

Dave Asprey (00:00:01):

You are listening to the Human Upgrade with Dave Asprey. Give me the parasite story according to Dr. Gundry.

Dr. Steven Gundry (00:00:11):

Well, one of the arguments against the China study and how bad meat was for you and animal protein was for you is they didn't bother to compensate for the fact that liver flukes are a really big problem in China. And that if you actually correlated, everything that they said happened with the China study and meat. It was the liver flukes that were actually the problem, not the meat. Anyhow, so parasites are very interested in us, but there are some interesting human studies that these sorts of parasites, which are temporary, can modulate the immune system. There is a communication between our microbiome, our microbiome, our fungi, biome, and parasites that do communicate with the immune system. I went to medical school at Georgia and hookworms were actually incredibly common among the particularly poor people who went around barefoot all the time. And we would actually see kids with eosinophilia type of white blood cell that's classic for allergies.

(00:01:33):

And one of our professors of pediatric surgery, we'd have one of these kids in our hospital and he'd ask us for a hemostat tweezers and he'd go up a little kid's nose and he'd pull out this fabulous hookworm out of the kids' nose and we'd all go, whoa. And this was actually the same institution that pioneered fecal transplant for C difficile infections back in the mid seventies. How do I know? Because medical students once a week took a crap in what was called the honey pot, and we put the feces from medical students into a wearing blender and gave people medical student fecal enemas for the treatment of C difficile, and it resolved dramatically. So yeah, parasites and what goes on in the gut is very interesting.

Dave Asprey (00:02:28):

It's also interesting that the vast majority of parasites people get are coming from plants, aren't they? Raw plants like salad greens and fruits, and you get all these radical vegans saying your parasites and meat. No, no, no. We cook the meat dumb asses that kills 'em. It's the salad that's causing parasites. Correct. Can you walk people through that?

Dr. Steven Gundry (00:02:51):

Well, and it's interesting. If you look at most of the big epidemics of even bacterial infections and parasitic infection, Giardia is a classic. Particularly if you go to Mexico or South America or happen to buy foods, particularly organic foods from Mexico, leafy greens, you may very well end up with a good case of Giardia, which we're more than happy to take over your intestinal tract for quite some time. And people go, but I eat so healthy. Well, so many times the organic vegetables are fertilized with manure and we forget that we are what we eat, but we are what the thing we're eating, ate. And so you got to be careful out there.

Dave Asprey (00:03:40):

I had something happen to me a while ago in Phoenix. I had a salad at a restaurant next morning. I had disaster pants and I would crap 20 times a day and it was horrible. So I got all the parasite samples, all the gut bacteria, all the things you do with a GI doctor, nothing. They could not find it. I went to a specialist who sent it off to Africa, couldn't find it, and finally I found this old, old guy right next to Central Park in New York City recommended by a friend and he wrote six textbooks on tropical medicine in his career, and he also ran public health for New York State for several years. This was his eighties, just most fascinating guy I've met in a long time. And he says, oh, all these young doctors, they never look in there to find where the parasites are.

[\(00:04:33\)](#):

Good parasites aren't going to leave, they're going to stay inside, bend over like, oh god. So he gets his little flashlight hose thing and goes in, God, there it is, 10 inches up. I'm like, 10 inches. Good God. Thankfully it was a flexible hose. He goes, all right, I got a sample. Call me in two hours. I'll tell you what you got. Okay. This is after thousands of dollars of taking different stuff, of trying. Everything calls me and says, you have a kind of amoeba that tunnels through the lining of your gut and forms cysts in your brain. Fortunately, I know your gut lining looks like it's still intact. I'm like, thank you collagen. Thank you eating all the good stuff. He said, oh, and you have Giardia. It looks like it's been there for a while. Take these. He gave me two pills. I don't remember what they were.

[\(00:05:13\)](#):

I should have written 'em down. It was \$1,200 at the pharmacy, and I stopped shitting after two days of being on the right medication for this thing. And he's saying, no doctor knows this stuff anymore. It's a lost art. But he said, why did you get this? Because whoever prepped that salad at that restaurant, they had the 3:00 AM job. It gets the job at 3:00 AM The people who just came in from Central and South America were most likely to have parasites because that's their entry level jobs in restaurant as you're learning the language. So it's a sanitation issue, but it wasn't from eating steak. It wasn't from eating pork, dirty pork, it was from eating salad. So if you're a vegan and you think I have parasites, let's do a parasite throw down, I have less parasites.

Dr. Steven Gundry [\(00:05:57\)](#):

That's interesting. Almost all of my patients who have these really bad GI issues with chronic diarrhea or new acute onset diarrhea or abdominal cramping, almost always, they're open. Parasite tests are completely negative. I think you're right. I think this is just a bad test to make this diagnosis.

Dave Asprey [\(00:06:22\)](#):

Do you take anti parasitics regularly, herbal or pharmaceutical just to be on the safe side?

Dr. Steven Gundry [\(00:06:28\)](#):

Well, interesting. Turmeric has some interesting anti parasite qualities. So does berberine. And so I take both of those nearly constantly. Cetin also has sematic parasitic properties, so those are useful to help with your armamentarium.

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

Can we talk about berberine for a minute?

Dr. Steven Gundry [\(00:06:55\)](#):

Sure.

Dave Asprey [\(00:06:56\)](#):

All right. So for listeners, berberine's an herb that does something similar to metformin from a longevity perspective, a blood sugar control perspective, metformin is something that some people in the longevity field have been taking for a while to reduce their speed of aging. I started taking it in 2003 when the first study came out and stopped taking it in 2006 because it wasn't working the way it was supposed to work, and I've been generally opposed to it. I've tried it a couple more times. It reduces mitochondrial function, so I don't think metformin's a good thing. And most people who start metformin in their big cheerleaders, I'm like, give them three years VO two max goes down. It's not the right drug. So Berberine came online,

so of course I'm taking berberine, but I had two episodes of abnormally low, potentially fatal heart rates during times of stress and down to 30 beats a second.

