

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

You are listening to the Human Upgrade with Dave Asprey.

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

You are listening to the Human Upgrade with Dave Asprey. Today we're going to talk about GLP one, and you may say, what the heck is GLP one? Well, you've heard of a bunch of weight loss drugs that are sweeping the nation where people use these injections once a week and then magically they lose weight. If you go back in the history of the podcast, one of the lead researchers on the first trial for this type of medication called a GLP one agonist. I had 'em on before the trend happened because I'm good at spotting these longevity trends. And the conclusion there is that yes, you can lose weight. That yes, there are some risks with the pharmaceutical side of things, and that there are things that are really beneficial from a longevity perspective around, we'll say, manipulating the GLP one system in the body. So I thought, what if there was a way you could do this naturally?

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

And it turns out there is. So we're going to talk about probiotics and what they can do for the GLP one system in your body. I think you're going to be pretty excited about this when you look at all the things that are happening with thousands of dollars a month and all of this, as you know, I'm not opposed to a pharmaceutical approach to anything as long as the risks are much, much lower than the rewards. And you are informed of the risks and you make a decision. But usually the natural ways have a much better risk profile than the pharmaceutical ways. So I like to start there. And what do you know? There's a probiotic way to do this, and our guest today is Colleen Cutcliffe, a PhD who's been on the show before and she's a scientist who's going to walk us through how GLP one works and how you can manipulate it with probiotics. In other words, lose weight, have less hunger, and get the other blood sugar regulating benefits that you'd like to have. Colleen, welcome back to the Human Upgrade.

Colleen Cutcliffe ([00:02:10](#)):

Thanks so much for having me back. Great to be here.

Dave Asprey ([00:02:13](#)):

Well, some of our audience doesn't know what GLP one is because they haven't heard previous episodes or read my books and stuff like that on it. Can you talk with me about what GLP one is and why we should care?

Colleen Cutcliffe ([00:02:26](#)):

GLP one is a really important hormone that our body makes when we eat food. And so essentially, I think about this, when your car gets low in gas, if you have a gas, a car that uses gas, your car gets low in gas, you go to the gas station, you put the nozzle in, you set it, and then as the gas fills up, you that nozzle will automatically click when it's full and stop adding fuel to the car. And that click is essentially what GLP one is. So when you eat food, your body has a way to know when the tank is full, and to have that click GLP one, which basically tells your brain, okay, we're done eating. We don't need to eat any more food. We don't have to have these cravings throughout the day because the tank is full and we're good to go.

([00:03:09](#)):

And so what we've discovered is that there are people who produce lots of GLP one, and so they tend to be less hungry. They tend to get satiety quicker, and there are people who produce less GLP one. And so they are always hungry. They're thinking about food all the time, this so-called Food Noise and they get

these cravings unlike other people. And it turns out that the people who are lower in GLP one and have these cravings represent the vast majority of the population. And so the question is, why do we as a society make less of this GLP one hormone?

Dave Asprey ([00:03:41](#)):

Well,

Colleen Cutcliffe ([00:03:43](#)):

One of the big reasons why people are low in glp one that's been discovered is really linked to the microbiome and the microbiome are all the bacteria, viruses and fungi that reside in and on our bodies that help us with a variety of different health disease issues. And so what happens when you eat food is you have these hundred trillion microorganisms that are in your gut that are helping you to metabolize that food. And each of them has a different role in a different function and works with different kind of coworkers in this factory setting. And there is one department in this factory that is responsible for that GLP one click. They're responsible when you are eating to metabolize food and to know, okay, now it's time to stimulate GLP one hormone, and that's going to tell us that we're full. And what's happened for a lot of people is they are low or entirely missing this department of these specific microbes, and that's why their body isn't getting the appropriate amount of GLP one produced when they're eating food.

Dave Asprey ([00:04:41](#)):

So some people don't have the right bacteria and because of that they're craving all the time. Do you think a hundred years ago more of us had that kind of bacteria?

Colleen Cutcliffe ([00:04:51](#)):

Yeah, I mean, there've been a lot of studies showing that if you go to populations that have been less touched or untouched by Western civilization in particular, that they have vast abundance of these strains. And some of these strains, not the ones that we're going to talk about here today, but some of the strains that those folks have, you can't even find them anywhere in the US population. So we really have lost diversity and therefore we have lost certain functions in our microbiome that we used to have. And it's not just civilizations that have been untouched by western culture and food and all of that, but even for us as individuals, there is a time in our life when we have a super diverse microbiome. I mean, we all remember a time where we could eat or drink whatever we wanted to and we didn't have to worry about it. And as you age, you actually start to become depleted in certain microbes. And that is at the core of a lot of the functions that we feel like are just a natural part of aging. Oh, my metabolism slows down because I'm aging. I have less brain function because I'm aging. It turns out that a lot of that is related to this loss of diversity and depletion in the microbiome.

Dave Asprey ([00:06:03](#)):

In my longevity book called Superhuman, I actually talked about how you could predict someone's age by the number of species and type of species in their gut. So if like me, you're planning to live to at least 180, well, maybe you should have a young person's type of gut bacteria. The one that you're working with to raise GLP one in humans, is your GLP one probiotic, is that something you find more of in young people or in older people?

Colleen Cutcliffe ([00:06:34](#)):

It's a combination of three different strains that are in there. One of the strains, which has sort of emerged as a keystone strain called Akkermansia eosinophilia, you and I have talked about this strain previously and its importance continues to gain more and more traction in publications and our knowledge about it. That strain is really interesting because it looks like as you age in general, you have less and less of that strain except if you start to do these studies where you look at people who are aging in a more healthy way, they tend to over index for that strain. And if you look at people who've reached a hundred years plus, they have a ton of this strain. And so it starts to become a differentiator between healthy aging and actually getting into that a hundred plus years. So if you have more of it, those people are over indexing for Akkermansia in their microbiome.

Dave Asprey ([00:07:30](#)):

Akkermansia is a really interesting probiotic as we talked about in the last episode when you're on, because it's missing from a lot of people entirely. And when you have more of it, you regulate your blood sugar better and people live a long time have a lot of it. So it's one of those things that's a part of a good longevity strategy. And it's the only bacteria from its phylum that's in our gut normally. Is it? Is that what it's called?

Colleen Cutcliffe ([00:08:00](#)):

Nice. Yes.

Dave Asprey ([00:08:01](#)):

Is it related to verruca salt?

Colleen Cutcliffe ([00:08:03](#)):

I have no idea. I don't even know what verruca salt

Dave Asprey ([00:08:06](#)):

Is. It's a band. I'm pretty sure they're not related. I found a cultural reference you didn't know because you're a PhD and I'm just a biohacker.

