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[00:00:00] **Dave:** Just from looking at your oral microbiome, Viome can predict whether you have [00:00:05] cancer.

[00:00:05] **Naveen:** We have now analyzed over 1 million samples. We now know more [00:00:10] about human body than any living entities on earth. Stop [00:00:15] blaming your ancestors for your problems. Less than 1 percent of your genes [00:00:20] come from your ancestors.

Your genes have less than 10 percent [00:00:25] impact on your health. 90 to 95 percent of everything in your head. [00:00:30] It is something you get to control. I have [00:00:35] always thought you were just one of those people who believe in eating red meat. I [00:00:40] wanted to look at the damn data and say, you know what? Is Dave Asprey actually right or is he wrong?

[00:00:45] So this is my confession.

[00:00:47] **Dave:** You're listening to The Human Upgrade with Dave [00:00:50] Asprey.

Today, I'm interviewing [00:00:55] one of my favorite guests of all time on the show who's been on [00:01:00] before, and his name is Naveen Jain. He's the founder and CEO [00:01:05] of Viome Life Science. And the reason that I love [00:01:10] getting regular updates for you from Naveen is that He's one of the most [00:01:15] forward thinking people I've ever met when it comes to health.

And [00:01:20] he's cracked the code on the microbiome. I've been working with his team for about eight years [00:01:25] at Viome. They've added 10, 000 new bacteria, and probably more since [00:01:30] then, to the library of what goes on inside the gut. But he's gone way beyond [00:01:35] that, to the point where, just from looking at your oral [00:01:40] microbiome, Viome can do that.

predict whether you're, whether you have cancer, [00:01:45] like really, really big things, things that the FDA fast tracked. [00:01:50] So, you've probably heard plenty of my episodes about probiotics, prebiotics, [00:01:55] postbiotics, and things like that. But there's always another level with Naveen, and we're going [00:02:00] to talk about what AI is doing for you and your ability to see what's happening inside your [00:02:05] gut and to take control of it.

We'll talk about immune function and [00:02:10] specifically longevity. You'll also hear about some concepts that I haven't introduced on the show before, [00:02:15] and I'm pretty excited about it. Naveen, my dear friend and fellow [00:02:20] leader of the Apollo Group Entrepreneur Mastermind with me. Welcome back to the show. [00:02:25]

[00:02:25] **Naveen:** Well, first of all, this is an absolutely the one podcast I look [00:02:30] forward to.

every time. And it doesn't matter how many times you and I have chatted. There's [00:02:35] so much stuff to talk about. And I always look forward to sharing all the [00:02:40] latest with you.

[00:02:40] **Dave:** All right, let's get into it. I'm going to assume that listeners know that we have bacteria in [00:02:45] our gut and they affect all sorts of things in your biology.

If this is your first episode ever, you may not know that you're [00:02:50] going to have to do a little bit of catch up. So let's assume we've all heard microbiome and maybe they've [00:02:55] even heard about the VIAM test and how it's looking at RNA versus DNA. [00:03:00] What I want to know is what do we specifically know about the microbiome [00:03:05] and aging?

[00:03:06] **Naveen:** Aha. So first of all, let me just start with microbiome. [00:03:10] So, microbiome resides not only just in our gut, which is [00:03:15] where most people think it is, it's actually is in your mouth. So, oral [00:03:20] microbiome, you have a skin microbiome, you have a nasal microbiome, you have, you know, so [00:03:25] microbiome is all over us and inside us.

There are 100 [00:03:30] trillion of these microbes that are in symbiotic relationship [00:03:35] with us as humans. So, we as homo sapiens or our fellow humans [00:03:40] 99 percent of all the genes that are expressed in our body [00:03:45] don't come from a mom and dad. So my first thing is, is stop [00:03:50] blaming your ancestors for your problems.

Less than 1 percent of [00:03:55] your genes come from your ancestors, right? 99 percent are these [00:04:00] microbes that you actually get to control. And I think we're going to get a little bit more into [00:04:05] it on the longevity side. The same message. Your [00:04:10] genes have less than 10 percent impact on your health period. [00:04:15] So, 5 10 percent of the impact comes from your genes.

[00:04:20] 90 95 percent of everything. In your health, in your longevity, [00:04:25] it is something you get to control. It is your lifestyle. [00:04:30] So blame the choices you make every day. Don't [00:04:35] blame your ancestors. So that's the first message.

[00:04:37] **Dave:** Question for you there, Naveen. Yeah. MTHFR, [00:04:40] COMT, these are common genetic mutations that affect your ability to [00:04:45] absorb things.

Don't those matter somewhat? They do,

[00:04:47] **Naveen:** and they do matter. And my point I'm going to say, [00:04:50] they matter 5 to 10 percent. And that means now, once you know what they are, [00:04:55] you're able to get the right nutrition that takes into account [00:05:00] of that. Right. So I'm not saying that if you know one is different. There [00:05:05] is a, between you and I, you are handsome, you are tall, you are, you know, all the [00:05:10] good qualities a man needs to have, and lots of hair, even then, [00:05:15] 99.

9 percent of our genes, our DNA is identical. [00:05:20] Right? So it's only the 0. 1 percent that's different between different humans, right? [00:05:25] That, I'm not suggesting that the genes don't matter at all. [00:05:30] But point is, their impact is so small, and the nutrition and lifestyle can [00:05:35] overcome that. That means you may have a particular propensity for a [00:05:40] particular thing to happen, but you can control that by changing your lifestyle, right?

So by eating the [00:05:45] right nutrition, you're able to overcome your genes and actually be able to live [00:05:50] healthy, long life, even with the mutations you may have.

[00:05:54] **Dave:** Okay. [00:05:55] Will something like a microbiome test, like the Viome test, that's looking at what your microbes are doing, will [00:06:00] that tell me if I need more methylated B vitamins?

[00:06:03] **Naveen:** Since you mentioned about Viome, [00:06:05] so Viome basically does three things. It is analyzes. [00:06:10] So you basically get a kit at home and you analyze your we analyze your [00:06:15] saliva. So you spit in a tube and we analyze all of your RNA in [00:06:20] your saliva. And when I we say RNA, these are the expression of [00:06:25] your genes. So you remember your genes never change.

But what they do and what they [00:06:30] expressing is always changing, right? So same DNA. The [00:06:35] identical DNA makes your hair, your lungs, your liver, your kidney, your skin, and [00:06:40] everything in your body comes from the identical DNA, but yet it can produce [00:06:45] every single part of our body, different organs, including our neurons, all from the same [00:06:50] DNA.

So it's really the expression of the DNA that causes these different [00:06:55] organs to be produced. That means a gene expression can change what your DNA [00:07:00] does. So DNA is like an alphabet. And RNA is the story you are writing. [00:07:05] So we analyze the RNA. So when we look at your saliva, we are looking at [00:07:10] all of your oral microbial gene expression, and then we're also looking at all of your [00:07:15] human gene expression in your saliva.

Remember, so all this stuff, your human gene expression [00:07:20] that's in your saliva, the inflammatory markers, everything that's happening, we're measuring that. [00:07:25] Then we measure the stool, the bottom of the digestive tube. So remember, we are like [00:07:30] a donut. There is a tube that goes through us. So we measure the top of the digestive tube [00:07:35] and then we measure the bottom of the digestive tube Taking is a touch of your [00:07:40] stool.

And now we are measuring all of your gut microbial gene expression [00:07:45] So all the RNA of your stool that gives us a gut microbial expression [00:07:50] And then we also get all the human gene expression that's coming from epithelial cells [00:07:55] There which are the gut lining that are shedding in your stool. So we get all of that [00:08:00] Then we take the fingerprick of your blood.

So about three to four drops of your [00:08:05] blood. That gives us everything else you want to know around your body. So now [00:08:10] we are looking at your mitochondria. So that means now, Dave, your [00:08:15] audience is the only audience I can talk about mitochondria. Otherwise people look at me, am I an [00:08:20] alien? What the hell am I talking about?

Right? But at least with you, I can have a conversation. The [00:08:25] mitochondria is actually an organelle inside our human [00:08:30] cell. It is believed it used to be an ancient bacteria captured [00:08:35] inside the human cell. So they are not just mitochondria. Every single [00:08:40] organelle is actually has its own function and could be honestly [00:08:45] a separate organism in the early part that actually got captured into one [00:08:50] single cell as a symbiotic relationship.

So when we're analyzing your blood, [00:08:55] we're analyzing your mitochondria. That means all of your mitochondrial gene expression. So this [00:09:00] is something people may not know. Your mitochondria has its own DNA. [00:09:05] It is different from the DNA that you think of your mom and dad. [00:09:10] This particular mitochondria comes from your mom.

So just so you [00:09:15] know, your mitochondria comes from your mom. And that's really the ancestry of your [00:09:20] maternal side that you're seeing in your mitochondria. So we analyze your mitochondria, [00:09:25] and then we analyze all of your inflammatory markers. So in the fingerprint [00:09:30] blood, you'll be seeing all the cytokines, which most people technical word would be [00:09:35] all these interleukins, right?