(00:07:46):

The blood pressures 60 over 30 kind of things. You can have something called Heart Lock that you're surely familiar with from that. And yeah, well do a search on PubMed for berberine and vagal tone and all the other things that are related to heart lock. And what you'll find is that there are many, many, many even ER reports of people taking berberine, having abnormally low heart rate. It happened to me and one of the times, I'm lucky, I had an EpiPen. This was in the back of an Uber and it could have been really, really bad. That was after our medical procedure. Both of these were, and James Clements, who's been on the show and is another one of those guys in the longevity field, I've known him for 25 years. He's the guy who flew around and gathered DNA from everyone over a hundred. So George Church could analyze it. James had the same experience with him. We couldn't figure out why our heart rate kept going lower and lower and lower. So berberine is not without risk, and I sell these people just die hydroxy berberine, I'm doing enema with it now is going to save my life, guys. It's a double-edged sword. All pharmaceuticals are, and so are some of the plant compounds. But I was going to say a view with your cardiology background, you come across any of that in yourself or in patients? You ever seen it?

Dr. Steven Gundry (00:08:57):

Luckily, knock on wood, I haven't seen that particular effect of berberine. I think some people say, well, if some is good, a whole lot is a lot better. And there is a slippery slope with supplements. I'm the first to tell people that.

Dave Asprey (00:09:12):

Gotcha. So I think you should use it, but if you see your heart rate and your aura ring are telling you weird stuff, you should pay attention to that. Interesting. Melatonin can do something too. A very high dose melatonin can cause cardiac irregularities. I can see it on my AA ring when I took 40 milligrams. I ended up in the hospital with arrhythmias until two, right until two in the afternoon. Like, oh, I figured that one out. 40 milligrams of melatonin will reliably do that to me, even though some people take a hundred milligrams to deal with cancer. So it's one of those things where you just have to have your own fainting couch and then you're fine.

Dr. Steven Gundry (00:09:44):

Now there's now a 60 milligram melatonin tablet that's commercially available.

Dave Asprey (00:09:51):

Yeah, if I took that, it would be really, really bad. So I would say if you're going to try that, you should ramp up instead of just going all in

Dr. Steven Gundry (00:09:58):

Play. What I do with my patients, we start slow and work our way up

Dave Asprey (00:10:01):

And it's life changing. If you can take high doses and you need it, I mean, it's a very potent thing. We talked about olive oil and one of its benefits. There's a downside to too much olive oil, isn't there?

Dr. Steven Gundry (00:10:12):

Depends on how you define too much. The predimed study forced people to use a liter of olive oil every week. That's 10 to 12 tablespoons a day. One has to remember that many lipopolysaccharides hop on oil carriers called chylomicrons to get through the wall of the gut. And so even olive oil potentially can raise LPS levels in the body, which I don't think is a good thing. Interestingly enough, in the plant paradox, people didn't realize it, but for two weeks when we started anybody's program, we eliminated olive oil and other fats from the diet for two weeks because of that problem. But I think the only purpose of food is to get olive oil into your mouth.

Dave Asprey ([00:11:08](#)):

I'm a fan of olive oil. I worry about the amount of 16% linoleic acid that's in it. It's got enough that I wouldn't want to replace all my oil with it, so I use a tablespoon or two in salads. So I've seen some things around how having enough linoleic acid increases all sorts of negative things in your cells. And I actually talked with Brian Johnson about this a little bit too. So I'm trying to figure out the sweet spot, recognizing there's hydroxy tyros, all kinds of good stuff that's in olive oil and it is definitely metabolically slowing compared to things like steric acid. So I think at some point we're going to look at your genes and maybe your gut bacteria and we're going to figure out for you, you need half a cup and for you you need a tablespoon. And for you, we're going to get to that level of customization to figure out, all right, what are the types of chains of fats that are going to be perfect for you? And in the meantime, I've gone from, there's times where I was doing only olive oil to times where I'm primarily saturated and I decorate with olive oil for flavor and antioxidant benefits and metabolic benefits, but I don't go all in on it and I don't know the right answer to that. And I'm wondering if,

Dr. Steven Gundry ([00:12:24](#)):

Well, I'm a huge fan of perillo oil, which is almost pure linolenic acid, short chain Omega-3 linolenic, not linoleic. Big difference Linolenic correct. The Omega-3, not the omega six. It's almost pure linolenic acid. And I use about half perillo oil and half olive oil in my salad dressings. Anyone who has anti LPS antibodies a lot in my practice, I take away all their oils except sesame and perilla oil and we've seen dramatic reductions in anti LPSs.

Hannah Kleinfeld ([00:13:04](#)):

I think the first thing to recognize is if our gut is inflamed and our gut barrier is broken and leaky, the nutrients we take in are not properly absorbed and metabolized. So you could be eating the cleanest diet and taking the best supplements in the world, but if your gut is broken, if your gut is inflamed, if you don't have the right bacteria to help with nutrient absorption, a lot of that is quite literally just going down the toilet. So that's kind of 0.1. Wow. Yes. And then on top of that, you're right, our bacteria play an essential role in helping to break down and metabolize many of the nutrients we're getting from food and even from supplements. And so again, if you don't have these good bacteria in the right amounts in your gut, your body will struggle to get the proper amount of nutrients from the food you're eating.

Dave Asprey ([00:14:03](#)):

So it matters pretty strongly.

Hannah Kleinfeld ([00:14:05](#)):

Yes.

Dave Asprey ([00:14:06](#)):

Okay. What is the number one thing harming people's guts today? Especially in the us?

Hannah Kleinfeld ([00:14:12](#)):

Yes. I honestly, it's a question we get a lot. I would say it's a bucket of things and I call them the longevity busters or the gut health busters. And the way I think about this is anything that creates stress on your gut, and that is top and foremost, an overly processed diet. Too much sugar, chemicals, toxins from the environment, overuse of medications that disrupt the gut flora, especially antibiotics, but also other medications. And then lastly, not to forget stress, stress, mental and emotional stress has a negative impact on our gut flora. It increases stress overall in the body and also can diminish the bacteria in the gut. And if you think how many people in the US across the world are stressed right now, that's a huge impact on our health, mental and physical.

Dave Asprey ([00:15:05](#)):

Alright. We know that stress causes leaky gut. Do we know that taking probiotics when you're stressed will stop leaky gut?