Colleen Cutcliffe ([00:08:17](#)):

Well, maybe it's something about our musical taste. Well, we'll get into that at a different time or

Dave Asprey ([00:08:21](#)):

Lack thereof. Alright. So it is interesting though. This is this one unusual species that when we have it, we're younger and we handle our hunger better and we handle our blood sugar better. And as I've talked about with multiple experts, manipulating your GLP one system is a longevity strategy in and of itself. So doing it pharmaceutically away, but doing it with a probiotic seems like a more affordable and maybe a great place to start. And then if it doesn't work, sure do whatever it takes. But I'm particularly impressed. And you came up with three species though that are in your GLP one probiotic. What are the other two species besides Akkermansia?

Colleen Cutcliffe ([00:09:07](#)):

Well, so first of all, in the literature there are only two strains. This department that we talk about turning on GLP one, there are only two strains that have ever been published to show that they can

increase GLP one, they can stimulate this GLP one release. One of them is Akkermansia eosinophilia, the other is Clostridium buty. Both of those strains are in this formulation. And then there's a third strain you put in there, bifidobacter infantis. And that's because it works in conjunction with those other strains because it produces these short chain fatty acids called acetate and lactate, which can then be converted to butyrate by Clostridium buty. So all of these strains really kind of work together. It's like passing a ball down a soccer field. So and infantis takes the ball and passes it to Clostridium buty, which is then the guy who produces the thing that stimulates GLP one. So the formulation has three strains that all work together, two of which have been published to show they can directly stimulate GLP one.

Dave Asprey ([00:10:07](#)):

A lot of people have heard of Clostridium because of c Difficile, which is something that really takes out a lot of people in nursing homes. This is the power diarrhea form of Clostridium. So we usually will think, well, this is a bad thing. Well, it turns out there's a couple beneficial forms of Clostridium that stop you from getting the power diarrhea form, which can actually be fatal, especially if you're older or your immune system is weak. So it turns out these are protective and butyric means it makes butyric acid, which is a short chain fatty acid. And it's good, it's made in your gut because it's named after butter butyric acid. But fermented butter has kind of a cheesy smell. And if you take butyric acid, it's like taking capsules that smell like sweat socks. It's not very pleasant. I've taken 'em for a long time because raising butyric acid is good. It's a post biotic. So taking the strains that make this in your gut is more pleasant than swallowing six capsules that smell like socks. So this is a plus one for the GLP one probiotic.

Colleen Cutcliffe ([00:11:13](#)):

You, Dave, at some point we'll have you come visit our manufacturing plant. And when you walk through, it does literally, there are times when it smells like vomit or sweaty socks, and that's just the smell of getting healthier

Dave Asprey ([00:11:27](#)):

Acid. And this is also why when you eat yogurt, it tastes good. Like that kind of tangy thing, it's in there. And if you enjoy it, like manchego cheese, which is my favorites, because sheep cheese has very different probiotics and very different characteristics in it, then cow's cheese. And that also has that kind of cheesy smell. And so this is one thing that our nose doesn't necessarily like, but when you eat it, you're like, oh, actually that's kind of good. Or some of the sharper cheeses would have more of that in it. And the third species you had in there, bacillus infantis, this is a really important strain. In fact, it's so important that, and this is in my very first book called The Better Baby Book on Preconception and Fertility. What do you do before pregnancy to have healthier kids? My kids are super healthy.

([00:12:15](#)):

I'm really, really grateful for that. But when they first started nursing, we opened a capsule of bacillus and infant and put it on their mother's nipples so that when they would nurse, they would get this probiotic. So important, especially when we're young, but you also want to have it throughout your entire life. So this is a really powerful blend of things I've never taken other than in the GLP one probiotic. I've never taken that form of cladium. I've taken a couple other probiotic forms, but this is a very, very unusual probiotic. So this is kind of cool. You're making a manufacturing plant in your stomach that throws the switch for GLP one. How long does it take for people to feel a difference from it?

Colleen Cutcliffe ([00:13:00](#)):

Well, this very unsatisfactory answer to that is it depends. It sort of depends on the individual. It depends on the state of affairs of their microbiome. And to be totally clear, I'm not a lunatic who thinks that every problem can be solved by the microbiome. And certainly this might not be the reason why someone is experiencing terrible cravings. But we did do, in a study, we use the food cravings inventory, which is the diagnostic test for food cravings. It looks at cravings across the four major cravings types, so sugars, carbs, fast foods, and high fat foods. And what we found is that after six weeks of being on the probiotics, you basically take one a day for six weeks. 91% of people had a statistically significant reduction in the food cravings inventory, and it was across all four different food cravings types. The highest one was for sugars. And so it was sort of interesting because we knew that, we know that GLP one helps reduce food cravings, but I think we hadn't realized to what extent that it would really help people. So in a six week study, 91% of people had a reduction in cravings.

Dave Asprey ([00:14:10](#)):

That's a really big number. And that was in six weeks time, one of our upgrade collective members. And by the way, guys, you could be in the live studio audience. I'm actually looking at Sue right now. And she typed in this question and said, I've been using GLP one probiotic, and this is from pendulum, your company. She's been using it for about two weeks and hasn't noticed a change yet and wants to know how long does it take. And so you're saying in six weeks, 91% of people have a difference, but they might not feel the difference because if you're using a standardized questionnaire, it helps you to tease out something. So the question is, do you have a little process running in your head that goes, how craving am I today? And so once you build awareness of the state of your biology, which is really useful, then you go, oh yeah, today is different.

([00:14:58](#)):

But for me, a regular practice of writing down my cravings and times I had intense brain fog or I was just really tired or really inflamed, I would just write it in the margins of a notebook. You can do little notes on your phone and once you build a practice and you write it down for a few months, you just realize, oh, I always had an awareness. I just didn't know that I had an awareness. So you can build this for your food cravings. And I'm to the point now where if I'm craving food, there's always a reason and it's always my fault. And there's nothing wrong with craving food. It's just like, oh, why do I want salt? It's because my blood pressure is a little bit low and my body's telling me I need more sodium so that I can increase my blood volume and I can hydrate better. So I put some salt or some electrolyte in my water. I'm like, there you go. I admit that craving, which is actually just my body asking for something, but a craving gets to the point where I just have to have it. If I don't have it, someone's going to die. And I've certainly had that when I was obese, and those are really severe cravings. And that's the type of thing that the GLP one probiotic is designed to help with.

Colleen Cutcliffe ([00:16:00](#)):

Well, and even more subtle cravings. I mean, I'd be curious to hear from you and the team if we offered that test and that test as many diagnostic tests. It takes a long time to get through all the questions, but if we offered that, or maybe even in abridged version of that, is that something that you think people would like to take? Or is it better to just have people do what you're saying, which is kind of write it down or keep track of it in their minds?

