy until I die at 86, which is a great goal if that's all your goal is. But regardless, you're going to be dealing with the tryptophan problem if you're training that much. So then what should they do? Should they supplement extra tryptophan to overcome this? Or I guess you could just take the ONO power that stops this enzyme because what do the bacteria do? Eat the enzyme?

Hannah Kleinfeld ([00:29:54](#)):

Yeah, I mean I'm actually not entirely. I think they basically just support the overall balance of tryptophan. So what we saw in the clinical study that specifically looked at the tryptophan levels, it basically compared individuals in the placebo group to the group that took power, and in one group the tryptophan kept degrading. And in Theo Power group, that tryptophan stabilized. So the bacteria helps stabilize your tryptophan levels, which is exactly what you want. You want them to be stable and not declining.

Dave Asprey ([00:30:24](#)):

You do want them to be stable and not declining and probably not going up either because excessive tryptophan is not good for either.

Hannah Kleinfeld ([00:30:30](#)):

And then the other thing is, I mean my point on just excessive supplementation on anything is always, it's just much harder to control how your body will react to that. If you are just trying to do something to balance out your body's natural abilities to make something, I think that's always the kind of better and more natural way to do it versus throwing in these supplements where you're not sure how much is absorbed. And then on top of that, the other issue coming back to this oxidative stress and inflammation, if you are in this state of constant inflammation, you have inflammation in your gut, a lot of the supplements that you're ingesting might not even get absorbed in the ways that you would hope to. So I think that's another really important consideration, especially for people who are looking to train well and biohack their performance and recovery to make sure is the stuff that I'm ingesting actually being absorbed because my gut is healthy enough to do so?

Dave Asprey ([00:31:26](#)):

Okay, it makes a lot of sense. Endurance athletes in particular are subject to increased respiratory infections after events, and this is pretty well known. I've seen studies for years that talk about how taking additional amino acids, especially the branch chain aminos, that might actually be bad for you if you're overtaking them, but probably good for you if you need them. But that helps with immunity or you could just use atic power and that's going to get rid of that effect.

Hannah Kleinfeld ([00:31:55](#)):

And it also helps, again, make sure your gut is in good function because who wants to have GI issues while they're competing, if they are an athlete or in any of these other, I kind of liken athletic competition even to other non-athletic high performance, like high stress situations. Maybe if you're a doctor in a big surgery or an entrepreneur at a big fundraising event, you really just want everything working as well as you possibly can and that includes your gut.

Dave Asprey ([00:32:25](#)):

It makes a lot of sense to me. So I have been, people are going to laugh at me. I really was an endurance athlete when I was about 16 to 21 when I was really fat. I'm like a cardio makes you lose weight. I had a

Cannondale road bike even when I was 15 and I would sometimes ride 20, 30 miles a day in Albuquerque, which is where people go to train riding up hills and all this stuff. Never lost any weight. It was very frustrating. But I did get lots of respiratory infections, but there could have been lots of reasons including the toxic mold in my bedroom. So I'm not going to just blame that, but my heart goes out to people, especially if you're a little bit overweight and you've committed to becoming healthy and you saw an influencer online. Talk about how exercise is going to make you lose weight.

[\(00:33:12\)](#):

Guys, what's on your plate and what's growing in your gut that makes you lose weight? That's it. And if you want to have some extra muscle and flexibility and blood flow and health, then you have to move 20 minutes a day and pick up heavy stuff twice a week. More than that has declining returns. Not increasing returns, not to mention if you spend 14 hours a week lifting weights, that's 14 hours a week you didn't spend with your kids on your career meditating. So I'm all about get that intensity in there when you need to have appropriate protections, including enough polyphenols in your diet, enough animal protein, and now I'll be having antibiotic power. My question for you, do I take antibiotic power on the days I train the day before I train? I'm probably not going to take it every day. I have antibiotic stress the other days and I have a lot of CEO stress in my life. I'm not that stressed as a general person because I've chilled with 40 years of Zen, but I understand physiological stress. Good god, four days of my conference for 3000 plus people followed by another intense conference followed by coming home. Those are all big deals for me. So I'm probably at the most depleted. You'll see me and I'm still doing okay.