Hannah Kleinfeld ([00:15:14](#)):

Yes. We actually have the studies we've shown in multiple studies that taking ONO stress release even for just four weeks has a 48% reduction in zonulin. Now zonulin is a marker for leaky gut. What does that tell us? Taking antibiotic stress release actually supports your gut barrier and helps reduce this incidence of leaky gut. In addition, ONO stress release also increases your short chain fatty acid producing bacteria, which is really important also for just overall colon health and health throughout the body, and it helps reduce inflammation in the colon, which is also a huge contributing factor to leaky gut. We've seen this in clinical studies using ONO Stress Release checking on those specific endpoints.

Dave Asprey ([00:16:02](#)):

That's a remarkable How many studies in total do you have clinical studies on Antibiotic?

Hannah Kleinfeld ([00:16:08](#)):

Yeah, so at this point it's probably well over a hundred. Now. Many of them are published in the very reputable journals. Some of them are published in German publications or in Europe. But yeah, at this point for every formulation, we have multiple studies. And last time I checked it was well over a hundred.

Dave Asprey ([00:16:28](#)):

You talk about human strain probiotics as opposed to are there companies out there using cabbage strain probiotics? What does that mean?

Hannah Kleinfeld ([00:16:38](#)):

Yeah, that's a great question too. So with human strain, what we mean as strains that naturally occur in a human intestine, there's other types of probiotic, for example, spore based that come from the soil. Yes, they can do things in our intestines, but they're often transient, so that means they're not colonizing and living in the intestines they're passing through. So when we say human strains, we really mean strains that can colonize and live in your intestines so that they can actually basically set up camp there. You're not just taking them and they pass through. They're setting up camp and setting up their own manufacturing plans for what they're supposed to be doing in our body.

Dave Asprey ([00:17:22](#)):

There's a relatively famous bad bacteria called clostridium difficile. It runs rampant in nursing homes. It causes really bad diarrhea and it actually kills people that have weakened immune systems. But most

people don't know this. There are beneficial strains on Clostridium that live in the gut that can actually push out Clostridium difficile. What does your AB 10 strain do that's different for Clostridium?

Hannah Kleinfeld ([00:17:53](#)):

So AB 10 contains 10 probiotic bacterial strains, and the strains are combined in a way that they have really strong pathogen inhibiting properties including for c diff. So what we've seen both in the lab, in vitro studies as well as in clinical trials, is that Ono AB 10 helps reduce c diff in the body as well as degrade and reduce the toxins that c diff produces, which can actually be a big contributor to the symptoms you experience with c Diff. For example, we actually have a study recently that they did in a nursing home where diarrhea from just overall, these multi-drug resistant gram-negative bacteria was rampant and we found a significant reduction, actually a 58% reduction in colonization of intestinal colon colonization of these gram-negative bacteria in the nursing home residents after they were taking 80 10 for several weeks.

Dave Asprey ([00:18:51](#)):

Wow. Could you imagine if they just rolled this out at nursing homes?

Hannah Kleinfeld ([00:18:55](#)):

That would be huge. And you know what? In Europe again, that's what's happening. It is being used in hospitals, it's being used in some nursing homes, and the doctors there realize it's a huge benefit to their patients. It reduces the overall cost of care in these hospitals. Patients are happier, nurses are happier because the patients are feeling better. It's an overall win-win. And if you think that that can be done through these good bacteria, it's not a drug. It's a dietary supplement that can be taken once a day easy. It's a powder, you dissolve it in water, you don't even need to take a pill. It's that easy and it can have such a huge impact.

Dave Asprey ([00:19:37](#)):

Have there been any studies in controlled environments like prisons or schools where they just give it to everyone and then see what happens?

Hannah Kleinfeld ([00:19:46](#)):

I am not aware. I wish that would be done. And actually it's a great idea. I'll pass it on to our team. A lot of the studies we've done have focused on nursing homes, hospitals, and then healthy volunteers for things like stress release.

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

It is kind of dark that I said prisons or schools, but there's actually surprising commonality between the lunchrooms and the two, if at least in the us. What I have seen is older studies. One was actually at a juvenile detention facility in the US where they gave him just multivitamins and the incidents of violence dropped so much during the study that afterwards, the employees, like the guards, they put their own money pooled to buy multivitamins because it made their workplace so much safer because the incident of violence went down so much just from basics. And if we were to put that in an environment like that, well, when your gut health goes up, your brain health goes up. When your brain health goes up, your ability to self-regulate goes up.

Hannah Kleinfeld ([00:20:46](#)):

Yes, yes.

Dave Asprey ([00:20:47](#)):

So there's a lot of room for improvement in the way we treat people, and I think doing it our young people is even more important than in our nursing homes.

Hannah Kleinfeld ([00:20:55](#)):

Yeah, I mean, just think 90% of the body's serotonin is produced with the help of our good gut bacteria. If you don't have those gut bacteria, then directly affects neurotransmitter production.

Dave Asprey ([00:21:07](#)):

What did you see when you looked at the MRIs of people taking your stress release?

Hannah Kleinfeld ([00:21:11](#)):

I love that study. It's so cool because you can literally see the changes that a probiotic does in your brain activity. So what we did is we had a healthy volunteers in two groups, a control group, actually three groups, control group placebo and ONO stress release. They took the substance, in this case, stress release for sick for four weeks. And then we looked at various things through an MRI, and what we found is that there was actually changes in two big networks in the brain. One is the salience network and one is the default mode network, and they're responsible for higher cognitive function and attention and focus. So what we see is these changes show that people have improved cognitive function, improved higher processing abilities, and basically a more targeted attention, which is so cool. Again, just by taking a probiotic once a day for four weeks.

Dave Asprey ([00:22:07](#)):

That's crazy. MRI benefits. I'm getting questions from the upgrade collective, our live studio audience, and they're asking, do you have to refrigerate it?

Hannah Kleinfeld ([00:22:19](#)):

No. Let's talk about the delivery mechanism here because this is a huge component of why antibiotic is so effective. Omni biotic does not need to be refrigerated. It comes in these daily little pouches. I actually have a pouch here that I can show you guys. It's this little pouch. It fits perfectly into any hand handbag backpack on the go. You just mix it in water and you take it no refrigeration required. The reason why it's a powder, it was a very mindful decision. We have tested ONO powder versus 10 leading US capsule brands, and what we found is that 83% of the omni biotic powder reaches the intestines alive and metabolically active compared to 7% across these 10 other leading brands, many of which were capsules.