Dave Asprey ([00:16:24](#)):

I think a small number of biohackers would probably be, I'm really going to focus on cravings. I've been teaching people to track what you hack. In fact, I think that's the title of a chapter, one of my books

where you could spend all of your time tracking all of your stuff, and then your morning routine is four and a half hours. And if you're going to live longer, but you spend eight hours a day living longer, you better live at least 33% longer. You just spent a third of your life living longer. So I would say the people who are saying, I know I have a problem with cravings, I know that's behind my eating. I'm going to sort out if it's emotional eating versus something that's biological, and quite often it is biological that then drives the emotion. So you can't have trauma or loneliness, which I had when I overate. But if you have this intense feeling that comes biologically and that triggers the emotion and you blame the emotion, if you have this type of tool, you can really tease out how strong are the cravings. So my guess is that it would be helpful for people. What do you guys think from the upgrade collective? If you had to answer a lot of questions, it's like a 10 minute survey or an hour survey.

Colleen Cutcliffe ([00:17:34](#)):

I think it ends up taking people, I think it's a 10 to 20 minute depending, I think

Dave Asprey ([00:17:41](#)):

You should put it up on the pendulum. See, right. Yeah, it'd be interesting. Okay. A couple people are saying, yes, they would like to do that.

Colleen Cutcliffe ([00:17:49](#)):

Yeah, I mean, I think your point also about what is a craving versus your body telling you that you need something? We really are talking about cravings here. And so I got home late at night instead of just going to bed, which I knew I should have done. I threw a frozen pizza in the oven and I ate it, or I grabbed a spoon to go have one spoonful of ice cream and I put the container back half empty. It's these cravings, this satiation that we can't achieve. That's really what we're talking about here. And I saw this crazy stat Harris poll just came out with this. 80% of women are walking around with food guilt and 70% of men are walking around with food guilt. And that food guilt is linked to these cravings and making bad food choices. And I think when we talk about the gut brain connection and we talk about your feelings driving bad food choices and then those bad food choices, then driving those bad feelings, there is this very interesting network connection between all these things that can put you on either a really bad cycle or on a positive one to pull yourself out of it.

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

And really what we're interested in is what are the microbiome interventions that you can provide to people to start to get them jumpstarted on that good track? Because it can feed itself in a really good way, in a positive way.

Dave Asprey ([00:19:08](#)):

So rather than feeling ashamed of having food cravings, which it sounds like a lot of people are doing, you could just say, oh, my body is experiencing food cravings, by the way, that's different than you. You're not your body. And then you can say, that means I'll do something about it. And then you take GLP one, a probiotic, you change what you eat, you get enough animal protein, all those kinds of things.

Colleen Cutcliffe ([00:19:32](#)):

Absolutely. And we just heard from a customer who said, I've always been a sweet tooth my whole life. I've, I've had a sweet tooth, and I'm just one of those people who could never resist cookies. I mean, if you put a cookie in the house, I'm eating that cookie and that's just me. And after being on GLP one and

losing some of those sugar cravings, he started to detach his persona, who he was this person who's weak and can't avoid sugars to somebody who now his biology is working differently and that's not him. And I think for me, that's a really profound statement about your biology versus who you are. And sometimes we kind of confuse those two things.

Dave Asprey ([00:20:15](#)):

Identifying yourself as your body is a dangerous thing to do because your body does all sorts of weird things and it changes all the time, and then it actually makes you helpless. But if you're saying, oh, I'm riding around in this body and it does all sorts of stupid shit, maybe I could fix that and I don't like it when it does that instead of when I do that. So then you can like yourself and not like something your body's doing and decide that you're going to change it, right? Oh, I would like my body to be more muscular versus I want to be more muscular. So there's a sense of shame and judgment and responsibility, and the shift is really, really big. And so I'm very careful with my language. Even when I talk with my kids, it's like, oh, your body's doing this, not you. And really it changes a lot, I would just say, and it's one of the biggest shifts in my mental awareness to become a biohacker.

Colleen Cutcliffe ([00:21:11](#)):

Absolutely. It's so empowering to know that you can change your biological system and that is not who you are. It's what your body is doing. And I think that's why the microbiome is so fascinating for so many people because this is one of the things that is mutable. It changes. You can change it. There's things that you're doing that you don't know that are changing it, and you can change it back. And so unlike our genes, which you get what you get, and we haven't gotten quite to gene therapy for the masses, the microbiome is shaping a lot of your biological systems. And you can modify it.

Dave Asprey ([00:21:43](#)):

You can absolutely modify it. Alright, this is a question that I wasn't really planning to ask, but I got to ask you this.

Colleen Cutcliffe ([00:21:54](#)):

Oh no. Okay.

Dave Asprey ([00:21:56](#)):

I've seen a number of people who have high TMAO forming species in their guts. And if you eat eggs or fish, they can convert actually or soy less than soybeans. They can convert into TMAO, which probably increases risk of cancer. This is, and red meat does it as well. So the people trying to convince you to not eat one of the most nutritious substances on the earth called beef, they're like, oh, stop eating beef, but then go keep eating fish. And you're like, hold on a second here. These all convert. And they're all controlled by gut bacteria. I don't have any species in my gut that make TMAO out of beef because I eat grass fed beef, not antibiotic tainted beef. If I'm taking the GLP one probiotic or anything else, is there something I can do to reduce the formation of TMAO?

Colleen Cutcliffe ([00:22:52](#)):

Oh, man. I don't think we've looked at, I would have to look more deeply at the literature around TMAO and these strains, but we certainly haven't looked directly at that. But I will just say this about the science of the microbiome, which is that in the end, this is an ecosystem of strains that all work together to create some final end products. And there's a lot of in-between steps to getting to those final end

products. And so the in-between steps have taken out of context, might look like there's something detrimental happening, but that's a part to getting to the end thing. So for example, if you imagine you're making a car, one of the pieces might be a screw that's really sharp. And if all you look at is like, oh man, my manufacturing plan is making all these screws that are really sharp and that's dangerous, you might be getting the wrong message in the end, it's actually a necessary part to making that final product, which is the car. So I think it's just a word of caution about we're still early in understanding the microbiome and the context of all of these readouts is super important.

Dave Asprey ([00:23:51](#)):

Is there ever a case for just saying, screw it. My gut bacteria is so screwed up. I'm just going to take a nice Z-Pak azithromycin, just wipe out my gut microbes for the most part, and then rebuild them by taking GLP one in prebiotics and postbiotics and just saying, you know what? My compost B got all rotted and gross, so I threw it away and I started a new one. It almost feels like a gut reset for some people. It's been really effective, almost as effective as fecal matter transplants. What would you say if someone's like, my gut's been so ruined, I'm just going to wipe it out and I'm going to start with really good probiotics. Is there a case for that?