Hannah Kleinfeld [\(00:34:23\)](#):

I actually think what you just brought up is a really interesting option. If you see that you're going through these very intense periods, you have the conferences back to back, you're off to a speaking event, maybe even different time zones, maybe that's a time to switch to ONO Power for those two weeks or however long that period lasts and then switch back to stress release. Another option you could do is on the days that you do work out or experience extremely high physical stress, take power and then go back to stress release. The third option, which I think I will be doing personally because I do love my stress release too, is I'll be taking one in the morning and one in the evening. So I'll be taking stress release in the morning and then power in the evening and see how that goes. And then eventually if I feel I'm kind of back at a more stable state, maybe I switch off one day this one day that or incorporate as my gut feeling tells me, pun intended. But you can definitely switch them off or combine them as well.

Dave Asprey [\(00:35:26\)](#):

If this sounds interesting, Hannah's offering you 20% off because she came on the show today. So go to omni biotic life.com, use code Dave 20 and she'll give you 20% off. I'm having a bit of a hard time. So as a supplement guy, naming things to tell people what they do is so challenging, especially because you'll always see a government regulator in one part of the world says you can't use that word and the other person says, you can. When I tried to launch a Brain Octane back when I worked at Bulletproof and I'm unrelated to Bulletproof anymore, not recommending any of their stuff, I just dunno what's going on

over there, but the Brain Octane oil, which was an MCT oil that I used a lot and I think it helped a lot of people. I went to the UK and then, oh, you can't use the word brain up there.

[\(00:36:13\)](#):

So I called a high octane oil and people are trying to put it in their cars. I'm like, okay, that didn't work. So you're like stress versus power for antibiotic. Well, stress is like the opposite of power because then your power is going to a stress response instead of into whatever it is you're focusing your efforts on. So now I'm a consumer, I'm sitting there, I got antibiotic stress. I know if I work out I'll be stressed and if I've got Ono power, your answer is take 'em both, but I'm either economically constrained or lazy.

Hannah Kleinfeld [\(00:36:43\)](#):

Right?

Dave Asprey [\(00:36:44\)](#):

Which how do I do with what take?

Hannah Kleinfeld [\(00:36:46\)](#):

Yeah, I think that's a really valid question. So the way I would think about it is if you are more looking for these cognitive impacts, stabilizing mood, better focus, better cognitive function, then I would lean towards ONO stress relief because this really at its core is our psychobiotic. So psychobiotic is the fancy term for a probiotic that also has positive impact on the gut brain axis and therefore your brain function. If you are really more someone who's like, no, I'm pushing my body physically to its limits, whether that's through exercise or your lifestyle or your job and you're worried about your immune function, you're worried about these oxidative stress levels, maybe you even have shown in lab work before that your oxidative stress markers are high, then I would lean towards omni body power and really support your body a bit more on a physical level.

Dave Asprey [\(00:37:47\)](#):

Okay, now I'm going to make my kids angry right now when I say this. So there are more people who eat croissants in the US than there are French and Canadians who eat or however it is. You actually say that I've never CRO said it right? So I'm just proposing that the global standard for croissant is croissant the way the majority do it. So if we believe in democracy, it's croissant not cro. And if I want to eat a chocolate filled croissant, which omni probiotic should I take first to minimize the harm?

Hannah Kleinfeld [\(00:38:21\)](#):

Honestly, I think one piece of sweet processed food is probably, it won't determine which of Theo formulations you take. I would more focus on what are the bigger issues going on. So if you are concerned about leaky gut and you know that these sweet treats give you anxiety or make you more anxious or nervous, then maybe stick to stress release. If you eat the croissant and then you're like, well, but I just took antibiotics and I have a lot of bloating and I'm still a little nauseous from the after effects of the antibiotics, I would say, okay, eat the processed food, treat yourself, but take Ono AB 10 for a few weeks to make sure you restore your gut properly.

Dave Asprey ([00:39:08](#)):

Okay, I was hoping you'd mentioned zonulin.

Hannah Kleinfeld ([00:39:11](#)):

Sure. Let's talk about zonulin. Yeah, leaky gut. It's actually one of the markers we've tested both for stress release and for power because it's such an important aspect for overall gut health and also how gut health influences our whole system.