Dave Asprey ([00:23:10](#)):

That's about 12 times better

Hannah Kleinfeld ([00:23:12](#)):

Visibility. Yes. And you want them to reach not just alive, but you want them metabolically active. You kind of want a young, supercharged, happy, energized bacteria to get into your intestine versus one that's already walking on crutches because it was exposed to the gastric acids and the very low pH and the upper intestinal tract, and then it just kind of is barely holding on or possibly dead by the time it reaches your intestine.

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

I think I've spent well over a hundred thousand dollars on probiotics over the last 20 years. My gut was really wrecked from all the antibiotics for me. I was on antibiotics for 15 years. It was maybe once a month I would go on a course. So my gut was just trashed and it's much, much better now. So I'm grateful for that, but I have no idea which ones survived and which ones didn't. Can I put it in a smoothie?

Hannah Kleinfeld ([00:24:08](#)):

Yes, you could. Although the best option is non acidic liquids. So if ideally it's just water, if you're queasy about just putting it in water because it then turns a little milky, you could do non acidic liquids like a non-dairy milk, a dairy milk if you're choosing to drink that, or even apple juice smoothie is okay as long as it's not acidic. So if you're putting a ton of acidic fruit in your smoothie for example, then you would not want to do that. But you could also mix it in yogurt. Some people do that, especially for kids or applesauce. But again, nothing acidic, nothing too hot.

Dave Asprey ([00:24:50](#)):

Got it. So don't add it to your coffee.

Hannah Kleinfeld ([00:24:52](#)):

Yes, honestly, yes. It's funny, no coffee and also many people think it's a good idea to put it in your lemon water in the morning.

Dr. Steven Gundry ([00:25:01](#)):

No,

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

No, because that is also acidic. The lemon juice is acidic before it gets into your body and that would actually kill the bacteria. So then you're just negating the effects.

Dave Asprey ([00:25:14](#)):

Okay, when I wake up, I like to do salts or electrolytes in water. Can I do it with salt water or is the salt going to kill it?

Hannah Kleinfeld ([00:25:23](#)):

Yeah, I would be careful. I am actually not sure. I'm happy to ask our science team, but I would be careful because we also know salt can draw water out of cells. So I would probably just, it doesn't have to be a lot of water, it can just be a little amount of water. I would just chug it and be done with it on

Dave Asprey ([00:25:39](#)):

Time. Then how much longer do I have to wait before I drink my salt water? So this

Hannah Kleinfeld ([00:25:42](#)):

Matter doesn't really matter because the whole idea is the powder you rehydrate these freeze dried bacteria before they hit another liquid. So if you rehydrate them in plain water, they wake up, they rehydrate and they actually begin to consume the prebiotic nutrients that are mixed in the powder. So they get really strong and that's what you want because then any other liquid they hit like the gastric juices in your stomach for example, they are not even interested in those. They won't absorb them, and that's what

actually is the detriment to many of these freeze dried capsules that then if they open in your stomach for example, they soak up the acid in your stomach and that's what kills them or weakens them tremendously.

Dave Asprey ([00:26:27](#)):

Oh, that's actually the best explanation I've ever heard from antibiotic about why this delivery mechanism works. It's partially because you have a prebiotic, so there's food to feed them, but it's because by fully hydrating them ahead of time, then yeah, there's no reason that they would pull liquid in.

Hannah Kleinfeld ([00:26:50](#)):

Exactly.

Dave Asprey ([00:26:50](#)):

So then they can survive and that's why 83% survive. But if I take a capsule of any kind of probiotic that comes in capsule, it's going to rehydrate using stomach acid and of course that's going to destroy it.

Hannah Kleinfeld ([00:27:03](#)):

Yes, exactly.

Dave Asprey ([00:27:06](#)):

Alright, let's talk about the detox, which is the antibiotic product that I like the most. I've been concerned for more than 10 years about endotoxins and if people have read the Bulletproof Diet, I talk about lipopolysaccharides, these things made in the gut by your so-called bad gut bacteria and these cause brain fog. I was dealing with such bad brain fog, you were too with Lyme

Dr. Edward Group ([00:27:33](#)):

Disease

Dave Asprey ([00:27:35](#)):

And you get just this idea that you don't feel, you don't feel right. Even Wim Hof proved that his therapies worked because he injected endotoxin lipopolysaccharides and showed that he could clear it with his breathing and his cold therapy. So if we can make less endotoxin in our gut or absorb less of it, we get less systemic inflammation, we get better mitochondrial function, we get better cognitive function. What does he talk about for endotoxins?

Hannah Kleinfeld ([00:28:05](#)):

Yes, so he talks about one of our main probiotics. It supports the gut liver axis. So what do we mean by that? The gut and the liver are connected through the portal vein. So anything we take into our gut, including environmental toxins, anything the gut metabolizes some of it and digests it, but anything that passes into the bloodstream then gets delivered to the liver for filtration because the livers are main detoxification organ. If the gut is in disarray and toxins can leak into the bloodstream, then the liver becomes overburdened and the liver will try and try, try to clear as many as toxins as possible, but eventually they just get recirculated into the bloodstream. What happens then? As you said, brain fog, neuroinflammation, compromised immune system, the list goes on. So ONO ox replenishes your gut bacteria so that they're really strong repairs and maintains a strong gut barrier so that these toxins don't even have to get to the liver. And on top of that, we've seen in clinical studies that it also improves liver function and the coolest. We actually looked at a study with type two diabetic patients and just taking antibiotic ke talk, no

additional changes in lifestyle led to a 70% reduction in endotoxins in their blood. A 48% improvements in triglycerides, a 53% reduction in CRP C-reactive protein and an improvement in insulin sensitivity. So

Dave Asprey ([00:29:42](#)):

These are way in excess of what most drugs do.

Hannah Kleinfeld ([00:29:45](#)):

Yes, and again, it's once a day like a probiotic, you just mix in a little water and you drink it and it just improves your cardiometabolic markers, your inflammatory markers, your blood sugar.