Colleen Cutcliffe ([00:24:26](#)):

I would not be against that conceptually. I mean, really, if you feel like it's so far gone, that's not a terrible way to reset. There's less dramatic ways to reset too. So if you decided to go on kind of a liquid fasting, like

Dave Asprey ([00:24:40](#)):

A water fast or a coffee fast.

Colleen Cutcliffe ([00:24:41](#)):

Exactly. A black coffee fast.

Dave Asprey ([00:24:44](#)):

Yeah, no oat milk. Okay,

Colleen Cutcliffe ([00:24:46](#)):

No oat milk, but essentially you go fast. That's another way to kind of reset the starting point of your microbiome and then feed back the things that you really think are beneficial. And it's not just taking a GLP one probiotic and giving these strains, but also it's an opportunity to refresh your nutrition. So eating foods that are high in fibers, high in polyphenols, all of these things will help feed those bacteria which are stimulating GLP one production.

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

What else can I do in my diet to increase GLP one to cause say I'm going to take GLP one probiotic and I want to feed it. Well, should I be eating grains? Should I be eating meat? What's going to help?

Colleen Cutcliffe ([00:25:28](#)):

Well, actually akkermansia eosinophilia, there's been good clinical data showing that increasing your polyphenol intake will increase akkermansia and is directly linked to blood sugar improvements. And we

looked at a bunch of different polyphenols with our akkermansia and we found three specific polyphenols that appeared to work with ours. And we actually put out a polyphenol product specifically designed to be a booster to this akkermansia strain. Then it was from pomegranates green tea and grape seeds. And so I think that's one of the foods that definitely has clinical data behind it or human data behind

Dave Asprey ([00:26:11](#)):

It. It's funny, green tea extracts and especially grape seed extract have been some of the most important polyphenols in the longevity movement for 30 years.

Colleen Cutcliffe ([00:26:23](#)):

Oh, really? I didn't know that.

Dave Asprey ([00:26:24](#)):

I remember when I was a teenager, I would get explosive nosebleeds sometimes 10 times a day. I walked around with a bottle of Arin and a Kleenex because Arin will stop on nose weight. And it was related to toxic mold and the fact that when toxic mold hits parts of the nose, it heparin and histamine and heparin's a blood thinner. So I'd just be sitting in class in moldy classrooms and just, it's really good for dating. Lemme tell you,

([00:26:52](#)):

What I found though, was that when I took grape seed extracts that it went away like 90% of the time. Wow. So I've been on grape seed extract for a long time. In fact, that's like 70, 80% of my life. And it is cool. It helps to control weird reactions like that. And who knows, maybe it was even through the microbiome because I was on antibiotics for about 15 years for chronic strep throughout, which probably led to some of the weird biological complexities. I still, well, they're mostly gone, but I still have a few weird things. So it's just fascinating how all this ties together. So you have these three very, very well studied for longevity polyphenols, and you're using them as food for the GLP one probiotic. And to me, that's just super fascinating.

Colleen Cutcliffe ([00:27:39](#)):

That is fascinating. I'd have to think about that connection a little bit more. I mean, you've been working on your microbiome too. I mean, we've talked about Akkermansia Mu before. I'm curious, what's your take on, how have you thought about the microbiome for your own health and these particular strains?

Dave Asprey ([00:27:55](#)):

I would say since the first studies on Akkermansia came out, I was looking for how do I raise it? And you couldn't buy akkermansia. In fact, I think I even wrote about it in Superhuman in my longevity book, if I remember right. And then you guys came out with the first and I think only strain of akkermansia that's out there, and you've been adding to it with these new innovations, which is super cool. So I've been on your product for a long time, and full disclosure, I don't take it every single day. It used to have to be refrigerated. So I don't always open the fridge to get it out. My vitamins are in a hole. I have a pantry that's just vitamins. It's kind of ridiculous actually. It's got four shelves and they're eight feet long, and they're just all full of supplements. You feel like you're at A GNC, but with super high-end products.

([00:28:36](#)):

So I've been on it for a while, and I did quadruple my number of species in the gut with the recommendations from Superhuman the Longevity Bug. And I measured them before and after I did the program using the VUM test. So I'm actually the largest investment I've made. I've been an advisor for almost 10 years now, and vs really, they've got 600,000 people's gut bacteria on file now, which is kind of cool. So there's interesting sample sizes. So I tend to use that to look at my diversity and to look at the healthy balance of it. But I don't believe that it's calling out your species, or if it is, it's very deep in the data. So I believe that pendulum products are working. I can't assign a single cause to them, but I am at 6% body fat. The Austin, oh geez, I just forgot.

[\(00:29:31\)](#):

That's kind of lame. Sorry. Austin guys, Austin Local magazine just had an article. They ran on the biohacker who's now in Austin, and their photographer took the shirts off pictures that I didn't know were going to happen. And I'm like, I'm so lean. I've never looked like this in my entire life. I just looked at that and shake my head. I'm like, I can't believe that that's a picture of me. Some part of me still sees myself when I was 300 pounds or when I was 220 pounds or whatever. And I think that managing my blood sugar has been helpful. I've also worn a CGM, the continuous glucose monitor for long periods of time. I haven't worn one in a year because I'm lazy because I know it works. I just do what works. So it's probably time to slap one on again. But my blood sugar regulation is good, and it's to the point where I do eat meaningful amounts of carbs. If I don't, I just get even leaner. I finally got my metabolism working where it's easy and I never have cravings. It's super cool.

Colleen Cutcliffe [\(00:30:31\)](#):

Yeah. Amazing. Amazing. Well, I usually, Akkermansia is one of the strains that gets called out in these gut microbiome tests kind of near the top just because it's such an important strain. So maybe in their newer tests they'll start to highlight that. And butyrate producers, you can kind of lump them together. That's also I think, an important function in the microbiome to be able to look at improvements on. So well, it sounds like you are essentially tackling health from so many different angles that you can't simply point to these particular strains and the role that they're playing here. I'd love for you to do an experiment,

Dave Asprey [\(00:31:12\)](#):

Like to stop kicking them and get off of that.

Colleen Cutcliffe [\(00:31:14\)](#):

I know it's terrible. That requires you to stop taking them for a second. But I'd love an experiment.

Dave Asprey [\(00:31:18\)](#):

Yeah, this is one of the problems. Anytime you're following one person's protocol, it's probably not going to work for you. In fact, there's an almost certainty it won't. So I'm about to launch an AI tool that has all of my knowledge in it and a bunch of the studies that I've used as well in creating my knowledge so that you can actually log in and it'll recommend things to you based on where you are and based on specific goals. And that's going to be amazing. So instead of having to listen to 1200 hours of my podcast and read 3000 articles in eight books, I'll just tell you what to do in order to get results and how to track them, including all the lab tests. So then we'll recommend a gut test. So say, all right, so I want to control my blood sugar. Here's the things I could do.