So we'll be measuring all of your interleukins, the cytokines, all [00:09:40] of your mitochondria, and then we're looking at everything in your gut microbial expression, oral microbial [00:09:45] expression, and then we combine everything. So by looking at all of these [00:09:50] RNA, then we use AI to say, All right. What? How are they [00:09:55] interacting with each other?

What is going on and what could be done about it? So once we [00:10:00] realize That certain genes are underexpressed or certain genes [00:10:05] are overexpressed, then we say what are the substrates. The substrates are [00:10:10] these ingredients that could come from food. They could come from supplements. They [00:10:15] could come from other types of ingredients that actually [00:10:20] now can impact these pathways.

So if you want certain genes to be [00:10:25] overexpressed, then you actually can find a substrate that will amplify that. And if [00:10:30] you want certain genes to be underexpressed, then you can find the ingredient that will suppress that. [00:10:35] So you talked about methylation. Methylation is a fundamentally an epigenetic, [00:10:40] which is over genetics.

And purpose of methylation is to [00:10:45] actually reduce the expression of a certain gene. That means when certain genes are [00:10:50] methylated, they are underexpressed or not expressed. And then that [00:10:55] expression can be changed, and it changes as you age, and it changes based on [00:11:00] your diet and lifestyle. And when I say lifestyle, I mean the stress and exercise and the sleep [00:11:05] and all the good stuff that you do every day.

[00:11:07] **Dave:** So what that means is that if you do have [00:11:10] some genetic issues, You're going to pick that up by looking at RNA because RNA is [00:11:15] what the DNA ultimately is making based on your environment. And for listeners, this is a big [00:11:20] deal. I, I still think it's useful to know your MTHFR status, but if you're managing it [00:11:25] actively with Viome, if you're under or over methylating, and these are major issues for [00:11:30] longevity and cognitive performance and inflammation that affect at least half of people have some kind of [00:11:35] a thing going on there.

The upside of this is that. [00:11:40] MTHFR has become relatively famous. My friend Gary Breka talks about this a lot. And it's been a [00:11:45] through line and even in my first fertility book, there's about 19 other [00:11:50] major genetic differences between people that have to do with sulfur, have to do with dopamine, have [00:11:55] to do with nitric oxide, all these different things that are around human performance and aging and your brain.[00:12:00]

So looking at what the body is actually doing allows you to look at that whole stack of those [00:12:05] things instead of. Looking at your genetics and saying, Oh, I have this propensity, but I don't know if [00:12:10] it's happening or not. So should I take more of this supplement or less? That's pretty [00:12:15] interesting. So, Let's go back to aging.

What have you [00:12:20] learned in the last year about aging and the microbiome that we didn't know before?

[00:12:24] **Naveen:** I mean, so there's so [00:12:25] much stuff. And first thing is, so first of all first one to share with you, first person [00:12:30] you know that we have now analyzed over one million samples. [00:12:35] One million samples. That means we now know more about human body than any [00:12:40] living entities on earth period, right?

We know everything about human body [00:12:45] by analyzing one million samples. And one thing that I was just [00:12:50] looking at the data And this is my confession now, uh, so I have always thought [00:12:55] you were just one of those people who believe in eating red meat because just somehow you [00:13:00] do. So I wanted to look at the damn data and say, you know what?

Is Dave Asprey [00:13:05] actually right or is he wrong? So this is my confession. 58 percent [00:13:10] of the people actually benefit from eating red meat.

[00:13:14] **Dave:** Wow.

[00:13:14] **Naveen:** [00:13:15] Right. 42 percent of the people could potentially be harmed based on [00:13:20] on their gut microbial activity. So this is what happens. As you know, [00:13:25] the red meat and especially, obviously, you gotta eat the, not the stuff that you get which is [00:13:30] farm you know, which is, uh, industrial produced.

You wanna get a grass fed [00:13:35] red beef, grass fed beef. All the beef contains is choline. [00:13:40] Carni and the choline in the, uh, red meat, your [00:13:45] microbes can actually convert them into something called TMA Trimethyl Amin [00:13:50] that gets absorbed in your blood and your liver [00:13:55] actually can convert that TMA into something called TMAO, trimethyl [00:14:00] Amin oxide, which is what causes the arthrosclerosis and many other diseases [00:14:05] right now.

Interesting thing is the expression of. that enzyme [00:14:10] in liver that converts the TMA to TMAO is called FMO3. [00:14:15] Interestingly, that FMO3 enzyme can be accelerated [00:14:20] or actually overproduced when you have a certain oral microbial activity. [00:14:25] So, for example, P. gingivalis, when it produces ginger pain, increases the [00:14:30] activity of FMO3.

Vitamin B. Vitamin [00:14:35] B actually increases the production of enzyme [00:14:40] FMO3, right? So if you're eating a lot of red meat, then you should cut down [00:14:45] some of that vitamin, and you should make sure that your gut microbes are not producing a [00:14:50] lot of TMA, and that you can analyze. So when you do a Wyoming test, we can show you [00:14:55] what is your TMA production, and how it's going to impact your heart health, [00:15:00] right?

And that's basically As most people who have listened to me before now [00:15:05] know that there is no such thing as universal healthy food. A [00:15:10] food can be good for you today, and it may actually become bad in a year as your [00:15:15] body changes. Or if it works for your spouse, or if it worked for your neighbor, [00:15:20] doesn't mean it's going to work for you.

So really interesting stats. [00:15:25] Spinach and kale, your two favorite foods. Right are [00:15:30] actually interestingly almost half the people are harmed by these things [00:15:35] because the oxalates in them is actually is very difficult to digest [00:15:40] by the same thing is true for cashews and almonds, right? Yes. Avocado. [00:15:45] Yeah.

Avocado, I thought was a super food for everyone. It turns out that it [00:15:50] has a very high uric acid. And the people who already have high uric acid, [00:15:55] and if you're eating a lot of avocado, is going to turn into a gout or a heart disease, right? [00:16:00] And that's the fundamental thing is to know that there is no such thing as universal healthy food.[00:16:05]

You have to know what is going to work for you. The pomegranate is another one [00:16:10] that I just wanted to say because Vogue just published a thing. The it food, [00:16:15] the it fall food is pomegranate. And what I was going to tell you is that [00:16:20] pomegranate in itself actually doesn't really have any nutrition. However, [00:16:25] pomegranate has something called allergic acid.

The allergic [00:16:30] acid, in some people, when they have the right microbial activities, they can [00:16:35] convert them into something called urolithin A, ULA. [00:16:40] Urolithin A is, gets absorbed in your body, and urolithin A is an [00:16:45] unbelievably great substrate for your mitochondria. [00:16:50] Simply eating pomegranate or drinking a pomegranate juice doesn't mean you're going to benefit [00:16:55] from it.

And that's the reason, uh, we are actually now learning, [00:17:00] not, it's not just about the probiotics. In fact, the postbiotics actually [00:17:05] turning out to be a better solution than taking the probiotics. Because even [00:17:10] the things like Acarmencia, which a lot of the people are now falling for because some [00:17:15] people are advertising as GLP 1.

The problem with that approach is, [00:17:20] Ackermansia can actually cause MS. So if you don't believe me, just go google [00:17:25] Ackermansia and MS, and you'll see that Ackermansia can also cause MS. The [00:17:30] trick really is to understand, but postbiotic, postbiotic [00:17:35] Ackermansia is actually really, really good. There was a study that recently came out that how acromantia [00:17:40] postbiotic actually is better and in terms of [00:17:45] impact and efficacy than the live probiotic, live

[00:17:48] **Dave:** acromantia.

Now I want to [00:17:50] make sure for our listeners, I've done, I think three or four episodes on [00:17:55] acromantia as a way of controlling blood sugar. Absolutely. And what But what I believe [00:18:00] and what I've seen from the majority of evidence is that if you have a healthy lining of your gut, acromansia is [00:18:05] beneficial. If you have a leaky gut, acromansia might not be beneficial.

And since [00:18:10] it's probably going to be there anyway, and since it helps with metabolism, I actually [00:18:15] do take acromansia, but I don't have leaky gut because I Do all the other stuff.

[00:18:18] **Naveen:** Well, you should try the post biotic [00:18:20] comensia. It's really, really good.

[00:18:21] **Dave:** Is that something that you, you guys are making?

[00:18:24] **Naveen:** We have, there's a [00:18:25] company in actually, uh, in Europe that makes it.

And we just actually started, uh, we add, we adding them to all [00:18:30] of our products.

[00:18:31] **Dave:** Okay. Very, very interesting. And guys, post biotics. [00:18:35] If that's a new term for you, a postbiotic, it is part of the system of [00:18:40] probiotics. You have something called prebiotic. This is what are the gut bacteria going to eat and your food, some of it's [00:18:45] prebiotic, some it's not.

And then you have the probiotic, which is the bacteria that does the eating. You have the [00:18:50] postbiotic, which is the metabolic compounds made by gut bacteria, [00:18:55] and they can be beneficial postbiotics, like the one we just talked about, or like [00:19:00] urolithin A, and urolithin A is one of my superstar longevity ingredients.