Dave Asprey ([00:29:59](#)):

When you talk about C-reactive protein, this is one of the three lab tests I've been recommending for 10 years. If you're into biohacking, you just want to see how you're doing people, oh, let's do a cholesterol. No cholesterol isn't a very good indicator of what's going on. What is a good indicator though is these three tests. One is c-reactive protein, which is a measure of systemic inflammation and it usually means that you have an infection going on. It could be a gut infection from gut bacteria, it could be a tooth infection or something. Maybe it's homocysteine, which is a genetic thing. You need the right methyl donors, the right B vitamins, and there's one called lplp A two and PPLA two is inflammation from the lining of the arteries which goes up if your endotoxins go up. So what you're showing though is with a once a day and a little bit of water probiotic that you're reducing endotoxins by 70%, which is kind of amazing, but you're also reducing one of the big three markers of inflammation that I measured to see if your entire system of biohacking is working, which is, it's actually pretty profound and also in the research that I read to prepare for the interview, what about insulin resistance? What difference did he detox make for that?

Hannah Kleinfeld ([00:31:20](#)):

Yeah, so since this was with type two diabetic patients, of course we also looked at that and we actually looked at the measure called H-O-M-A-I-R, so that's one of the measures for insulin sensitivity, and we saw a 64% improvement, which for anyone who is diabetic or pre-diabetic or even is just looking to stabilize their insulin sensitivity, that's a really significant improvement

Dave Asprey ([00:31:45](#)):

That probably outperforms metformin. I would guess

Hannah Kleinfeld ([00:31:49](#)):

I would have to look at the data for that, but I wouldn't be surprised.

Dave Asprey ([00:31:54](#)):

Yeah, I wouldn't be surprised either. So the reason I wanted to have you on the show is to talk about this. We're not going to go through all a hundred of the studies, plus I don't read German for all of them, but for years we've known that you can change your gut bacteria to improve things, and over the past 10 or so years, it's become more and more apparent that we're dialing in on the science and some really good science is coming out of Europe and specifically out of Germany, which is where you guys have sourced this stuff. So if you're new to biohacking or even if you've been listening to the show for a long time, this is not like what you would do 10 years ago. Oh, I'll take some acidophilus, especially in the us, you just take a pill and hope it worked. I have had some results in the very early days of working on getting my

gut working with spore based probiotics though, but nothing like the kind of results we're talking about here. Can you talk about spore based versus antibiotic, why you don't use spores?

Hannah Kleinfeld ([00:32:59](#)):

Sure. So as I briefly mentioned earlier, the idea with omni biotic is you want to take probiotics that can colonize in your intestines. So you want these strains that are natural to the human body when they reach the intestine, they feel at home. So they start living there, setting up camp, and they start reproducing and you're now not just relying on the supplement that you keep taking, you actually build your own powerhouse inside your gut. Now that gets diminished again through modern lifestyle and things like that, but the idea is that you have these bacteria now living as part of your ecosystem. Spore based probiotics usually are transient, so that means you take them, they have some positive impact, but they don't colonize in your gut, so they eventually leave your body. Again, that's why at Omni Biotic, we use these strains that are natural to the human test that are not spore based. The other interesting thing is, which I think is a difference also between Europe and the US, is that in Europe, some agencies, regulatory agencies actually have raised some concerns about spore based because some spore based probiotics might be tricky if people have a suppressed immune system. So that's another kind of aspect that at least antibiotic is considering.

Dave Asprey ([00:34:26](#)):

I do still use spore based probiotics as well. Is there any reason not to use both if you like the spore based ones you're using?

Hannah Kleinfeld ([00:34:36](#)):

No, I don't think so. I think again, with omni Biotic, the main idea is you really focus on something beyond the gut. So you're thinking what are your endpoint you like he talk. So you are really focused on supporting your detoxification and metabolism, which you can do through antibiotic. And then if there's a spore based product that maybe does something else that you like and it has some good science and studies behind it, I don't see a reason why they would be canceling each other out or anything like that. I think what you're really working on, which is why we're here today, is just making sure your gut is the strongest possible and whatever you need to do for your gut to make that happen. I would say that's really the end goal.

Dave Asprey ([00:35:28](#)):

What have you found works to make your neo gland work and how do you know it's working?

Dr. Edward Group ([00:35:33](#)):

My favorite substance probably if I had to pick one, would be iodine as far as its ability to decalcify the pineal gland because it is the halogen, you have the fluoride, bromine, chloride and iodine, and a good form of iodine is what I've found has the ability to decalcify the pineal gland. And not only that, every cell in the body requires iodine, and that's

Dave Asprey ([00:35:58](#)):

Probably, do you like luol or do you use a topically? Do you take it orally? How much do you take?

Dr. Edward Group ([00:36:01](#)):

Yeah, so I actually developed a nascent iodine, which is in a certified organic glycerin base, and it was the first certified organic iodine product on the market. However, I love goals. I just didn't want, I wanted to

kind of increase and come up with my own innovation in iodine or with iodine, and I think that, and Dr. Brownstein, who's a friend of mine who's been doing massive amounts of studies on thyroid and endocrine dysfunction,

Dave Asprey (00:36:30):

Big name in that field, right

Dr. Edward Group (00:36:32):

In iodine, him and I both agree that about 25 milligrams a day is really, really good for anybody. And that's 25,000 micrograms. I know that sounds like a lot, but anybody who's suffering from endocrine disruption and now we know that iodine can start pulling out mercury, lead, cadmium, strontium from the body. We also now have anecdotal evidence now from people that suffer from EMF hypersensitivity syndrome that have tried everything out there and they're getting the best results with taking iodine.

Dave Asprey (00:37:08):

Now that dose of iodine is larger than I've seen from almost anyone. The largest dose that I've seen recommended is some 14 or 18 milligrams from some of the books on adrenal fatigue and problems. But people with Hashimoto's are usually told, don't take any iodine. It might make your Hashimoto's worse. What's your take on that?