[\(00:32:09\)](#):

Maybe you should try some cinnamon extract and chromium. Those are pretty good for controlling blood sugar. Maybe you should take GLP one probiotic. You would track the probiotic with a gut test and you would track all of this with a glucose monitor. So I'm just helping people understand, don't just throw a bunch of money at supplements. Know why you're taking them for what goal, and then track the metrics that support the goal so you can stop spending money on stuff if it doesn't work. And if it does work, say, I think I'm going to keep doing that because I like my life. And then you're going to get a different goal. And the new goal may be, I'm going to live not just 180, I'm going to kick Dave's ass. I'm going to live to 181. I'm like, guys, it's to at least 180. It's not just so we can race.

[\(00:32:50\)](#):

So that's where it's going to end up. And I should be bringing this out within the next very short period of time. And that's a way I can guide people maybe who haven't even heard this episode to hear the episode or to just say, I don't need to hear the episode. I'm just going to try a GLP one probiotic because, well, I was thinking of trying a pharmaceutical, this is more cost effective and in six weeks I'm less cravings. Maybe it'll work. But lemme ask you this. When people inject the class of GLP one agonists that are all over the news, a lot of them, in fact I've warned about this, they can be longevity substances, but if you stop eating and you lose half your muscle mass and half your fat, you're going to be really, really unhappy with it. And I've seen it happen over and over and I've got recommendations.

[\(00:33:42\)](#):

I'm on the blog for what to do to stop that from happening. But you have to be militant about your animal protein consumption and about lifting weights. And my experience injecting one of those for the show, I did it for one week. I feel like I had morning sickness the whole time. It was terrible. I could not eat 200 grams of protein to save my life. So when I take GLP one probiotic from the stuff that you're specifically making, am I going to lose my appetite to the point that I start losing muscle mass the way the pharmaceuticals do?

Colleen Cutcliffe [\(00:34:13\)](#):

I mean, that is one of the classic advantages of going the natural route and helping your body learn to fish with the right tools that it used to have versus the pharmaceutical route. I mean, these GLP one analogs are essentially fake GLP one, they're meant to mimic your GLP one hormone, but they're a chemical. And so you inject them directly into your bloodstream and they aren't recognized by your body in the same way. So instead of you're supposed to have this cyclical pattern of GLP one hormone in your bloodstream, so when you eat, it goes up, that click is happening, and then it goes down over time so that you're hungry again and you're supposed to eat throughout the day. It's not that you're supposed to not eat. And so your body is normally supposed to have the cyclical pattern of GLP one, and what the drugs do is they get rid of that.

[\(00:35:01\)](#):

So you just had these high levels of GLP one, and that's why many people similar to yourself, even literally hours after taking their first dose feel nausea, it's because their bodies really didn't need it quite at that level. And certainly the non-cyclical pattern kind of messes with all the other parts of your body that need that hormone to be going up and down at different times. And so essentially, you will not see, when you take the GLP one probiotic within hours of your first pill, a feeling of nausea, you will not see the very immediate impact that people feel when they go onto the drugs. But conversely, when you go off of those drugs, because you haven't really taught your body anything, you've just given it this external chemical, when people go off of these drugs, there's this immediate rebound. Everything that they were feeling and doing beforehand comes right back and full force. And so you won't feel that with the GLP one probiotic because especially if you can get these trains to colonize, you now have the ability

to produce your own GLP one at elevated levels. And so you won't have that kind of stark, I go on it, crazy things happen. I go off at crazy things happen, kind of a response.

Dave Asprey ([00:36:12](#)):

So short answer, if you take GLP one probiotic, you're unlikely to lose muscle like you would if you're using a pharmaceutical.

Colleen Cutcliffe ([00:36:21](#)):

Yeah, and one of the things we've really been focusing on, and I think it's super important for any of us who are in health, is that it really is about the food cravings. We really don't want to focus on the weight loss. And the reason is this, if you could convert five pounds of fat to five pounds of muscle, you haven't lost any weight, but that is a win that is so much better for your body. And so what we're really talking about is how do you reduce the cravings for these things that are not beneficial for your body, that you really don't need to be consuming so that you can live healthier as opposed to having the goal be weight loss, which I actually think is problematic for a lot of different reasons. The goal is really to reduce these cravings so that you are naturally going to be making better food choices.

Dave Asprey ([00:37:03](#)):

Thank you for saying that. Weight loss is dumb.

Colleen Cutcliffe ([00:37:06](#)):

Okay. You put it more succinctly than me.

Dave Asprey ([00:37:09](#)):

At Upgrade Labs, we have something called the Cell Health Analysis, and this is the world's first biohacking center, open gutter Arnold Schwarzenegger's office in Santa Monica about nine years ago. It's now a franchise. We're opening 28 locations across the US and more every day and every location has a clinical grade body composition system that we use to measure the strength of your cells, and we can measure visceral fat around the organs and total body fat on par with what a DEXA scan does. So my girlfriend is here, and I've convinced her to make a few nutritional changes, and it was of her own free will. Guys, you can't make your girlfriend do anything, just try it. You'll learn what happens. So she asked, and she didn't lose any weight, but on the scale, five pounds, just like you said, five pounds of muscle went up and five pounds of fat went down.

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

But if you look at weighing yourself, you don't get any of that data. And that's why when people come in to upgrade labs, to upgrade themselves, like, well, let's see how you're doing here. And it's interesting, you can even tell someone's age by the amount of visceral fat. This is the dangerous fat that kills you around your organs. So the curve, as you get older, you get more and more visceral fat unless you do something about it. I have low levels of visceral fat for an 18-year-old. And so that's one of the many ways you could measure aging. And if you have less liver fat and less organ fat, you are probably going to live a lot longer. In fact, it's more important than cholesterol by a long shot in terms of longevity. So I would just double down on that. The number on the scale doesn't tell you anything. And if it's something you want to drop, I highly recommend pee poop and don't drink any water and weigh yourself again, and then you can feel better.

Colleen Cutcliffe ([00:39:01](#)):

Exactly.

Dave Asprey ([00:39:03](#)):

One question. You have an Akkermansia product that I've mentioned taking for a long time. You have a Butum product and now you have GLP one that has those two plus another strain that are in it. Do I need to take all three pendulum products or can I take GLP one and just take a bigger dose?