The scientists from Timeline have been on [00:19:05] over and over talking about this. But you can also have toxins like [00:19:10] lipopolysaccharides and MMPs and other things that are really bad for you made by the gut bacteria. And you're always going to have [00:19:15] some mix of good postbiotics and bad postbiotics made. And when you get [00:19:20] the data, which is what Viome's all about, you end up saying, Oh, what bad things am I making?

[00:19:25] How could I change my diet so that my gut bacteria make less of the bad and more of [00:19:30] the good? And even TMAO, which we talked about, um, this [00:19:35] is about every five years, the New York Times or some other article will come out, usually [00:19:40] funded by Kellogg's or someone, I believe. And they'll say, Ah, red meat, bad TMAO.

[00:19:45] And here's the thing. If you have gut bacteria that make TMAO. [00:19:50] Eggs, fish, and red meat will all turn into [00:19:55] TMAO. That is absolutely correct. Right, so that means you might, for a month or maybe [00:20:00] three, do what Viom says, don't eat any of that stuff. It'll be a miserable three months because you'll be [00:20:05] malnourished because you don't get all that healthy red beef cooked rare and juicy.

Niveen's going, gross, he's a [00:20:10] vegetarian. We always, we always tease each other at dinner. Um, during that time, the [00:20:15] bacteria would go away and then you can resume eating it. And so I, I think that [00:20:20] if, if the 58 42 is based on TMAO, that means 42 percent of people [00:20:25] have the bad bacteria. But once they get rid of it, the amount of people who benefit from some amount of [00:20:30] red meat may be higher than that.

But if everyone had TMAO, I'd say skip meat for a little [00:20:35] while. Oh, and skip eggs and go on some sort of fasting, weird macrobiotic thing, but [00:20:40] only until your gut bacteria are fixed. How long does it take to change your gut bacteria based on your [00:20:45] diet?

[00:20:45] **Naveen:** Very interesting. So that's with another study we just did.

And it turns out it is six months. [00:20:50] So in six months, your gut bacteria changes enough that you actually have. [00:20:55] So it changes, obviously, it takes down anywhere between three to six months. But what we saw, the p [00:21:00] value was very, very low at six months. That means there is a significant amount of [00:21:05] change in six months.

Right? But after three months or so, you start to see a real impact on [00:21:10] it. But after six months, actually, it is very different from what it was.

[00:21:14] **Dave:** Got it. So it can [00:21:15] take up to six months. Yeah. I've seen studies that say three days have changed what you eat. If you eat zero [00:21:20] fermentable foods, I mean, you'll notice your gut bacteria change because you stop farting.

I mean But so you can make [00:21:25] rapid change. That's actually the

[00:21:26] **Naveen:** gut microbial expression. So what happens is your [00:21:30] expression of these microbes changes faster than the microbes themselves. [00:21:35] Right? So the, in fact, the gut bacteria, you know, it's very hard to kill someone because their [00:21:40] tendency is to live. They want to do everything they can possibly do to live, right?[00:21:45]

To get rid of them is going to take a time. You have to starve them for a long enough time before they give up because [00:21:50] they try to survive on anything they can get around themselves. Right? So, I mean, Ackermansia is really, [00:21:55] the full name of Ackermansia is actually Ackermansia mucinphila. And [00:22:00] mucinphila is a lover of mucin.

It actually lives inside the gut [00:22:05] lining, the mucin. The mucin is where the Ackermansia lives. When you go on a [00:22:10] long fasting and you don't feed your bacteria, what do you think they're going to [00:22:15] do? It actually eats your mucin. It actually starts eating the mucin [00:22:20] itself and that causes the leaky gut. So what I was trying to say was the postbiotic as you define is [00:22:25] very interesting is that What they do is you take a live bacteria, you feed them the [00:22:30] stuff that they need, and it starts to produce things like acromantia will produce [00:22:35] something called butyrate.

And then you heat kill the bacteria, and that [00:22:40] becomes the everything together that becomes your postbiotic. So it has [00:22:45] all the goodness of the metabolite that you wanted, and it also has the [00:22:50] cell, the The cells that the bacteria has, so it has all the [00:22:55] sensing mechanism that your immune system will sense that it is there.

And [00:23:00] it turns out that, you know, the post biotic acarmencia, it is [00:23:05] higher efficacy and lower risk of developing a disease than the live [00:23:10] probiotics. So I think, and again, you know, GLP 1 now, everyone knows about GLP 1, the [00:23:15] Ozempic and Monzaro. What's really interesting is your body can [00:23:20] actually do the same thing that ozempic does if you eat the right Set of [00:23:25] foods it your body itself will produce the GLP one, right?[00:23:30]

so this really interesting is the having the right prebiotic post biotic [00:23:35] and And having the good set of organism and [00:23:40] microbial activity, you can actually, if you can have the right set of foods and [00:23:45] supplements, you can in fact start to produce the GLP 1 and start to [00:23:50] lose weight naturally, right?

[00:23:52] **Dave:** In fact, this new class of [00:23:55] probiotic related thing.

Some people call it parabiotic, and this is [00:24:00] dead bacteria. And the first paper that made me interested in this, [00:24:05] I read about almost 20 years ago, and I was looking at, well, what's the best way to filter [00:24:10] water to make sure that you're not getting parasites from your water? There's a lot of tap water even in the U.

S. has parasites, [00:24:15] and when you're overseas, it's very, very common. There's a group who use [00:24:20] ultraviolet light to kill everything in the water, and then people will drink the water. And those people had [00:24:25] much healthier immune systems than people who drank water that had been filtered to remove all the [00:24:30] things.

So the presence of dead bugs helps your immune system in a way that [00:24:35] we're really just discovering. And what you're doing with Viome is you're adding heat killed [00:24:40] acromantia to get the metabolic benefits. Yes. That's a, that's actually a really interesting [00:24:45] avenue for longevity that a lot of people haven't looked into.

In my own practice, I [00:24:50] take specific prebiotics that feed the good guys. I take a bunch of different postbiotics. And of [00:24:55] course I'm a fan of Viome because, well, I've been an advisor, an investor, and we've worked [00:25:00] together on it for a long time. So I didn't realize that you'd added the acromantia stuff.

Another [00:25:05] thing is phages.

[00:25:05] **Naveen:** And I think you and I, very early days of Viome, we talked about phages. [00:25:10] So think about it. When we are analyzing all the RNA, We're looking at [00:25:15] everything. We're not just looking at bacteria because most people think, Oh, the gut microbiome is all about bacteria. [00:25:20] No, we look at all the bacteria.

We look at all the viruses. And by the way, [00:25:25] the viruses can be the viruses or the phages. So there are two types of viruses. [00:25:30] The viruses that can actually interact with the human body. And then there's [00:25:35] something called phages. These phages are viruses that only infect the [00:25:40] bacteria. Interestingly, that changes what micro, what these bacteria [00:25:45] do.

So you may have the certain organisms, but you may have the [00:25:50] phages that are infecting these bacteria. So you may have a certain organism, but it's going to [00:25:55] perform completely differently because not infected by phages. Right, so we look at [00:26:00] all your phages. We look at all of your fungi. So we're looking at all the fungus We're looking at [00:26:05] all the yeast.

We're looking at every single organism in your gut Every [00:26:10] single organism in your saliva and then we're looking at everything all the RNA in your human [00:26:15] body And that's where we start and then based on all the data. So [00:26:20] now we have collected In each person, when they do that [00:26:25] full body intelligence test, we now getting close to 30 [00:26:30] million biomarkers from every single person.

So you're not like you're doing a blood test and you do a [00:26:35] quest blood test and you get 50 things or 100 things or 400 things, right? Now we're getting [00:26:40] 30 million biomarkers from every person and then we analyze [00:26:45] all of these RNA Use the ai look at [00:26:50] everything you have and now based on all this stuff We are able to say hey, [00:26:55] this is your biological age.

This is your cognitive health This is [00:27:00] your heart health. This is your blood health. This is your oral health and [00:27:05] then you can go as As geeky as you want to be, as nerd as you want to be, [00:27:10] and we tell you, hey, this is your LPS production. This is your uremic toxin [00:27:15] production. This is your sulfide production.

This is your uric acid production. And we go through every [00:27:20] single thing that you want to know. And then we actually see for each one [00:27:25] of these scores. And today the new app is coming out in January. This [00:27:30] is, you're going to love this. Every score now, we see when this score [00:27:35] is low, these are the five diseases that you are actually increasing the [00:27:40] risk of developing if you have high LPS, or if you have high sulfide, or if you have [00:27:45] low butyrate.

This is what's going to happen to you. Now, here, here are the [00:27:50] ingredients just for you in the dosages you need to actually improve these [00:27:55] scores, right? So we are able to now say, hey, don't eat LPS. [00:28:00] And here's the reason why, or don't eat avocado [00:28:05] because you have high uric acid, but you can eat red meat if you want, because your [00:28:10] TMA is very low and your FMO3 is not being overexpressed.