Dr. Edward Group (00:37:30):

My take is they're not getting the proper iodine testing done. Dr. Brownstein and Dr. Guy Abraham are the ones that develop the only iodine loading test. And there's only one facility I think now in the United States that does that testing. If people go in and get blood iodine testing, it's not accurate. What I think is, and what we've seen is that when you start taking iodine, your body's going to start pulling out all the brominated compounds on the fluoride, and it could take up to six months to a year before your thyroid levels come back to normal. And what you usually see is you see, if the individual is going into the doctor, their endocrinologist and getting all of their iodine precursors and all their T three, T four and TSH and all that, you usually see it go in a cycle like this. And that's the reason why the endocrinologists say, oh, get off the iodine, get off the iodine because you're going to have Hashimoto's going to have hyper, then you're going to have hypo, and it's just going to cycle itself until all of those toxic collagens are out of the system and your body's able to repair itself again.

(00:38:43):

But just like with fibrocystic PCOS and fibrocystic breasts and anything reproductive, I mean that's just a telltale sign of severe iodine deficiency and mental retardation in children. I mean, you could pretty much link iodine deficiency to every single health condition.

Dave Asprey (00:39:02):

It's true in my book on fertility called the Better Baby Book from 2011, you look at what even slightly low iodine does to lower iq, there are studies, okay, guys, this is 10 years ago from writing, but if I'm remembering this right, there was something like an average of five IQ points globally lower than we should be just because of parts of the world where kids don't get enough iodine when they're in the womb. So there's definitely something to be said for it. Most functional medicine doctors I know don't go as high as the doses you're talking about. And what I have found is whether I'm using it topically, you just rub it on your arm or whether you're drinking it in water, is that when you hit your limit for the day, and mine is far lower than that, you get water but coming out of your nose, it's not like your nose is running.

(00:39:49):

It's like you have water in your nose. It's the weirdest thing, but at that point you sort of hit your limit. And I did go through for years, I would take high-dose iodine and I feel like I kind of hit my limit on that. I take iodine and make some iodine capsules that are 150 micrograms or something, but if I do even three drops on my arm, I get a runny nose. So I feel like I finally reached iodine insufficiency, but most people listening are woefully low on it. Iodized sea salt isn't going to do much for us. Sea salt has no iodine, but even iodized chemical salt is not going to do a lot for you. It's just such a low dose. So you're a big fan of that. All right. And what is nascent iodine versus all the other forms?

Dr. Edward Group ([00:40:28](#)):

Nascent iodine is just an I one instead of an I two or it's not bonded to something. So iodine in its original form, it can be a gas and it could be toxic if it's coming out in the crystalline form. So you really have to take it through a detoxification process or a bonding process. And it's very hard actually to stabilize a I one instead of a bonded iodide or like a potassium iodide. But with lots of experimentation, we were able to utilize and invent actually a new form of processing, which is alyce spheric, like a lipo spheric, but this is alyce spheric technology where we're actually able to wrap the glycerin molecule around the iodine and stabilize it. And normally if you were to just put iodide crystals in something and you don't detoxify it, it can be like the iodine you get at the drugstore, which you do not want to drink.

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

It's good for your skin, but this is an active form of iodine, which means it's the I one with a strong electron ability. So that means it goes in and it actually helps detoxify and helps repair any damaged tissue a lot faster. Now, that's not to say that luol, which is a combination of free iodine and potassium iodide doesn't work. Actually, Lugo was the first antibiotic. I mean, we submitted a 17 page paper to the White House for iodine's effectiveness against COVID-19. And if you look at the studies back around the Spanish flu, it was incredible. There's no microorganism that can survive in an iodine rich environment. And that brings me to your point about the biotoxins and the mold and the fungus. When we were doing our research and iodine for that as well, on the root cause of disease, and we finished it all, we basically came to the conclusion of common sense and simplicity.

([00:42:35](#)):

The root cause of all disease in our opinion, is toxic air, toxic food, toxic water, toxic beverages, heavy metals, chemical exposure, electromagnetic frequency exposure, microbial infestation, microbial infestation is huge. Fungus, mold, parasites, bacteria, viruses, mycoplasma, physical and emotional stress levels and negative belief patterns. I mean, that pretty much was the conclusion. And that back in the mid nineties, they were like, well, what do you mean toxicity? How can that be the root cause of disease? Well, we knew that everybody had a self-healing mechanism. I mean, this is kind of what we found out is that we're all born with the ability to heal ourselves. We all have a self-healing mechanism, and if someone's taking in 200,000 toxins from air every day, 200,000 toxins from water and food and all this, it's stuffing up our body with all these chemicals and toxins. And at the same time, we found that people weren't eliminating.

([00:43:42](#)):

So the next step that we went to was we knew that all of these things were the root cause. But then we looked at, well, how does the body actually eliminate these things naturally? And so men have four elimination routes and women have five elimination routes. So you're going to sweat 'em out. You're going to breathe them out with respiration, which is through your exercise that those you can do together, you're going to urinate 'em out and you're going to defecate 'em out. And with women, they have their menstrual cycle once a month. So we said, okay, so let's say someone's bringing in 2 million toxins on a daily basis. Let's look at what's going on. Well, this person's sick, they have all kinds of symptoms. How much are they urinating? Oh, well, they're only urinating. They're not drinking any water, number one. So their urination elimination is shut down. How much are defecating? Well, they're not eating the right

foods. They're clogging up their system, they're eating, and it's taking over 72 hours transit time, which means the proteins are turning acidic, the carbohydrates are fermenting, the fats are turning rancid inside their system. They're having one bowel movement a week, maybe one bowel movement every couple of days. So they're, how common is that?

Dave Asprey ([00:44:53](#)):

I don't know anyone who poops every two or three days. Is it just because all my friends are healthy?

Dr. Edward Group ([00:44:58](#)):

Yeah, just look at the animals. The animals that eat good, live things. How many times does a bird poop? How many times is a cow poop? A horse poop? I mean, they do two or three times a day,

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

Right? So I raise animals, right? The sheep, they poop every five minutes. They're just reinoculating the soil pigs a lot less frequently, and they all do it in the same spot in the corner. Their job is to dig up the soil, not to refertilize it. So I wouldn't compare us there, but I mean other primates, do they poop 10 times a day, I guess, because they're all eating bamboo or something?

Dr. Edward Group ([00:45:32](#)):

Yes, they do. They do. And of course, you always say everybody's different and everybody's biochemistry is different. And so it just depends on your environment really to come to the conclusion of our research when we figured out that all of most people that are sick, their elimination routes aren't functioning properly. So all of this stuff ends up being stored somewhere in the body, and that's what leads to the root cause of disease. So the next thing we said is, okay, well, where is most of this stuff coming into the body? And we said, okay, it can come in through the skin, it can come in through the lungs, and it can come in through the mouth

Dave Asprey ([00:46:12](#)):

Or through social media. You forgot.