Colleen Cutcliffe ([00:39:24](#)):

You can just take GLP one probiotic. The reason we offer those single strains is for we have the formulations, which to your point, GLP one probiotic has these three strains in it designed to specifically increase your GLP one levels and reduce your food cravings. And then we sell the single strains because for some people, if they do a gut test or they're really philosophically, they want to start with what's the minimum viable intervention, they have the choice to be able to take those single strains. But you can take the formulation and it's got actually the same amount of those two strains that are in the individual bottles you could take, rather than taking all three of them, you could take to your 0.2 pills of the GLP one probiotic if you wanted to. So there's not really, there's nothing different about those individual strains, it's just allowing people to mix and match how they'd like.

Dave Asprey ([00:40:13](#)):

Okay. My advice for you listening is if you're going to allocate your dollars and we all allocate our dollars on our longevity, you should take the polyphenol blend and the GLP one probiotic from pendulum because then you're taking the good guys and you're giving food for the good guys. So they'll proliferate in your gut more effectively from everything I know it's going to work better that way than say, spending that extra money and taking GLP one and then doubling down on butyric or Remaner or something like that. For the advanced biohackers out there, you can play around for the rest of us. GLP one probiotic plus the polyphenol from pendulum equals the most likely maximum reduction in cravings and better blood sugar control over six weeks according to your study.

Colleen Cutcliffe ([00:40:59](#)):

Exactly. And I do think your point earlier about wearing a continuous glucose monitor is really important. In fact, I did my own CGM test when I started taking pendulum glucose control, our first product, and then I recently did another one in order to determine whether I could switch off of glucose control to the GLP one probiotic because the three strains in the GLP one probiotic are included in the larger formulation in pendulum glucose control. And I discover something fascinating. I feel like every time I do a CGM experiment, I learned something new last time I learned that I should never eat, drink grapefruit juice. This time I learned I literally had a meal one evening and stayed kind of arranged for my spike. Two days later, I had leftovers from that meal. So

Dave Asprey ([00:41:46](#)):

I know what happened,

Colleen Cutcliffe ([00:41:47](#)):

Exact same meal, and I spiked out. And I was like, what the, and I had them both at dinner time, so there's nothing about time of day. And my day before that was all more or less the same. And when I

thought back on the day, I realized I had had one of those crazy days. I hadn't drank enough. I drank a lot less water than I did on that day, two days before. And I was just astounded at the difference in the spike just by being, and I wasn't severely dehydrated or anything like that.

Dave Asprey ([00:42:19](#)):

It wasn't the water. I'll bet you it wasn't.

Colleen Cutcliffe ([00:42:20](#)):

It wasn't the water. What is your

Dave Asprey ([00:42:23](#)):

Theory? Two day old leftovers, right?

Colleen Cutcliffe ([00:42:25](#)):

Yeah.

Dave Asprey ([00:42:26](#)):

Well, what kind of food was it?

Colleen Cutcliffe ([00:42:29](#)):

It was pasta with chicken and kale.

Dave Asprey ([00:42:31](#)):

Well, it was the kale. No,

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

The kale.

Dave Asprey ([00:42:37](#)):

It was the fact that you had protein from the chicken, and it's sad for two days, and you get the beginnings of microbial decomposition in the Bulletproof Diet. I taught people, Hey, don't eat leftovers unless you've frozen right away. And people are just outraged. But I prepare my meals for the whole week. I'm like, yeah, and you're fat. Sorry. That's what happens because histamine grows in food and we all have a different level to degrade histamine in our food. Histamine is a microbial toxin. It can kill you. And if you've ever say had a pork coma where you eat either leftover pork or long cooked pork and you eat it and it's so good, and then you're so tired, that's histamine acting as a neurotransmitter. And if you eat food like that and you get a dramatic histamine response, it can also drop your blood sugar precipitously because your body sort of panics. It's like, I got to deal with all this. So it starts firing emergency signals as masks get activated. So the difference here was it wasn't the same food, it was new food versus old food. And losing weight on leftovers is sometimes a lot more difficult unless you freeze them after you eat 'em, and then you defrost them to eat them again, and then you don't have the problem.

Colleen Cutcliffe ([00:43:46](#)):

And now I got to rerun the experiment. I think I thought it was the water, but now I got to rerun it and make sure the water intake is the same. So okay, I'm going to try that.

Dave Asprey ([00:43:55](#)):

You could also sort of take a shortcut on this. The highest histamine food is fish sauce. Okay. It's fermented fish and fish makes a lot of histamine. So basically take a shot glass full of fish sauce and see what your blood sugar does. And you'll say, Dave, you were right. I'll bet you

Colleen Cutcliffe ([00:44:13](#)):

That sounds terrible. No, I'd rather eat the chicken and kale pasta leftover experiment.

Dave Asprey ([00:44:18](#)):

I think so. And if you want to make it stronger, pork and fish will make very strong histamine compared to beef or chicken.

Colleen Cutcliffe ([00:44:27](#)):

I can't eat leftover fish. I actually, generally speaking, don't like eating leftovers just because of food variety. I like eating different foods, but I can't even fish leftovers. For me, there's so many changes that happen. It's like smells and tastes terrible.

Dave Asprey ([00:44:43](#)):

You shouldn't eat fish leftovers unless you froze it right away. And I can handle beef that's up to 24 hours old if it was refrigerated properly. Otherwise I feel it in my brain right away. You see it in your blood sugar, you see it in your heart rate. It's a very noticeable thing. I am histamine sensitive though, and that is in part because of my gut microbe system. It's also because I was sensitized to histamine by living in toxic mold for many years as a child. So my system's like, what? You have histamine for me. And then it creates what's essentially a panic response. It's also if you do infrared sauna or you do a heavy workout, you're going to see a spike in blood sugar as your body releases blood sugar to deal with the additional stress. So who would've thought that leftovers are the same type of stress, but it turns out they can be

Colleen Cutcliffe ([00:45:32](#)):

Amazing. Okay. Can't wait to do that one again.

Dave Asprey ([00:45:34](#)):

I love being a biohacker. It's so fun to figure out why did it happen. There's always a reason. Alright, I want to ask you about other toxins because when you were on episode 8 81, wow, you've been on, that was a while ago. That was a couple years ago. You talked about how your gut lining guards your gut from bad bacteria and from toxins. GLP one probiotic, what role does it play in protecting the lining of your gut?

Colleen Cutcliffe ([00:46:02](#)):

Well, this is sort of the reason why that this strain, why akkermansia eosinophilia has become so popular and well-studied and invested in by lots of academics around the world is because it really appears to have these two incredibly important roles in the body. So one is what we just talked about, which is its

ability to stimulate your L cells to release GLP one. And then we all know blood sugar management is a vital part of good health. But the second role appears to be actually distinct from that, which is that your gut lining is sort of, and I think we might talk about this last time too. It's sort of like a wooden fence where your wooden fence has these planks and they're held together by glue. And essentially when that glue starts to get old, your planks can start to fall. And your gut lining is exactly the same way you had these planks.