And you can [00:28:15] actually eat red meat if you want. It's very nutritious and good for you, right? So we [00:28:20] go through all the foods, tell you which foods to eat and why. What foods [00:28:25] not to eat and why and every food now we can tell you what is going [00:28:30] to do this food has these Substrate or ingredients each [00:28:35] of these ingredient This is the score it is going to impact and this [00:28:40] is going to be good and this is going to be bad Right?

So we literally go through [00:28:45] every single food, tell you what foods to eat and why, what foods not to eat and why. And then we go [00:28:50] through every ingredient in your supplement. We go through vitamins, minerals, [00:28:55] herbs, digestive enzymes, amino acids. And then we tell you, you need [00:29:00] 22 milligram of lycopene, 79 milligram of amylase.

You need 72 [00:29:05] milligram of berberine. And we literally give you every vitamin, mineral, herbs. And [00:29:10] we custom make those supplements for each individual on [00:29:15] demand every month. There is no pre made stuff. We have a compounding pharmacy that [00:29:20] makes it for every individual every single month. Right. [00:29:25] And then we have the personalized.

probiotics and prebiotics for your gut. [00:29:30] And I think, I'm not sure if you saw these oral lozenges. These are now made for [00:29:35] you. And this is another one that I think you may or may not have seen. These are [00:29:40] our personalized toothpaste. So this is for morning. And this is for [00:29:45] evening. It has all of the postbiotics enzymes that you need to adjust your oral [00:29:50] microbiome.

And the morning one removes the plaque on contact and removes the [00:29:55] gum inflammation. That is, so basically now you adjust your oral microbial [00:30:00] activity, you adjust your gut microbial activity, and then we give you all the supplements to reduce the [00:30:05] inflammation in your body and increase the mitochondria.

[00:30:08] **Dave:** Wow. If you look [00:30:10] at risks of Alzheimer's and heart disease and your oral microbiome, we've known about [00:30:15] this for a long time. And interestingly, my last biome test, it showed [00:30:20] that my oral microbiome had some of the things associated with cavities. Which is [00:30:25] crazy. I mean, I, I take vitamin D, I have very hard bones.

This doesn't make any [00:30:30] sense. But I have a crown from 18 years ago that was loose. So it came off and I went into the [00:30:35] dentist and they said, oh look, you have three really shallow cavities underneath it and they didn't [00:30:40] show an x rays, right? So Like, oh, okay, you actually detected something that [00:30:45] no dentist could see just by looking at the volume tests on my saliva.

So they [00:30:50] went to drill them out. And even though they were just on the surface, it took three diamond bits just to get [00:30:55] them out because my bone density is super high. And that's why I didn't get big [00:31:00] cavities from it. So knowing what's going on in there is a big deal. And I am a [00:31:05] huge fan of when I go to bed, Take one of the Viome lozenges, [00:31:10] and I'll put it in, and then I put in a bite guard because if you grind your teeth [00:31:15] down as you age, it will affect your posture, it'll affect so many things that you would not believe your nervous [00:31:20] system, so you gotta not be grinding your teeth at night.

And then I tape my mouth closed with the good bacteria in there so [00:31:25] it stays moist, and I don't get dry teeth, which makes them turn yellow. When you wake up, you don't have morning [00:31:30] breath. And you have really healthy bacteria, not just in your mouth, but that go throughout your [00:31:35] entire GI system. So, for me, this is a fundamental part of aging.

The other [00:31:40] thing is, even, you know, one or two millimeter pockets, you [00:31:45] don't want those. So, really good oral care is a relatively cheap and high impact [00:31:50] longevity thing that you want to do. It's, don't let your teeth get ground down over time, put a bite guard in when you're [00:31:55] asleep, tape your mouth so you get nitric oxide.

And have the probiotics, the [00:32:00] Viome oral probiotics, that are in your mouth that are good for your teeth because that seeds [00:32:05] the rest of your gut. So I, you guys I

[00:32:06] **Naveen:** think one of the more important thing, I think more than the teeth, the [00:32:10] gum. Yeah, it's the gum. Remember, our tube that goes through us It is [00:32:15] supposed to be really tight.

Everything that's inside is supposed to stay inside, and everything [00:32:20] outside is supposed to stay outside. And that's the reason 70 percent of our immune system is [00:32:25] along our gut lining. When you have inflammation in your gums, [00:32:30] now you have leaky gums, just like your leaky gut. And now the all microbes are [00:32:35] able to get into the blood and now you have a chronic inflammation and that's the [00:32:40] fundamental problem is that anytime people think, Oh, why do I care?

If I lose teeth, I [00:32:45] can get the implant. It's not that the big thing is once you have inflammation in [00:32:50] your gums, you're going to have that inflammation in your whole body. And we have now [00:32:55] seen that when you have this, so by the way, 84 percent of the people have [00:33:00] P. gingivalis in their mouth. Only 16 percent of them will ever develop a [00:33:05] periodontitis or any of the gum disease, only when the P.

gingivalis starts [00:33:10] to express ginger pain. That's where it becomes pathogenic. So [00:33:15] P. gingivalis doesn't become pathogenic unless it starts to produce gingive pain. And that's [00:33:20] what causes the massive amount of inflammation in your gum. And as you [00:33:25] mentioned, when you have a poor oral health, it is directly connected to [00:33:30] diabetes, it's connected to heart disease, It's connected to your sexual [00:33:35] health because the nitric oxide is produced in your oral, oral cavity.

And by the [00:33:40] way, it is now connected to many types of cancer, including oral cancer, throat cancer, [00:33:45] and colorectal cancer. And you're swallowing one and a half liter of saliva every [00:33:50] single day. That means what's happening in your mouth is also going in your gut. And what happens in [00:33:55] the gut is not your vagus.

It what happens in your gut goes into whole body. It's [00:34:00] not what happens in the gut stays in the gut, right? It is actually connected to vagus [00:34:05] nerve. It impacts your brain So we have now shown that your gut [00:34:10] microbial activities can directly relate to your mental health So whether it is a depression [00:34:15] whether it is anxiety in fact addiction and many of the things are [00:34:20] actually connected to your gut microbial activity and Things like alzheimer are now [00:34:25] shown They can come from your oral microbiome and also from gut microbiome, [00:34:30] infecting your blood brain barrier, making it permeable, and now you have infection in the brain, [00:34:35] and your gerial cells are actually now releasing the amyloid beta to protect from the [00:34:40] inflammation, and over, overproduction of that causes the whole bunch of neurodegenerative [00:34:45] diseases.

[00:34:45] **Dave:** The old way of handling this would well just use Listerine and kill everything, which [00:34:50] we know it's really bad for you because it destroys all the nitric oxide. Let me ask you this. [00:34:55] If I did sterilize my mouth, say, with hydrogen peroxide or something, so there's [00:35:00] nothing. And then I add the Viome lozenge back in, that's going to make sure that there's pretty [00:35:05] much nothing bad in there and only good stuff.

No. No. No?

[00:35:08] **Naveen:** Unfortunately, our [00:35:10] mouth is constantly exposed to the environment, right? So it's not what you put in. [00:35:15] It's also everything that every time you Speaking, you're breathing a whole bunch of microbes [00:35:20] from your environment, right? So it's constantly being exposed to everything. I mean,

[00:35:23] **Dave:** before bed, right [00:35:25] before bed, you could kind of sterilize your mouth.

[00:35:28] **Naveen:** But the point is, you do [00:35:30] want the diversity. So the thing is, you never ever want just to have only six [00:35:35] or seven types of organism that are in any probiotics. The diversity of these [00:35:40] microbes matter because they perform so many different functions. And the worst thing is they all [00:35:45] rely on each other for feeding each other.

So they produce something that other bacteria use, and they [00:35:50] actually all have to cooperate together to live together, right? So to me, the [00:35:55] colony matters, and that means taking Listerine is one of the worst things you [00:36:00] can do for your oral health. Because, like, taking antibiotics, right, it literally kills [00:36:05] everything.

And To some extent, once you have a poor [00:36:10] microbiome, you'll start to get lots of the diseases. In fact, if there was no microbiome in [00:36:15] your body, you couldn't live. I mean, most of the mice that actually are what they call germ free [00:36:20] mice, when they kill all of their microbiome, they actually are very weak and they don't live [00:36:25] long.

[00:36:25] **Dave:** Wait a minute. [00:36:30] All the research I've seen on germ free mice says that they don't get fat no matter what you feed them and [00:36:35] they're super ripped and they do live a long time until they're exposed to one bacteria, then they get weak and die, [00:36:40] right?

[00:36:41] **Naveen:** What, what happens is the germ free bacteria are not able to eat [00:36:45] anything because every time you eat a food there's something in there.

[00:36:49] **Dave:** So they have to [00:36:50] sterilize everything, and these are weird lab things, and it's funny, there probably is a point where if, [00:36:55] if you could have a human that was always germ free entirely, which is impossible, [00:37:00] you'd probably have a weird, long lived, healthy person who couldn't do [00:37:05] anything.

[00:37:05] **Naveen:** But in the bubble, basically be living in a bubble, and you can never get out of the bubble, so you may as well be in a [00:37:10] cocoon somewhere, right?