Dave Asprey ([00:39:28](#)):

Zonulin is a terribly important marker for gut inflammation, and if you have bad bacteria growing in your gut, you'll have higher levels of zonulin, which means you have leaky gut, which means bacterial toxins that are very small called lipopolysaccharides. Lipopolysaccharides will make it through and the lipopolysaccharides means fat and polysaccharide means with complex sugars attached. These are such small molecules they leak through easily enough and they directly cause brain and joint inflammation and they're one of the primary things affecting aging in my opinion. And I'll say that's an opinion backed by lots and lots of studies. It's not just a random opinion. So if we can deal with lipopolysaccharides, magic happens now since the dawn of the biohacking movement, I've been recommending activated charcoal because it binds directly to lipopolysaccharides, so they don't go to your brain, you don't get brain fog. And it works for things like when you drink too much alcohol and you're hungover and surprisingly for chronic pain patients, you take activated charcoal and then the lipopolysaccharides that are leaking across your gut, they don't make it across your gut anymore, and then your nerves and your joints are less inflamed and then your pain levels go down.

([00:40:35](#)):

You need less pain meds.

Hannah Kleinfeld ([00:40:37](#)):

I love that.



Dave Asprey ([00:40:38](#)):

So our goal is to make ourselves more resilient to these bacterial endotoxins and you can reduce zonulin. It means you zipped up the gut so that you can't get through the barrier with these things. You've got evidence directly for omnibiotic power that it's lowering zonulin, which means it's closing the gaps in the gut that allow these bacterial toxins through.

Hannah Kleinfeld ([00:41:03](#)):

Yeah, exactly. So as you said, the issue with leaky gut, it's inflammation and gut lets through all these toxins, and in addition to what you just said, the toxins getting out that's directly linked to immune system dysfunction. Your immune system goes on overdrive. It's at the root cause of so many conditions are linking leaky gut to the condition, including mood disorders, autoimmune conditions, the list goes on. Actually athletes very often have leaky gut because of this oxidative stress over long periods of time. That increases inflammation also in your colon, destroys some of the cells of your intestinal barrier, and there you have leaky gut. And what we've seen is just 12 weeks of taking Ono power has significantly reduced zonulin levels in the group that took the antibiotic power compared to the placebo group.

Dave Asprey ([00:41:58](#)):

So influencers recommending over-training are directly causing leaky gut.

Hannah Kleinfeld ([00:42:04](#)):

Yes, you could say that.

Dave Asprey ([00:42:05](#)):

Wow, I hope some people repent for that. So guys, if you once like me exercise six days a week for 90 minutes a day, I will tell you I never lost a pound in 18 months of doing that. And I was on a low fat, low calorie diet, constantly hungry and my cortisol levels were high. My gut was leakier than you could ever imagine. And when I stopped exercising so much and cut out things that cause leaky gut, I did lose 50 pounds in three months, but I was 90 weed at the time and I exercised less because I had more work to do. So there's a weird thing where some exercise is good, too much is bad if you're going to press it because you love exercise because you're a fitness competitor because you're training or maybe just because you still have the false belief that more is better just despite all of the evidence.

([00:42:57](#)):

By the way, read smarter not harder. If you want to see the evidence, there's lots of studies in there. Well then you would almost by definition have to monitor your diet and athletes have always done this, so you want more animal protein, you want more soluble fibroid, feed the good guys, but you're also going to want the right bacterial balance, which is why I'm like, oh cool. This is the first time I've seen a probiotic for this and it just so happens it's been studied for a long time in Germany before we got

access to it. So I think this is for athletes here, let's make it so you also get to live a long time instead of training excessively and then needing new knees and new hips later in life. And I see this so often, especially in endurance people, maybe if your lipopolysaccharide levels and cortisol levels and serotonin levels via mechanisms we've just talked about, maybe if those are optimized, you can exercise until you're in your seventies, maybe you won't do the same exercise you did when you're in your twenties.

[\(00:43:50\)](#):

That would be smart, but at least you've maintained your youthfulness. So I'm a big fan of this, especially if you're going well, I just don't feel good if I don't exercise five days a week, I'm going to suggest lift heavy two or three times a week and learn yoga, go for a walk, do a peaceful movement practice, but this whole, I'm just going to grind it out because I have childhood trauma or something. A lot of people I see are self-medicating with endorphins. You can get endorphins from a cold plunge and you'll probably live longer. You can overdo that too. Everything could be overdone. Is there any evidence for power with the other biohacks like infrared sauna or cold plunges in particular because those are raising some of the same things that exercise does.

Hannah Kleinfeld [\(00:44:35\)](#):

I don't think they've specifically looked at combining the two in a study, but they have looked at some other markers like the TNF alpha, which is a really big inflammatory marker and other markers for the immune system and we're seeing similar results that they're being improved or stabilized when taking ONO power, especially in these high performance lifestyles. And obviously I think that's the whole idea behind biohacking and also Dave, what you advocate for is you have a toolkit and you use the tools in your toolkit depending on what you're going through and maybe that's also pulling an infrared sauna and or cold plunging and your diet. And I think for many people it probably ebbs and flows a little depending on what stage of life they're going through, what other stressors they're facing in their lives.