Dr. Edward Group ([00:46:15](#)):

Actually, yes, because you're right, because that's part of the physical and emotional stress aspect of it, which is huge, and the negative belief patterns and the fear and the anger and the shame and all that stuff.

Dave Asprey ([00:46:31](#)):

But we'll stick to the physical toxins. I was just kind of

Dr. Edward Group ([00:46:33](#)):

Messing with you.

([00:46:34](#)):

So anyway, so we found that about 90% of all the chemicals and toxins enter through the intestinal tract at that point in time because even a lot of the stuff you breathe in gets in the mucus and leaks down into your stomach. So then of course it was, this is the biggest secret, the medical profession hopes you never find out, right? I mean the intestinal lining. So let's start studying that. Let's figure out what's going on and when the intestinal lining is exposed to all these chemicals of toxins, and as we know now leaky gut and the burning of the nerves, and people are eating in a sympathetic state instead of a parasympathetic state.

And so we realize that there's a lot of education that has to happen as well as a lot of cleansing and detoxification that has to happen. And one of the things that we found that was the most success and the most successful protocols that these doctors were using is the real successful doctors were always cleansing the body before they did everything else.

(00:47:44):

And they would start at the intestines and then move on to the liver and gallbladder and then move on to cleaning all the harmful organisms out and then move on to cleaning all the chemicals and heavy metals out of the system. So that's what led us to, okay, how could we keep, if people are number one, like you say, eating way too much food and they're eating bad cooked food with low energy and low vibration, how can we keep the intestines clean and functioning? And when we did our search, we had already known about Tesla's product that he developed, and that was something that was safe. It's not an osmotic laxative. I mean, even though it's bonded a magnesium, it's not a magnesium laxative, and it's not a magnesium supplement because you don't absorb magnesium oxide. Tesla knew that the latts on the magnesium molecule would absorb and hold oxygen. And so I only had a little bit of that formula, actually, and I set up a lab in a 40 foot shipping container, and it took me four years. I almost blew myself up a couple times too, to figure out how to stabilize the monoatomic oxygen onto the magnesium molecule. And so that actually, the oxy powder is Nikola Tesla's formula, and when you take it, it's slowly releases the oxygen throughout the whole intestinal tract.

Dave Asprey (00:49:06):

Now you mentioned ozone, which is O three, and you mentioned monoatomic ozone, which is basically, so you magnesium oxide, which is, well, we need magnesium, but oxide doesn't absorb that. Well, it's a supplement. So this is less about the magnesium. And so what's on there? Are these just individual that came off the ozones? So I know you have single O'S tied to magnesium, or are there threes stuck on there?

Dr. Edward Group (00:49:31):

So there's an energetic value that we haven't been able to really measure yet, but most of it is the only thing that we can measure in the lab is going to be when the O ones come off and they turn into O₂, we've measured that for 17 hours straight. That's happening. And so we know that you're going to get a good cleanse. That's why you take it at night and it cleans everything out and it turns all that solid.

Dave Asprey (00:49:59):

You sent me some, I looked at all the research going back to like 1987, and there's a good amount of research on this. It's not well known. And yes, Tesla really was working on this kind of stuff. We also had, Ian Mitchell was on recently, you probably even heard that episode yet where he talked about the way Tesla was doing a similar thing with different oils. So Tesla was definitely a health nut, but I was unfamiliar with putting it on magnesium. And when I took the oxy powder, definitely the next day I normally poop a couple times a day, but there was definitely three times. So I would say it was a noticeable difference. How do you know it's good though. How do you know you're not messing with good bacteria in the gut when you cleanse?

Dr. Edward Group (00:50:44):

Well, we have lots of anecdotal evidence. We haven't had one report ever that anyone's gotten colon cancer in the 20 something years that we've been selling oxy powder. And we also look at the facultative strains. I mean, the microbiome, a good microbiome in the body is a good balance of some bad bacteria, some good bacteria, a good balance system. And oxygen has not been proven, or I haven't seen anything to cause any type of damage to the microbiome. Just the opposite. It seems like the reports that we've

gotten are that it helps heal leaky gut. We did do a study in India that on ulcerative colitis had a 98.6 cure rate, chronic constipation. I mean, think of all of the intestinal situations that people are suffering from today and all of the damage and all of the chemicals and everything. So we also know that when it's done, you could picture it like the Scrubbing Bubbles commercial kind of a thing.

(00:51:54):

And most people have 10, 15 pounds sometimes of compacted fecal matter, that hard stuff. There's nothing that I know of that's actually going to melt away all that. And let's say you go in and you get a colonic. Well, what we found is a lot of the toxicity happens and the small intestine, and there's really no way to really clean, deeply clean that. And then you actually get the oxygen coming into your bloodstream. So you will notice increased energy. And maybe if you'd use a pulse oximeter, which I know you do even increase in oxygen capacity,

Dave Asprey (00:52:32):

Is there enough oxygen molecules in here to move that needle? It seems like breathing is so much more air coming in. This would be more about delivering it to the right part of the body rather than you can't compress that much

Dr. Edward Group (00:52:44):

Oxygen. Yeah, it's not something I would say you could use as an oxygen supplement, but you will notice energy. I mean, I'm a big fan of wim off breathing and breathing exercises too. And so in conjunction,

Dave Asprey (00:52:57):

I definitely noticed an energy difference when I took it. You say take it at night, you say four capsules, two to three times a week. Why at night? Why should I just take it now?