[00:37:11] **Dave:** Yeah, it's, it's not the lifestyle that I want. But it's interesting to see [00:37:15] how important having the, what we call the symphony of bacteria is because it's not feasible to be in a germ [00:37:20] free environment. That's good. I wanted to go back to acrobats here for a minute and share a [00:37:25] personal experience, and this is why I don't recommend the keto diet for [00:37:30] long periods of time, or frankly, even a carnivore diet for long periods of time.

When I was [00:37:35] testing out the, the edges of the Bulger Diet before I wrote the book, and this is a book with almost a million [00:37:40] copies sold globally, it, it, it changed the way we think about some, some of our health. Um, I [00:37:45] went on a, a zero carb, only meat diet for [00:37:50] somewhere around six months. And the first couple months, man, I felt really [00:37:55] good.

I mean, really good, better than normal because I dropped inflammation from probably bad bacteria and some plant [00:38:00] toxins. And problem was, then I started getting disruptive sleep, brain fog, [00:38:05] all the things, and I had high levels of lipopolysaccharides, and [00:38:10] I had leaky gut, because the acromantia ate all the gut lining back, [00:38:15] or mucus that was possible, and then started eating the lining of the gut.

This is why, in the Bulletproof Diet, [00:38:20] use keto as a scalpel, and do it for a week, and then eat some [00:38:25] carbs. Do it for a week eat some carbs because your gut bacteria will poke holes [00:38:30] in your gut lining if you don't feed them on occasion what are the implications for long fasting [00:38:35] from this as well? I

[00:38:35] **Naveen:** mean honestly, I I think the fact taking a low caloric [00:38:40] diet There's a lot of decent research on that and what we are seeing is that [00:38:45] in these long fasting including intermittent fasting I think I've sent you a bunch of [00:38:50] research.

I mean, the research does not look really, really good. In fact, the large [00:38:55] So the

[00:38:55] **Dave:** gut microbiome specifically?

[00:38:57] **Naveen:** Both gut microbiome and overall longevity. So the [00:39:00] one large research that was done, about a hundred thousand people, it shows people, and that was a, [00:39:05] a, you know, it was one of the research that was post.

So then they looked at the people who were on a ke [00:39:10] on, on the diet, like keto diet, intermittent fire, intermittent fasting. And they f they saw [00:39:15] the people who followed the intermittent fasting actually died sooner with heart disease. [00:39:20]

[00:39:20] **Dave:** I, I looked at that study, Naveen, and that was

[00:39:22] **Naveen:** one, but the next study I was going to tell [00:39:25] you about that came out recently that intermittent fasting did [00:39:30] help with the losing weight and that was probably for people [00:39:35] who actually eat less amount of calories.

But it turns out for [00:39:40] longevity or anything else, there was absolutely no benefit that they saw. Yeah,

[00:39:44] **Dave:** [00:39:45] you have to look at the first big study. Their definition of intermittent fasting wasn't what anyone [00:39:50] does in longevity. They're basically people who skipped meals. There was a lot of, there's a lot of [00:39:55] limitations in that data.

That is true. On the first

[00:39:56] **Naveen:** one, yes. The second one was actually intermittent fasting data.

[00:39:59] **Dave:** Yeah, [00:40:00] the second one is different. The first one I, I, I wouldn't use that one as a good data [00:40:05] source.

[00:40:05] **Naveen:** That's why I say it was not a good, good data. However, what I was trying to say was [00:40:10] that it's not a good thing, but at least what I'm saying is the long fasting has [00:40:15] never been good because at the end of the day, when you don't eat, your bacteria are [00:40:20] going to eat something.

And if you're fighting the evolution, evolution [00:40:25] always wins. Evolution won, everyone zero.

[00:40:28] **Dave:** There's, there is [00:40:30] though, I mean, even in Ayurveda, there's a long history of, of doing [00:40:35] occasional fasts.

[00:40:35] **Naveen:** Absolutely. I think about a

[00:40:36] **Dave:** five day fast, uh, once, you know, once every six months [00:40:40] or something, that there's pretty good, Shifts in it and your gut bacteria in five days is not gonna eat [00:40:45] you.

But 40 days. I've also interviewed experts who've done this for years for cancer and all, [00:40:50] sometimes a big reset like that. But then if you get leaky gut, there's nothing in your gut to leak, at least. But then they [00:40:55] have to rebuild the gut lining, and that's something I wouldn't really want to do. But

[00:40:58] **Naveen:** generally in India and [00:41:00] Ive, that they normally do one day fasting every week, but they don't [00:41:05] do like fi five days.

Fastings are rare. I mean, maybe once a year or [00:41:10] so. But generally it's a two to three days of one year fasting, but generally it's more like [00:41:15] one day type of fasting. So my feeling that it really is that I think [00:41:20] low calorie, if I were to generalize something, I would be a probably a low [00:41:25] caloric diet. It's eat less every day and that's probably the best advice I [00:41:30] can

[00:41:30] **Dave:** give.

This is a, this is a really tough thing, especially with women. [00:41:35] I've seen so many women, in fact this happened to me too, when I was 300 [00:41:40] pounds and I was trying to lose weight, I'm working out. Six days a week, 90 minutes a day. I'm on a low calorie diet and I [00:41:45] cannot lose weight because eating less calories than your body needs creates stress.

It [00:41:50] raises cortisol. It causes all kinds of havoc. So it feels like an adequate [00:41:55] calorie diet for long periods of time. You're

[00:41:57] **Naveen:** right. But point is you actually do [00:42:00] adjust a bit. So when you eat a lot of large meal, you actually crave a lot more [00:42:05] meal. And you start to slowly, slowly cut down just a small portion.

You don't feel as hungry. Number one. [00:42:10] And number two, remember, I'm just talking about generalization. Overall, what I found is You [00:42:15] can eat as much as you need, honestly, and not gain weight if you're eating the right food and, [00:42:20] you know, and coming back to, you know, again, not talking just about while, understanding what [00:42:25] foods are going to cause inflammation in your body.

At the end of the day, the [00:42:30] obesity or inability to lose weight or diabetes or many of these chronic diseases are [00:42:35] probably related to chronic inflammation. So really. [00:42:40] Understanding that what is the root cause of what's causing the inflammation in your body. And eating the [00:42:45] right set of foods, you never have to be hungry.

I never, I'm never hungry. [00:42:50] I eat as much as I need. I just don't eat the foods that cause me inflammation. Period. [00:42:55]

[00:42:55] **Dave:** It's that is such a gift. Once I figured out my kryptonite [00:43:00] foods, I can eat as much as I want and I do not

[00:43:03] **Naveen:** gain weight.

[00:43:04] **Dave:** I mean, as [00:43:05] much as I want. Even when I first did the Bulletproof Diet, I did 4, 500 [00:43:10] calories a day.

And I cut exercise and cut sleep just to show I'll gain a little weight, [00:43:15] but much less than the math of calories would dictate. I actually lost weight on that. I [00:43:20] don't think it's good for you. In fact, I know it's bad for you to do that. But I have not [00:43:25] paid attention to counting calories and hunger is an afterthought in my life.

It's [00:43:30] crazy. And to be as lean as I am around 4. 8 percent on the last [00:43:35] time I measured it and to never be hungry it's It feels [00:43:40] impossible, but it comes from figuring out the right foods. Yes. And even when you say low calorie diet, [00:43:45] like if I was eating Fruity Pebbles, no matter how many calories, I'm probably going to get fat.

Agreed. And

[00:43:49] **Naveen:** what [00:43:50] I was simply saying was that people who want to go intermittent fasting for uh, losing weight, [00:43:55] it's probably, I'm saying you're better off just not.

[00:43:58] **Dave:** Oh man. I've seen so many [00:44:00] people set free, but even then, during the intermittent fasting that I've been recommending, you're taking [00:44:05] polyphenols, which are prebiotics.

This is coffee or tea. And you might even be [00:44:10] taking things that increase your body's ability to burn fat, like ketones or MCT oil. I want to go back on the [00:44:15] keto

[00:44:15] **Naveen:** diet. I mean, I think Dave, I think a lot of the listeners, they simply do not [00:44:20] listen to what you say. No, they don't. People just think, Oh my God, Dave talks [00:44:25] about keto diet.

I'm going to go on a keto diet for the next two years. And I've had people who just [00:44:30] completely destroyed their hormones. They completely destroyed their brain and energy because you never [00:44:35] see them to go there for two years. I mean, the people just somehow don't listen.

[00:44:39] **Dave:** That's why I wrote the whole [00:44:40] book.

If you want to go on the keto diet, read the Atkins Diet Revolution that was printed in [00:44:45] 1972. And I did that. In the 80s or 90s or something, I lost [00:44:50] 50 of my hundred pounds and it took me another 10 years to lose the second 50 pounds because you have to [00:44:55] understand ketosis is a, um, it's like a scalpel and use it for brief [00:45:00] periods of time.

You go in and out and then it's really beautiful for losing weight, increasing cognitive function, [00:45:05] but the endless ketosis. I don't think it's great. And even when I'm on a [00:45:10] keto diet for people who have read more than one of my books, in Superhuman, I go into gut bacteria [00:45:15] thanks to data from Viome, and I actually published my Viome data in that book.