[\(00:46:59\)](#):

They're held together by glue, which is called mucin. Akkermansia eosinophilia is the only strain that we know of to date that literally lives at that gut wall and strips away the old glue. When it gets old, it consumes that mucin and it stimulates the production of new mucin. And so it effectively keeps that glue, that mucin layer regulated all the time. And that keeps your gut lining really strong. And why is it important to have a strong gut lining? It's because you don't want to get gaps or holes in your planks because this is what leads to what some people call leaky gut. You can get infiltration of pathogenic bacteria. You can get all the small molecules inside your gut that are supposed to stay there leaking into your gut, your bloodstream, and so you get this heightened inflammatory response, these undesired immune responses. And so essentially, your gut lining becomes and really important part physiologically of your health, and a lot of people who don't have that strengthened gut lining feel it in GI distress, so very sensitive to certain foods, but they also feel it in terms of inflammation.

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

We actually have dermatologists who are using Akkermansia for things like atopic dermatitis and eczema, because what they're finding is that when you have this heightened inflammatory response, because your gut lining at the core is actually not the way it should be, it shows up on your skin as a skin disorder. And a lot of the treatments for skin are what I like to think of in your car when your check engine light comes on. It's like if you were to put a piece of tape on that check engine light and be like, all right, I solved that. So a lot of the skin remedies are just topicals that go on the skin when in fact, actually you should be checking your engine, which in this case is your microbiome, which is causing these heightened inflammatory responses. So because the gut lining is so important and because sugar regulation is so important, akkermansia is super important and plays these two different roles

Dave Asprey [\(00:48:52\)](#):

Makes a lot of sense. I'm looking through all the different pendulum products that I've tried, and I want to make sure that I have a full hierarchy for guests. Earlier we said, okay, take the polyphenol blend and then take GLP one. But you also have pendulum glucose control, which is a probiotic that I've taken for a while. If I take glucose control, am I getting the GLP one stuff or do I need to take both?

Colleen Cutcliffe [\(00:49:19\)](#):

So the hierarchy is pendulum. Glucose control was designed for people with type two diabetes, kind of like some of these other things that we've been talking about. So glucose control was designed for people with type two diabetes. It has five strains in it, which are intended to stimulate GLP one production. Also work on your gut lining. Also optimized for generating short-chain fatty acids. So that is kind of your highest dose contains all the strains. Product formulation. We also sell metabolic daily, which is that same five strain formulation, but at a lower dose really for anybody who wants to help metabolize their sugars and carbs. The GLP one probiotic is a formulation that has just the strains that are focused generating on increasing GLP one and focus on these food cravings. And when you think about the dosing here, glucose control has the highest dose of all five strains.

[\(00:50:08\)](#):

The GLP one probiotic has the same dose, but of those three strains, and then Metabolic daily is sort of the lowest dose ones. So allows you to step in if you want to. I've been on pendulum glucose control, even though I don't have diabetes. I wore a continuous glucose monitor, did a placebo test on myself and saw that it reduced all my and all my crashes. So it minimized both of those. Wow. And I knew that I was on the formulation versus the placebo because actually my workouts were stronger. So I did a blinded CGM, so I didn't see the results until the very end, but I knew my workouts were just mean quantitatively better. And then we sell the individual strains. And then to your point about the polyphenol booster that works for all of these things that contain, they all contain Akkermansia is such an important strain. So the polyphenol booster can be paired with all of these so that you're doing the kind of symbiotic approach where you're giving the pre and the probiotics together.

Dave Asprey ([00:51:01](#)):

Okay. I'm going to summarize it for, I think the vast majority of listeners guys take those control. It's got the highest dose of everything. And if you want to double down, take the polyphenol blend and then you've got everything else. But you can also, if you're saying, well, I don't really want to go do that, I would like to be more cost effective on this. You could go straight for the GLP one. I dunno, is there any reason to take metabolic daily instead of just taking GLP one

Colleen Cutcliffe ([00:51:30](#)):

Pricing? It is less expensive, but it has less of the strain. So the other thing I will say, a caveat about glucose control is that's the only one that has to be refrigerated. The other ones can be on your shelves and your pantry with your eight shelves of things

Dave Asprey ([00:51:43](#)):

I changed my mind, guys, don't take,

Colleen Cutcliffe ([00:51:45](#)):

Now it's your rank order

Dave Asprey ([00:51:46](#)):

And glucose control, unless you like opening your fridge and you have the discipline to take probiotics out of the fridge. I probably only took mine three times a week because my regimen is I have a bowl full of supplements that I'm taking that I put together every morning based on what my day's going to be like. So for me, it broke my process. So if your process is compatible with the refrigerator, then still glucose controls would be the way to go. And if not, then GLP one, unless you're saving money, then metabolic daily would be the way to go. I have a question from the upgrade collective. If you have pre-diabetes and insulin resistance, should you go for glucose control or GLP one?

Colleen Cutcliffe ([00:52:25](#)):

If that were me, I would start with glucose control because sort of your most potent and then try to step down from there and see if you still get the benefits. But that's just a personal way. I like to tackle problems. So you might decide, well, I'll start with the lowest dose version and work my way up from there.

Dave Asprey ([00:52:43](#)):

Philosophically, guys, it is a terrible waste of your life to do that second method. If your goal is, I'm just going to try the minimum effective thing that might work, you could take one supplement every week for the rest of your life and take 5% of the supplements available on the market. If you want to control your blood sugar, you throw everything at it that's going to work until you get results, and then you can start backing off. That is the only effective way to biohack yourself and otherwise you live a life without getting results, hoping you might get results suffering all the time from the symptoms of whatever it is while running micro little experiments and you never test, oh, I needed three strains all at the same time. You wanted to take each one one at a time. So I started out my first few years of really saying, I'm going to repair my biology or die.

[\(00:53:33\)](#):

I'm trying to figure out should I take just vitamin C or should I take just zinc or just vitamin D? And it turns out you need all the right ingredients. So take everything that might work and then back down. For most people with blood sugar issues, whether it's a blood sugar crash or a spike or pre-diabetes, which is just marketing for you already have diabetes, it's just early on I would go with glucose control a hundred percent. What if I'm traveling though and do I need an ice bag really? Or can I just throw it in a baggy and it'll be good enough?

Colleen Cutcliffe [\(00:54:04\)](#):

Well, now you're going to get me in trouble with the team. I mean, when I travel, sometimes I just take the ones that I need and when I get to the destination, I throw them back in the fridge.

Dave Asprey [\(00:54:14\)](#):

It might be less effective,

Colleen Cutcliffe [\(00:54:15\)](#):

It might be less effective. It's really, it's a five strain formulation and it's really one of the strains that isn't room temperature stable that causes the issue.