Dr. Edward Group (00:53:09):

We have people use it for all kinds of things at night, just because you're relaxed and your bowels are in a parasympathetic state most of the time, hopefully if you're getting some good sleep and your digestion slows way down. So it just gives, it's easy that way. And also it gives you the opportunity to kind of clean everything out that you ate during the day and oxidize anything that needs to be oxidized in there or anything that's harmful because, or anything that's positively charged that's harmful, and you just, while you sleep, you get up in the morning, you flush it out that way during the day, you might have one or two bowel movements, but then during the day, you're not having to run to the bathroom. And if you take it, which some people actually do, Dave, I mean, we have a lot of people that our meat, they go out and they eat a big meat dinner with lots of carbohydrates. I'm in Houston, so it's oil and gas. They drink a couple bottles of wine. They have dessert. They're still at the restaurant at 10 30 at night. They come home and they're just bloated, and then they just want to flush out their system. So they might take six or seven bottles, I mean, six or seven capsules flush out,

Dave Asprey (00:54:20):

I'll try six. Now, I've only done four before bed, but I'm kind of curious what's going to happen if I take six of these?

Dr. Edward Group (00:54:26):

Nothing. You'll just have increased bowel movement. We had a doctor that was giving his patients a half a bottle one day and a half a bottle the next day, and he swore by it.

Dave Asprey ([00:54:36](#)):

Well, just magnesium oxide is going to give you the runs at that level, right?

Dr. Edward Group ([00:54:40](#)):

It might. Yeah, it might. Okay.

Dave Asprey ([00:54:42](#)):

Interesting. Well, I did notice something, and the story behind this, we kind of got into it a little bit, but can you talk about Eugene Blas and Nikolai Tesla in 1898, the real early way that they worked together on this stuff? Because it's interesting to me when we find old technologies like ozone therapy, like iodine, these other things that have been around for hundreds or thousands of years like activated charcoal, and they're experiencing resurgence because they work at fundamental foundational levels. So tell me how this stuff happened with zone and all that. That story is very fascinating to me.

Dr. Edward Group ([00:55:19](#)):

Yeah, homo zone was the original oxygen blast that, well, it was changed a couple times over the years, and George Faught was producing the homo zone, but nobody really has a lot of information on how long it took. With Tesla. Working with Eugene Bloss, we know it was at 1898. We know that they originally formulated the product in a hotel room, but there's not a lot of evidence out there, at least paper wise that at what their relationship, at least, I don't know what their relationship really was. I know that they did sell the product on the market for quite some time. And then also Tesla was working with the Vapo zone machine at the same time, which his, which is an ozone machine for respiratory, that's probably my favorite, favorite device. If you look at it online, it's very hard to find information on that.

([00:56:20](#)):

But I build them. But it's basically a nebulizer type device hooked to an ozone machine, and you put oil in it, tea tree oil, a little bit of eucalyptus, and you bubble it through there and you breathe it into the lungs. I've used it and recommended it for years. By the way, I'll go back in time a little bit and let you know that when we presented this research, we were given a gag order. We were followed around in black vehicles. We were told to shut our mouths about it because we had a cure for cancer and a cure for all disease basically back in the mid nineties. And many people have, I mean, there's lots of different ways to heal the body, but what we realized is that a true doctor is one who teaches, not one who prescribes. And a true doctor is really, or a true scientist that wants to change the world, is really more of a internal and external toxicologist because you really have to understand and be able to teach what people are exposed to in their external environment.

([00:57:31](#)):

I mean in their home, the VOCs, the EMS, the memory foam mattress, their breathing in fumes from the air fresheners, the amount of physical, emotional stress in their external environment. And then you also have to be able to explain to them the internal environment as well. And we opened up a clinic, actually, we were renegades back then, and we had a very successful degenerative disease clinic at cancer clinic. And we had the royal family come over. We had a lot of people that would come to us. Actually, pretty much everybody that came to us had already been seen by 20 different people and had bags of supplements. And that only lasted a couple years before the FDA rated our clinic and shut us down and basically said, you can't do this anymore. And I remember one instance where a guy pulled up in a black car and asked me very nicely to get in a black suit and took me to a little Chinese restaurant in Houston. And on the wall I saw pictures of presidents and all kinds of high, high-end people. And I was thinking, what the heck are they doing in this tiny little Chinese restaurant? And the back wall opened up and they brought me in and sat me down and they said, we know the

Dave Asprey ([00:58:43](#)):

Back wall opened up like a magic man in Black Switch.

Dr. Edward Group ([00:58:46](#)):

And it opened up. And I went in there. They said, we know what you're working on. We've been watching you. We know that what you have going on. They knew about our technology, the Tesla stuff. They knew about some other stuff, and they basically said, we want you to join us. You'll never have to worry about money again. We will take care of you. And I mean, I know by that point, because when you start going down the rabbit hole, it's a small group of people that run the world and that are doing a lot of this stuff to the earth and society and organizations, which was another thing I had to

Dave Asprey ([00:59:28](#)):

Go through. I have a hard time processing this, right? You're sitting here telling me this. So I mean, they didn't kill you. Did you say final sign up, I'll get my microchip implant. What happened?

Dr. Edward Group ([00:59:39](#)):

They gave me a phone number. They gave me a phone number, and they said, you have 24 hours to call this number. If you don't call the number in 24 hours, we're never going to reach out to you again. And I was like, I already knew who these guys were. They're trying to silence me. They're probably going to kill me, whatever, whatever. So I never called the number and I never heard from 'em again, except from that point forward, the FDA's been in my office every six months. They watch me pretty closely about, because I speak a truth about cancer and I speak about 5G and all the stuff, a lot of the same stuff that you talk about. So I had to shut our clinic down at that point in time, but I said, you know what? Actually, that's right when the internet was starting. I remember a OL and Netscape,

Dave Asprey ([01:00:23](#)):

You've got mail. I

Dr. Edward Group ([01:00:23](#)):

Said, I'm going to reframe this into the simplicity because I'm all about simplicity of teaching people how to heal themselves and just put the information up under wellness and use the same detoxification protocols that we used and then develop products that I felt comfortable with because a lot of the products out there, remember David, like the mid nineties and even in the two thousands, they were crappy. They had fillers and excipients and binders. And so that's how I got into product development and manufacturing products too, is because I wanted clean products. We were the first company to start coming out with the seals on the bottles. We were the first one that developed fillers and excipients using certified organic gum, Acacia and even our Earth sometimes and other things like that to be able to create really powerful, clean, high vibrational supplements that are out there. So that's what led me to starting global healing and then educating people on the root cause of disease and how they can clean up their external environment and how they can clean up their internal environment at the same time and take back control of their house and reactivate their body's self-healing mechanism.

Dave Asprey ([01:01:44](#)):

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