And I [00:45:20] quadruple the number of species of bacteria in my gut by taking prebiotics [00:45:25] while doing ketosis. You can do that too. But if you're just eating meat and [00:45:30] salt do it for two weeks and see how good you feel. Now you know what plant toxins are doing to you. [00:45:35] And then you've got to get some stuff in to feed your gut bacteria.

And then you find out what stuff is going to work for you. [00:45:40] You can do it the old way. You can do it the Viome way, but I do have a question for you today. [00:45:45] Now I have noticed, and just anecdotally, and also from studies. Huge [00:45:50] numbers of people have a buildup of oxalate throughout their body. It's in their knees, it's in their, their [00:45:55] muscles, it's in the myelin, it's in the brain.

These white matter lesions in the brain. So if, [00:46:00] if you have that, and it's present, adding oxalate to the system seems like a [00:46:05] bad idea. So When you're saying, you know, 60 something percent of [00:46:10] people, spinach is a superfood. Why do they need more oxalate?

[00:46:13] **Naveen:** Oh, no, no. I said more than actually [00:46:15] half the people are harmed.

They're actually harmed by spinach and kale. So almost half [00:46:20] the people should not be eating things like spinach and kale and almonds. [00:46:25] Things like that, because they're very high in oxalates, and they actually, I was surprised to see [00:46:30] that almost half the population is actually, it's not good for them, and everyone somehow [00:46:35] think that it's magical to be eating the salad every day.

[00:46:38] **Dave:** Got it. And so, uh, [00:46:40] people in the chat here from the Upgrade Collective. They're saying, you know, but, you know, Vyom told me to eat [00:46:45] kale. So what drives a recommendation for kale? So

[00:46:48] **Naveen:** basically, if they have [00:46:50] very, if they have the bacterial activities that are able to actually metabolize the [00:46:55] oxalates really well, that means you can eat oxalate food and your microbiome [00:47:00] can actually metabolize the oxalates so they don't get absorbed in the body.

[00:47:03] **Dave:** Got it. [00:47:05] I've also looked at that, and oxalates are a big area of interest, you know, oxalobacter doesn't have huge activity in [00:47:10] the, in the human stomach, so I, I just tell people, look, get less than We do

[00:47:14] **Naveen:** actually look at the [00:47:15] activity of oxalobacter and along with other oxalates eating bacteria, and if [00:47:20] they are active, very highly active, then we think, you know, you're okay to eat oxalates because [00:47:25] you are able to actually metabolize them.

[00:47:26] **Dave:** What would make out a superfood though?

[00:47:29] **Naveen:** You know, the [00:47:30] superfood will be because it does have a lot of nutrition. So if the nutrition that you need, I mean, [00:47:35] let's not, there are, it's a green leaves have a lot of nutrition. [00:47:40] However, they are lots of harmful stuff in them. And if you are able, your gut [00:47:45] bacteria are able to remove the oxalates, then there is a decent amount of nutrition.

Like, I [00:47:50] don't, I mean, you know, there's nothing wrong with that.

[00:47:52] **Dave:** I, uh, I find that they're, spinach [00:47:55] even in, in, One serving of spinach, unless maybe if it's served the way it [00:48:00] would be served if you're eating it at an Indian restaurant where it's soaked in cheese, where [00:48:05] the calcium sticks to it, that the, the risks of high oxalate foods don't [00:48:10] outweigh the benefits when they're at the very high end there, even if you have the ability to handle it, just because [00:48:15] most people are getting five times what their body can metabolize.

[00:48:19] **Naveen:** But as we [00:48:20] do tell you that even in the food, how much to eat, we tell you how many servings you should eat per [00:48:25] week.

[00:48:25] **Dave:** Got it. And, uh, I, I appreciate that. I would just caution people, even if [00:48:30] Viome says to eat spinach, if you eat spinach and wake up the next morning, your low back hurts, and your knees [00:48:35] hurt, and your skin looks like crap, I'm telling you it was the spinach, even if the microbiome lied.

[00:48:40] Lied, lied.

[00:48:41] **Naveen:** You can be the scientist for a lie.

[00:48:44] **Dave:** It, it, it's, I mean, [00:48:45] you guys have enormous amounts of data. I just, I always look at, well, what is outside [00:48:50] of, of the Viome lens? Because it's such a big lens. And it's sort of like, if a [00:48:55] person needs the, the fat that's in tallow and the benefit of the [00:49:00] fat is greater than the risk of TMAO, like, how do we know?

And by the way, people [00:49:05] have to eat what makes them feel good, but you can measure if your gut bacteria change the way you want it. You just do a test every [00:49:10] three or six months. So this becomes tunable, which is to me, it's very fascinating and it's the coolest [00:49:15] stuff. You've driven some very interesting conversations [00:49:20] around the holobiont.

And this is new in the world of biohacking for most [00:49:25] people. What is the holobiot?

[00:49:27] **Naveen:** Well, you know, again, so think about we [00:49:30] as humans, the homo sapiens, are essentially our [00:49:35] superorganism. We are not like somehow one organism that we think of ourselves. We [00:49:40] are a collection of organisms that live. In and on [00:49:45] us, right?

So that's what basically the Holobiont is treating the body as one [00:49:50] single organisms rather than actually, you know, and knowing [00:49:55] that there are hundreds, trillions of those that are working in symbiosis with us. And when [00:50:00] there is a dysbiosis of these interactions, that's where the disease [00:50:05] happens, right?

So this is. Is because when the body is no longer at ease, [00:50:10] which is homeostasis, is when you have a dysbiosis that becomes the disease, the [00:50:15] disease.

[00:50:16] **Dave:** Right. So.

[00:50:18] **Naveen:** And by the way, coming back to the [00:50:20] biological age. Yeah. Did I tell you that my, I, you know, my biological age now that I'm [00:50:25] chronologically turned 65, my biological age is 33 now?

[00:50:29] **Dave:** Are you kidding? It [00:50:30] doesn't surprise me. Uh, given, uh, given all the stuff you do and just given your energy levels, [00:50:35] which measure did you use to get a biological age of 43?

[00:50:37] **Naveen:** I did about eight of them to be truthful here. So [00:50:40] first thing were I, the volumes, at volume we give you the biological age. And I always thought maybe [00:50:45] my guys are just trying to be nice to me to show me that I'm really good.

And they're always going to give me a low [00:50:50] biological age to make me feel good. So I went and bought a whole bunch of other tests and I did all [00:50:55] of them, the true diagnostics, the NOVOS and the glycan age and the, you know, LECM and every [00:51:00] one of them out there, right? The Kronos and all that stuff. And the glycan age to me, honestly, is [00:51:05] one of the better ones.

I've, you know, they're because they're measuring the inflammation in your body. And my glycan [00:51:10] age is actually. 33.

[00:51:12] **Dave:** Wow. And so, [00:51:15] glycinate is measuring the effect of higher amounts of blood sugar on glycation in the body. It's one [00:51:20] of the many ways of measuring longevity. And because I've written a major book on longevity, I [00:51:25] speak a lot.

of the conferences. I also run a lot of the different tests and one of my [00:51:30] favorite tests is this. Oh, of course. The grip [00:51:35] strength test. And it's interesting to me that True Diagnostics, which is [00:51:40] one of the other DNA methylation tests. It'll actually predict your grip strength and how [00:51:45] fast you walk based on your DNA methylation.

And I find it's 90 percent accurate. [00:51:50] It's, it's kind of scary that they can do that. But if you, if you get several of these tests, get the Viome [00:51:55] age, get Glycan age. Get true diagnostics if you're really into longevity. And you can [00:52:00] also, if you want to save some money, get a 50 digital grip strength meter.

And that's a [00:52:05] surprisingly good indicator. So you don't have to break the bank on tests in terms of [00:52:10] cost effectiveness, a VIAM test is quite affordable and it gives [00:52:15] you a longevity answer along with all this other data we just talked about. It's

[00:52:18] **Naveen:** freebie. I mean, our biological age [00:52:20] test, we don't charge you for it.

It's basically just included in everything else. You're going to get all [00:52:25] the things and even you also get the biological age test. But one thing that Dave, you and I have talked about [00:52:30] it, when you're going to do these three or four biological age tests, don't get [00:52:35] spooked when people tell you that your biological age is completely different.

That means [00:52:40] one may tell you you're 40, one may tell you you're 50, one may tell you you're 60, because they're [00:52:45] all measuring different things. So don't somehow think, oh my god, the lowest [00:52:50] one is the best one, everyone else just sucks, right? This is because they're all measuring different [00:52:55] things. And your job is to really understand everything that's happening in your body, what [00:53:00] is good and what is bad.

So when someone tells you your biological age is high, [00:53:05] Understand what is it they're measuring, and then try to improve on it. Because you, I mean, [00:53:10] you know, you are one of the people who will never say, Oh my God, this test sucks because it gave me a higher age, right? Because you're [00:53:15] measuring different things.