Dave Asprey [\(00:45:27\)](#):

There you go. You can tune this and if you're saying, look, I'm overwhelmed and Dave, you're seeing 150 supplements a day, there's lots of tools available now that can help guide you towards what you'd want to do. If you go to upgrade to health.com for instance, that's my newest AI tool we launched at the conference, and so it can help to guide you. You can also though say, I don't want to spend money or time on lab work. I just want to know what to do based on my wearables. Well, we can help you with that. Or I just want to know that I love exercising and I'm going to keep doing it. What's most likely to make me more resilient? Then you pick something and let's say you pick ONO Power because it's designed for that and you do it for a month and you look at your aura ring or your WHOOP or your Apple watch and you look at what's your readiness score in the morning.

[\(00:46:16\)](#):

If it goes up, newsflash, it works. And if it doesn't change at all, maybe it worked, maybe it didn't because you probably have confounding factors as well. You could say there's a confounding factor in the other thing, but do your best just see what's working and I think you're going to find that you can move the needle in the right direction and if you have a little extra money, you say, okay, my goal is to address inflammation and exercise related stress this month. So then you actually do some research and you say, okay, I'm going to spend \$500 on supplements. And then you say, what are the ones that

improve exercise? You're looking at some amino acid powder. You're looking at things that enhance mitochondrial function and you're looking at things that blunt your cortisol response that you know is going to be high from over-training.

[\(00:47:05\)](#):

And then I think antibiotic power would be something that you would put in your stack. You don't have to just test one thing at a time. In fact, my recommendation is that knowing which one worked is a dumb idea because there's no data that just one will ever work. You might need three things at the same time, so do all the things that are convenient that you can afford all at once until you get the result and go, oh my God, I feel so much better, and then stop taking some things and see if you keep the results. This is the path to biohacking versus where I first started. I'll test this thing, don't test that thing, and I'm like, great, whoever approved that one thing is the cause. In fact, there is nothing in my life that is caused by one thing. Right? Is a TP caused by breathing or by eating? Oh my god, you need both. But if I was a big pharma company, I'd be like, no, I tested air and I tested food independent of each other. Therefore, there is no life. This is the way of thinking most of the world has.

Hannah Kleinfeld [\(00:48:00\)](#):

Yeah, I agree. It's like different puzzle pieces and you're putting them together based on how you know your body and what you think you need given the outcomes you're looking to solve.

Dave Asprey [\(00:48:11\)](#):

I've seen a lot of companies in the supplement industry pop up. There are people who maybe have looked at longevity for a year or two or they did some market analysis with Chad, GBD and said, I want to start a supplement company, and they made some images. So there's a lot of, we'll say less research products that are kind of thrown together and it kind of bothers me having been in the industry for 25 years. I'm like, man, that's expensive and has good marketing, but the ingredients are not the right amounts or they're not effective. So I look for companies that have a lot of research, like 10 plus years that have gone into it. And you guys have about 30 years behind antibiotic?

Hannah Kleinfeld [\(00:48:53\)](#):

Yeah. The company was founded essentially 30 years ago by a ban who was a pharmacist by training, and she really discovered her passion for the gut microbiome after she lost someone who was very close to her very early to colon cancer. For her, that was one of the missing pieces she said back then 30 years ago in Europe as in the us, no one really was thinking about the gut microbiome, the bacteria that live within us and all the things they can do, and the more she started researching and looking into this, the more she just became fascinated, and that's how Omni Biotic was born. And one of the core principles was her realization that different probiotic strains do different things in the body, and you can't just combine 10 random strains and hope that they will do the magic of whatever you expect of a probiotic. You have the opportunity to be a lot more targeted so that you don't just kind of broad spectrum, hopefully improve some digestive parameters. You're actually supporting your gut microgram to then impact other endpoints in your body, other health goals that you're looking to accomplish.

Dave Asprey ([00:50:07](#)):

I'm glad you said that. There's something called multi ingredient synergy or multi toxin synergy, and one of the things that drives me nuts is that there is no standard for the most common toxic mold in coffee in the us. It's called OTA, but I referenced a bunch of studies in my writing about this that show that even allowable limits of this toxin, when you mix it with other mold toxins that are present in your environment or other things, that it makes it much more potent and much more powerful. So safe level of one thing is not safe if you combine a safe level of ingredient one with ingredient two. What that means though is that for getting benefits, it's the same way. So if you mix two beneficial strains, two plus two might equal 2.1 or it might equal five depending on if there's synergy or not.

([00:50:56](#)):

And when you combine seven strains, it's like two to the seventh. It's a lot of different things you'd have to test. So it takes years and a lot of rigorous science to know how to mix these things. I've been really impressed, to be honest with Ono, when you first reach out in 2019, I'm like, seriously, you want me to put powder? I have a whole drawer full of powders I don't take because it's just annoying. Unless I can put 'em in a smoothie or something altogether, I'm not touching it, except yours is the only one that I've done is now like five plus years because actually you can see the difference.

Hannah Kleinfeld ([00:51:28](#)):

Yeah, I love that. And we hear that from so many people who give antibiotic a try. They say, I've tried so many probiotics in the past. Most of them were capsules and they just didn't do anything for me. And then they take antibiotic and they really feel the difference within a few days of taking the product. This is not something for many that takes weeks or months. You feel the difference on your digestion, on your mood very quickly.

Dave Asprey ([00:51:55](#)):

Wow, okay. Let's say that I was exposed to something that increased blood clotting over the last few years. I have no idea what that could possibly be, but if I was, what antibiotic product would be most protective, not just of my gut, but of my overall cardiovascular system?

Hannah Kleinfeld ([00:52:23](#)):

That's a great question. I don't think we've specifically looked at, or at least I'm not aware of anything specific to cardiovascular health, but one of the things I would be thinking about is whatever you've been exposed to ideally gets detoxified and metabolized out of your body. And one of the main organs that does that is the liver. And we also want to make sure that we're not then flooding the body with additional toxins because we have a leaky gut or because our gut bacteria aren't doing what they're supposed to be doing. So in that case, I would be looking at antibiotic ke talk, which is our probiotic to really support liver detoxification, liver function, and overall metabolic processes.

Dave Asprey ([00:53:06](#)):

So you'd focus on the liver, which makes good sense. I also advocate pretty strongly actually for taking something called septate. This is an enzyme that's made by silkworms, and I've been taking this for 25 years because it breaks down scar tissue and fibrosis in the body, and fibrosis was one of the seven pillars of aging in my longevity book, which is called superhuman. Is it okay to take a strong systemic enzyme like that at the same time that I take my antibiotic? I've always wondered, is this enzyme going to start digesting the probiotics? I don't think it does, but I don't know.

Hannah Kleinfeld ([00:53:47](#)):

That's again, a great question. I will ask our science team about this. Honestly, I would think because it's an enzyme you're taking and other, presumably this was evaluated by the FDA, generally recognized as safe. I think if it was degrading our good gut bacteria, someone would've hopefully found that, and hopefully it can be selective enough to not just start eating our good gut bacteria.

Dave Asprey ([00:54:16](#)):

It seems unlikely, and I've never had a negative effect from doing that, including from taking. There's a time when I met the first people who really came out with this. I took hundreds of capsules of this for about three months straight, and it literally dissolved a lot of scar tissue in my body. I'm not advocating necessarily you do this now. This was in my late twenties when I was running a longevity nonprofit group, and I think it had pros and cons. The bad side is if you break up scar tissue in your body that's there for a reason and you don't learn functional movement afterwards, you might've needed that scar tissue. So there's that. I don't always do things the right way, but given what bacterial cell membranes are made out of, I don't think it's going to affect it. So I don't feel bad before bed taking Sept days Ando at the same time.

Hannah Kleinfeld ([00:55:06](#)):

Yeah, I also would think if that was the case, especially when you were taking it in higher doses, you would've probably felt some weird things going on in your gut if it was depleting your gut bacteria, because usually if they're depleted, we do have some sort of GI issues that indicate something is off.

Dave Asprey ([00:55:25](#)):

Alright, well one more question. I've been experimenting with taking probiotics in the morning or middle of the day or at night. What is the best time?

Hannah Kleinfeld ([00:55:36](#)):

That really depends on the instructions of each manufacturer, honestly, and it's really funky because depending on the type of capsule or whatever, usually it can vary. But for omni biotic, we recommend

taking it on an empty stomach, ideally first thing in the morning or in the evening, just because we want the probiotics to get through the empty stomach as quickly as possible so that they're not churning in there with food and a lot of gastric juices. I personally like to take them in the evening because I feel like it gives, your digestive system is kind of empty at night. It gives them a long time before there's interruption from food and increased peristalsis. But again, ideally just on an empty stomach, morning or evening to be the preferred time.