[00:53:16] **Dave:** Yeah, it's sort of like if you look at a [00:53:20] painting with different lenses and different cameras, you're going to see different things. And, and so I, [00:53:25] I'm not a fan of throwing one test under the bus. If I was going to say what's the one I [00:53:30] trust the least, not that it isn't valuable, it would be a blood test for telomeres.

[00:53:35] Because blood telomeres change all the time, and I've seen 20 year swings in one week. [00:53:40] It's just not that reliable. But it's still better than nothing.

[00:53:43] **Naveen:** And actually, worst, worst thing is that [00:53:45] research that clearly shows increasing telomere does not increase your [00:53:50] longevity period. So somebody who thinks that somehow they can increase their telomeres, they're going to live long.

[00:53:55] There is zero research to prove that.

[00:53:57] **Dave:** I, I agree with you there. [00:54:00] [00:54:05] All right, back to the holobiont. You look at humans as being [00:54:10] intimately tied to the world around you. So humans, plants, and animals, [00:54:15] our microbiome is a single interconnected unit and that that's actually driving [00:54:20] evolution. One of the most fascinating [00:54:25] studies in, in my, all of my reading was a group of scientists took [00:54:30] bacteria that had no genes present to [00:54:35] digest a simple sugar called lactose, the substance in milk.

So these bacteria should have starved [00:54:40] to death. They put them in sterile water. Added lactate, added bacteria that cannot eat lactate. [00:54:45] And magically, the bacteria somehow changed to be able to eat [00:54:50] lactate. And they're saying, this wasn't driven by genes because we looked at all the genes and there is no lactate [00:54:55] gene in there, what the heck is going on?

And this is some kind of powerful epigenetic stuff [00:55:00] driven by the environment. And then we look at Paul Stamets, who's a friend [00:55:05] who's been on the show, you know, the kind of king of the fungus kingdom. Yep. And he's shown very [00:55:10] much that when you have fungus there, fungus directs insects [00:55:15] with the compounds that it makes, right?

And then those insects are driven to certain plants [00:55:20] to make them stronger or weaker. And we don't understand much about how all that stuff works. [00:55:25] But what that means is you have to look at your bacteria, like you [00:55:30] were saying, for what you're breathing, what you're touching, what you're eating, all around you.

And it's incredibly [00:55:35] complex, but at least now we have more data than before, and I think we're going to get more and more. [00:55:40] And what I want to ask you is, this looks like an AI problem to me. It is, and that's

[00:55:44] **Naveen:** [00:55:45] exactly what I was saying, was that actually the research clearly shows Where [00:55:50] you live. So if you're living in a farm, you actually are absorbing all [00:55:55] the bacteria that's coming from the farm.

So cow dung, the horse shit, everything is now [00:56:00] as you're breathing, you're actually enriching your bacteria. So when you go on a hike in the [00:56:05] nature, you're enriching your bacteria. All these things have a tremendous [00:56:10] impact on your diversity of your microbiome in your mouth and on your skin [00:56:15] and in your gut.

In addition to that, your lifestyle actually changes your [00:56:20] microbial activities as well. So, for example, if, and I think we talked about [00:56:25] that there are five things you need to live longer. So, in terms of [00:56:30] longevity, there are five basic things that you need to do. Just like the [00:56:35] Maslow's hierarchy of primate, you have to take care of the lowest one first before you [00:56:40] can go to the next step.

So, the lowest one in the hierarchy of primate is nutrition. [00:56:45] Unless you get the right nutrition in the body, nothing matters. I think we talked a [00:56:50] lot about nutrition. That means do the test, what is right for you. [00:56:55] And the thing that you should avoid are the things that are [00:57:00] tests that give you the static information.

So if you're, and again, I may be [00:57:05] controversial here, but don't eat for your blood type, don't eat for your [00:57:10] DNA. Remember your DNA or your blood type does not change when you gain 200 [00:57:15] pounds. It doesn't change when you're diabetic. It doesn't change when you have heart disease. It doesn't [00:57:20] change when you have, you know, depression or anxiety.

None of these things change your [00:57:25] blood type or DNA. Yet, you have to change your lifestyle. So the main thing is to [00:57:30] understand what foods are good for you, what supplements you need, and you take care of [00:57:35] that. Understand exactly what's happening in your body. Do the Wyoming test, get the right foods, [00:57:40] get the right supplements, get the right probiotics, adjust your oral microbiome, gut [00:57:45] microbiome, and your mitochondria, and your inflammation in your body.

That's the number one thing you have to [00:57:50] do. Once you have done that, the next thing is stress. [00:57:55] When you get stress, it, your body goes into fight or flight [00:58:00] response. Remember how we evolved, when we were being chased by the tiger? That [00:58:05] stress is what kept you, kept your ancestors alive. If there was no stress, [00:58:10] your ancestors, you won't be here today because your ancestors would be a lunch for someone else.[00:58:15]

When your body goes into fight or flight response. It shuts down what it [00:58:20] considers non essential things. What's non essential when you're being chased by a tiger? [00:58:25] Digesting your own food. You're going to be lunch for someone else, don't worry about digesting your own food right [00:58:30] now. And the two things happen, you got eaten by a tiger, your stress went [00:58:35] away, or you survived and your stress went away.

And that was really good.

[00:58:39] **Dave:** [00:58:40] Right. It

[00:58:40] **Naveen:** shuts down your immune system. You don't need to worry about your immune system. And [00:58:45] that's the reason when people are stressed they get sick more often because their immune system is no longer [00:58:50] functioning. So anytime when you have a stress, you're in [00:58:55] a fight or flight response, and the many of the things that your body relies on to be healthy [00:59:00] can no longer do that.

So you need to understand how to get out of the stress. And if [00:59:05] it is the work that causing you stress, switch your work. If it is your spouse [00:59:10] causing you stress, have Find a way to get rid of that stress, [00:59:15] right?

[00:59:16] **Dave:** Wow. You dodged a bullet there, Naveen. I thought you were going to say, find a way to [00:59:20] get rid of, yeah.

It, in other words, work on your [00:59:25] relationship. There, there are skills for that, that are the same as business skills. It, it's, it's actually not that hard if you have [00:59:30] the right experts guiding you. And the right partner

[00:59:34] **Naveen:** who's [00:59:35] willing to work with you.

[00:59:36] **Dave:** Yeah, if you're not both willing to evolve and make it work for both of you, then, then [00:59:40] you end it and that's better.

But it's better off to just do the work. So I spent a lot of time on that.

[00:59:44] **Naveen:** [00:59:45] So again, you know, when you are stressed, you are always in the [00:59:50] sympathetic mode. And you need to bring yourself into parasympathetic mode. And [00:59:55] you know, we do that when before eating we will do We do prayer, we do gratitude, and it's [01:00:00] basically simply to move your body from sympathetic mode to parasympathetic mode, right?

And that's [01:00:05] the thing you have to do. If you need meditation, do meditation. If you need to do whatever it is [01:00:10] to reduce the stress, breathing, slow breathing, all the good stuff that [01:00:15] you need to do, stress is number two. Once you have done that, then number [01:00:20] three is exercise. And this is a myth that everyone should be [01:00:25] spending several hours a day working out.

Don't,

[01:00:27] **Dave:** don't tell, don't tell Peter or Tia that. [01:00:30]

[01:00:30] **Naveen:** That is a complete myth. In fact, [01:00:35] what your body needs is a, two things, movement. Make sure you're [01:00:40] able to move every, every, as often as you can and get, and [01:00:45] you know, I would say couple of miles if you can go uphill, that's really good. 40 minutes of [01:00:50] fast walking is very good.

And as you age, make sure you get [01:00:55] two or three times of good muscle toning. And you can use your body weight. You can do [01:01:00] actually, you don't need to do a lot of weights. If you can have access to the bulletproof lab or [01:01:05] upgrade lab, go to the upgrade lab. One of the best thing you can do for your time in 15 [01:01:10] minutes, you'll get the same exercise that will require a one hour or two hours in the gym.

[01:01:15] So go to UpgradeLabs, and my main thing is if you are traveling and you don't have access to [01:01:20] UpgradeLabs, I would say go do the push ups, go do the squats, go do the lunges, [01:01:25] just basic stuff.

[01:01:26] **Dave:** It's not that hard metabolically it's [01:01:30] literally push ups, squats, pull ups, and then pulling something towards you.

If you do those four big [01:01:35] muscle groups, you'll have a metabolism working. And

[01:01:37] **Naveen:** honestly, I, you know, I just, I'm a big fan of [01:01:40] upgrade labs. It's really cool. It cuts down the amount of things you get in terms of [01:01:45] exercise and muscle training and everything in a very short period of time. So why not [01:01:50] biohack your thing instead of, if you have two hours, go to a gym.

If you don't have two hours, go to [01:01:55] upgrade labs.

[01:01:55] **Dave:** You know we put one in Bellevue for you, right?

[01:01:57] **Naveen:** I know that. I know that.

[01:01:59] **Dave:** Naveen [01:02:00] was, he's been for years telling me to do it, so I finally did.