Dave Asprey ([00:56:25](#)):

Okay. Yours is the evening. I've had some brands of probiotic that seem to lower my sleep quality, I would want to take those in the morning. I haven't noticed that when I take the stress formula, at least from antibiotic at night, I don't have any effects on my sleep.

Hannah Kleinfeld ([00:56:38](#)):

Yeah, we've actually heard the contrary from several people who say, Omni bro stress release actually improves their sleep. And we think that this might be because it does support neurotransmitter balance and the gut brain axis. But yeah, I don't think I've ever heard, I mean, unless if someone had really bad dysbiosis and imbalances and maybe in the first few days of taking really any probiotic, they might feel some mild GI discomfort while the gut is rebalancing and chasing out some of these unwanted pathogenic bacteria, maybe then it's better to take it during the day so you can sleep well. But I mean that's again, kind of these edge cases where you might just be experiencing a little bit of mild GI discomfort while the gut microbiome readjusts.

Dave Asprey ([00:57:23](#)):

Okay, that makes a lot of sense. I am just so pleased with the fact that you're taking these European very well researched probiotics and bringing them to the US because in most of the supplement industry, it's the opposite. Other than a few pockets in Germany, we tend to have stuff first in the US that's hard to get in Europe or Australia or Canada. And because of more limitations from the government on your ability to control your own health, not that the US doesn't have its own set of limitations there, they're just different ones. So the fact that we're now taking the very best of Europe and bringing it out here so that we have global availability of stuff with the most research behind it. That's part of the goal of biohack is I just want to know what works for me for how I'm doing right now with my goals in mind.

([00:58:15](#)):

And you're now labeling the antibiotic stuff. Okay. This is the one for heavy exercise. This is the one for chronic stress. This is the one for detoxing. So you just know, okay, today is a detox day. I'll take this one. Today is this other day. So making it easy is good. And using research well research thinks is also really good. So I really appreciate what you're doing to bring this to the US and I think it's making a difference. I hear so many positive things from the upgrade collective. By the way, guys, if you're listening to this, the Upgrade collective, there are today people on Zoom on video with me right now who are live members of the audience asking me questions and telling me questions to ask Hannah. So if you'd like to hang out, have four calls a year with me, go to our upgrade collective.com and check it out.

[\(00:59:02\)](#):

But more importantly, I want you to right now go to [omni bioo life.com](http://omni.bioo.life.com). You go Dave 20 and he's been nice enough to give you 20% off of everything in your order. Try ONO Power. If you're exercising well, you ought to be at least on those days. And if you exercise every day because you read a book that well, a well-intentioned book that might've told you to overtrain. If you're getting the cortisol gut and your joints hurt and your sleep quality has gone down and you don't have a kickstand in the morning or your cycle's irregular and you're losing your hair, you might just be over training. What happens when you overtrain? So then you want to double down ONO Power. And if you're like me and you only have a few companies and you're flying all over the planet and you just ran a really successful bio in governance, Ono stress is probably the one for you.

[\(00:59:55\)](#):

And if you know you've just been in a moldy building or you've been sniffing paint fumes or like me sniffing magic markers, signing books, I've been high from signing books from Sharpies more than once, then I would look at ONO Detox. So these are strains that work. They are different. They're noticeably different. And you can have all three. You'd have to take all three at the same time, but I have a box of each one in the cabinet above where I mix all my stuff up in the morning. And that's a real fact. So I just tell you what I do, but I am never going to tell you everything I do all at once every morning because number one, it changes based on my state. Number two, I care about you and telling you to do everything I do is just a bad idea.

[\(01:00:36\)](#):

And even if 50% of people benefited, the other 50% of people are going to not know why it isn't working. And this is why tuning what you do for you and for your goals is so important. And I just would say give it a try and see if it works. But please don't do everything I do. Well, you don't know what it is. This is something I actually do, but this isn't everything I do, but it's something important I do. That's why I want to have Hannah back on the show. Thanks for coming out. Thanks for your knowledge. It's a fun interview.

Hannah Kleinfeld [\(01:01:07\)](#):

Thanks for having me, Dave. I always enjoyed talking to you,

Dave Asprey [\(01:01:11\)](#):

Yorn, listening to The Human Upgrade with Dave Asprey.