[01:02:03] **Naveen:** So that's number three. Number [01:02:05] four is sleep, and this is really important. And again, this is another myth.[01:02:10]

Everyone needs 8 to 10 hours of sleep. What you really need [01:02:15] is a good quality of sleep. Like many things in life, the quality [01:02:20] matters. It's not the quantity, but the quality. So make sure you're getting good amount [01:02:25] of REM sleep, which is one and a half hour to two hours of REM sleep. And you're getting at least hour [01:02:30] and 15 minutes to hour and 45 minutes of deep sleep.

Right. Those two things are the most [01:02:35] important thing and you need to measure that. You can't improve something unless you're measuring [01:02:40] it. So I use AuraRing. I have eight sleep mattress. [01:02:45] I absolutely love that eight sleep mattress. It changes the temperature [01:02:50] as I go into the ramp sleep and deep sleep.

Absolutely love that. Obviously have my [01:02:55] Apple watch and obviously have the withings pad underneath it. All that good stuff just to make [01:03:00] sure I'm getting a good night's sleep.

[01:03:02] **Dave:** You know, you're starting to sound an awful lot like [01:03:05] a biohacker. It's no wonder that your calendar age is [01:03:10] 65, but your body identifies as being 33 on its lab tests.

So it's working [01:03:15] for you. I mean, I've watched you get younger since we've been friends.

[01:03:17] **Naveen:** No, thank you. Thank you, Dave. And I think, again, [01:03:20] in the sleep, There are many things I just want everyone to know. It is [01:03:25] personal to you. You need to understand what, when you're measuring your sleep, what is causing your [01:03:30] disturbance in your sleep.

So for me, one of the things I have learned, and I think it applies to [01:03:35] most people, is to eat at least three hours. Don't eat for three hours [01:03:40] before going to sleep. So if I'm going to go to bed at nine o'clock, I don't eat after six o'clock. [01:03:45] Right? If I'm going to go to bed at 10 o'clock, don't eat after 7.

And you have to [01:03:50] be able to at least give people, give your digestive system a chance to [01:03:55] digest the food before you lie down and go to sleep. For me [01:04:00] If I drink any alcohol in the evening, my, my deep sleep [01:04:05] is toasted.

[01:04:06] **Dave:** I think it happens for everyone. I've never met someone whose sleep is improved [01:04:10] by drinking.

[01:04:10] **Naveen:** I got it. I'm just, my point is for me, it is just an absolute. So I know [01:04:15] even if I drink half a glass of wine, I am done for that night. I might, I know I'm going to get [01:04:20] a poor sleep. Other thing that is also I found is that [01:04:25] drinking, eating late, and also some of the, at least for me, is some of the [01:04:30] routine of the things you do.

Always try to sleep at the same time. [01:04:35] And that really, really helps. And again, people may disagree, but I really [01:04:40] think waking up in the morning when the Sunshine. The sun is coming up. It's really [01:04:45] good research that shows the early sunshine that you get the rays at that angle [01:04:50] completely resets your circadian rhythm.

And it's really good for you to be able [01:04:55] to wake up in the morning. And if you can get out and do yoga, you can do whatever sun [01:05:00] worship or anything just to be at outside soaking the [01:05:05] early sunrise. It's really, really good. The last thing, uh, Dave, before I [01:05:10] finish on that, so we talked about nutrition, we talked about stress [01:05:15] reduction, we talked about exercise, we talked about sleep.

The last thing is [01:05:20] purpose and community. People who live a life of purpose [01:05:25] tend to live 10 to 15 years longer than the people who have no purpose. So [01:05:30] find something that you're willing to die for and then live for it. Right. Find [01:05:35] something that you do not start that's so meaningful to you that you're going to spend the rest of your [01:05:40] life pursuing that goal.

Find your community that uplifts you. Get [01:05:45] rid of everyone who is actually pulling you down. So you really want to create a [01:05:50] community of people who are constantly uplifting you. They're not energy takers, but they're [01:05:55] energy givers. And that's really all you need to live longer [01:06:00] life, healthier and longer life.

[01:06:03] **Dave:** You're a hundred percent right. [01:06:05] And there's something else that I mentioned in one of my books that people, uh, people [01:06:10] don't think about. We have a circadian biology, but your gut bacteria also has a [01:06:15] circadian biology. So if you're staying up late at night, your gut bacteria make more [01:06:20] lipopolysaccharide inflammatory molecules because their sleep was disrupted.

[01:06:25] And for me to fix my circadian biology using the true dark glasses and food timing, [01:06:30] mostly. And by the way guys, if that's interest, it's free. Sleepwithdave. [01:06:35] com, my favorite URL ever. That's like everything I know about sleep. But when you do that, your gut bacteria [01:06:40] become better behaved when you control your sleep timing and quality.

And it's [01:06:45] totally counterintuitive, but those little bacteria are listening too. And it's, it's the most fascinating [01:06:50] thing to be able to just hack all that and say, I feel good all the time. Naveena, we're, we're up on the end of the show. [01:06:55] There's a couple of things guys go to Viome. com slash Dave and Naveen is offering [01:07:00] you a substantial discount on Viome because we'll give you a listing of the show maybe for 10 [01:07:05] years.

And I'd like you to have the data and just know what's going to work for you and to save some money. So [01:07:10] Viome. com slash Dave. And if you think Naveen is as good of an entrepreneur as I do, and [01:07:15] you want to work with us. Go to theapologroup. info, this is [01:07:20] our mastermind for very high level entrepreneurs wanting to, to build giant companies that change [01:07:25] the world.

So if you're in that, in that mindset, check it out. [01:07:30] Naveen, anything else?

[01:07:31] **Naveen:** Yes, I want to just add and say, Dave, you have been such an inspiration to [01:07:35] me and such an inspiration to Wyoming. And I want to just thank you [01:07:40] for all the great work you do. And I've said it on record, off record, [01:07:45] there will be no volume, but for all the [01:07:50] guidance, mentorship, and your hard work, and just inspiration that you stand, what you [01:07:55] stand for.

So everyone who's listening to it know that if you get a chance to work with Dave, [01:08:00] find a way to work with him. It is just an unbelievably, he's a genius. Good human being [01:08:05] and just a great friend. And I'm having known you for almost two decades now, Dave. I just [01:08:10] enjoy our friendship.

[01:08:12] **Dave:** Likewise, my friend. And thanks for coming back on the show and [01:08:15] just for relentlessly educating.

I don't know. I, I appreciate it on many, many different levels. [01:08:20] So thank you and, and if you're listening to the show and saying, I've already had, I've [01:08:25] already heard Nabeen on the show, he always says different stuff each time and sometimes he says the same stuff, just like I do, but we're, [01:08:30] we're circling in on truths that no one knew until AI, until you [01:08:35] got a million data sets.

And the seeking of as close as we [01:08:40] can get to reality in our understanding is, it's a part of biohacking, but it's also just [01:08:45] a good part of being human. The latest data

[01:08:47] **Naveen:** that I was just seeing on men and women and how they [01:08:50] age, and I thought that was really fascinating data we saw, that as women [01:08:55] age, their heart, Actually, health does not decline as fast as men [01:09:00] does.

And I think, as you know, that's the reason, one of the reason, these women tend to live longer and [01:09:05] have less heart disease. And now we can see that in the data, that actually their heart health [01:09:10] does not decline as fast as men. However, it's really interesting. [01:09:15] Their, their women decline, their oral health declines [01:09:20] faster than men, both in terms of dental and gum, for women which are, [01:09:25] which could be something to do with hormone, is that they are actually declining much faster [01:09:30] than men do.

And digestive efficiency, men tend [01:09:35] to have a better digestive efficiency as they age compared to women, which [01:09:40] really, I just thought the data were just fascinating to see.

[01:09:44] **Dave:** It, it [01:09:45] really is fascinating. I'm going to suggest a couple things. We'll probably have another [01:09:50] conversation in about six months on the show.

And I'm going to propose some [01:09:55] topics so that you can take them back to your massive team of researchers at Viome. Can we talk [01:10:00] about EMFs and gut bacteria? Yeah. Okay, we'll do that the next [01:10:05] conversation. Yeah, light and EMFs and things like fluoride and other [01:10:10] toxins that I think RFK Our junior is likely to get out of the environment, but let's talk [01:10:15] about artificial additives, EMFs, fluoride, and other stuff that And

[01:10:19] **Naveen:** [01:10:20] glyphosates and pesticides and insecticides.

Go deep on those.

[01:10:22] **Dave:** Would you,

[01:10:23] **Naveen:** would you vote for that? Absolutely. [01:10:25] 100%. And by the way, and let's also talk about the, of the, you know, mold in the house, household, [01:10:30] in the house. Oh, and

[01:10:31] **Dave:** mold, of course. All right. It's a deal. I will see you again and I'll see you at the [01:10:35] biohacking conference long before that.

Guys, biohackingconference. com. And one more [01:10:40] time. Go to Viome. com slash Dave, a very substantial discount, [01:10:45] and you might as well figure out what's going on in there. See you all soon. [01:10:50] See you next time on the Human Upgrade [01:10:55] podcast.