Dave Asprey [\(00:54:24\)](#):

So there's no danger. And you're probably not going to die if you're on vacation for a week and you only get four of the five strains because you didn't refrigerate it. But at home you should refrigerate it. Correct. So there we go. This is just real practical advice from scientists working on all this stuff. So I like to be super real with people. The other thing that's a big debate is when should you take probiotics? Is it a morning? Is it a midday or an end of day thing?

Colleen Cutcliffe [\(00:54:47\)](#):

I know I get asked that all the time, and my answer is, the most important thing is the consistency of it. So whenever you can fit it into your routine, that's when you should take it. So if you take all your supplements in the morning, take it, then if you take them all in the evening, take it then. And when we did our clinical trial, when we do our clinical trial work, we usually have people take in the morning and in the evening. That's because we don't know what your routine is. We also don't know what if you eat in the morning or you don't eat in the morning or what you eat in the evening. And so a lot of this can impact how quickly these things colonize, but it varies from person to person. We're definitely not sophisticated enough to know for you and your pattern what's the best time of day. So the most

important thing though is that you are taking it on a consistent basis. So whenever it fits into your schedule,

Dave Asprey ([00:55:36](#)):

Are probiotics better on an empty stomach or a full stomach?

Colleen Cutcliffe ([00:55:40](#)):

So there are a lot of people who are actually sensitive to even just the encapsulation and things like that. For those people, you should definitely eat food with your probiotics so that you don't get, I'll talk about ours in particular because we use an enteric coating that gets it through the stomach acid and it's a time delayed release capsule, so it actually makes its way to the distal colon, which is where all the action happens. So some people are sensitive to that kind of a capsule, so they should take it with food. The other potential advantage of taking it with food is that it raises the pH of your stomach. And so it does help with that acidity of the stomach and these pills getting through. But when you eat food, it also slows down your gastric movement. And so the capsules might be stuck with all this food making its way through your GI tract. So again, that's why I say it's sort of hard to tell, but if you have a sensitivity to these capsules, for sure, food will help with that.

Dave Asprey ([00:56:30](#)):

Okay. That's really, really good advice. And I've noticed that for most probiotics, taking them at night doesn't help my sleep quality. I haven't tested GLP one or glucose control, and my theory there is that the gut's kind of resting and introducing new species that are crawling around in there. Yes, that's very scientific that it probably has some weird effect on the vagus nerve. I'm not entirely sure, but others have noted that on the show over time that sometimes taking 'em before bed isn't good for sleep because your stomach may be doing something other than what it normally does. But I think once you're used to it and it's always there, you probably could take them at night. If you're trying something new for the first time though, it's not unusual to have some gurgling or just your gut's readjusting. That's not great for sleep. So I always focus on taking 'em in the morning until I'm used to them and then I'll take 'em in the morning or at night.

Colleen Cutcliffe ([00:57:26](#)):

It's a great point. And we actually hear that from people as well that they can't take it at night because it messes with their sleep and so they always take it in the morning. And the other thing, the other great point you made is that if your microbiome is really depleted in these strains and particularly depleted in generation of short chain fatty acids, these are volatile molecules, which means they turn into gas relatively easily. So if you're depleted in those and you're all of a sudden introducing this bolus of strains, many people initially feel GI distress really most people feel better and improvements, but there's a small group of people that feel worse, and we sort of recommend to them, instead of taking two pills a day, why don't you go to one a day or take it every other day while your microbiome is readjusting? And we have so many of these stories where someone's saying, oh man, my gi, I felt more bloated or I had more gas. And then three days later, it all went in the opposite direction. And so it really was, if you're feeling something that means it's altering something in your microbiome. So that's a good sign.

Dave Asprey ([00:58:22](#)):

I have noticed that when I have a healthy microbiome, I eat the foods compatible with my biology and I take my probiotics that I generally don't fart very much. And there are studies out there that show that vegans fart 17 times more than people on omnivorous or more of a paleo or even a carnivore diet, which means that we need to watch out for vegan diets because they're actually causing carbon dioxide pollution, maybe even an excess of cows. So I'm very cautious about allowing vegan food into the home because of it. But I will say that if you take probiotics of any type and you fart for three days, don't worry about it unless you fart on someone. Otherwise it's just a normal thing. And after that, if your gut's working right, it shouldn't smell bad and you shouldn't fart a lot. And if that's happening, you still have work to do. Maybe it's a stomach acid thing, maybe it's a digestive enzyme thing. Maybe you should stop eating kale and chicken or I don't know. It could be whatever.

Colleen Cutcliffe ([00:59:20](#)):

Exactly.

Dave Asprey ([00:59:23](#)):

What else do you wish people knew about GLP one and probiotics?

Colleen Cutcliffe ([00:59:29](#)):

I think probably the most important thing is that people know that your body naturally makes GLP one, and more importantly, your microbiome is responsible for that. And that if you are having these food cravings, it's not your fault. It's not who you are, you're not stuck with that persona until the day you die. You actually can change that. You are empowered to change that through your microbiome. And what we're offering here is a GLP one probiotic that has these strains that naturally stimulate your GLP one and help you with those food cravings. It's not who you are, it's how your body is working and let us help you get it back to reduced cravings and better health. And that's really, I think what I hope people get out of this and at least try the product and see if it helps.

Dave Asprey ([01:00:15](#)):

Beautiful. It's a really simple idea that these pharmaceuticals for massive weight loss, they've shown people how important GLP one is. And I love your approach saying, well, why don't you just raise that naturally because it's way more cost effective and the downside of losing all your muscle mass isn't there. So I would say start here. And if you're listening to the show and you're saying, well, Dave, you said GLP one was a longevity molecule. Yeah, it is. So maybe you handle it in your gut because frankly, it's a lot of money and a lot of time, and you have to stick yourself with the pharmaceuticals. And if you're doing it with a probiotic, it's very simple and it's very cost effective and you don't have to stab yourself. So it seems like an obvious decision to me. And because you're listening to the show, you could go to pendulum.life.com and use Code Asprey 20 and Colleen's given you 20% off when you become a member.

([01:01:13](#)):

So this is just a way to save some money. And I appreciate that you're listening to the show. And I do my best to always get a discount from people who come on the show to talk about these new innovations because it's one thing to go online and see some sort of slick marketing for some plant-based, whatever. And it's another thing to say, well, I talked to the inventor of a technology and we went deep on it. And you can judge for yourself, is this real? And talking to the founders is really important. And that's also one of the reasons. If you go to the biohacking conference, biohackingconference.com, it's end of May, beginning of June in Dallas, Texas. This is the largest and oldest biohacking conference on the planet

expecting between three and 4,000 people. And you can meet the founders of all the companies that I talk about.

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They're there and you can just see, is this real or is this some slick internet marketing thing? And guys, there is some stuff happening out there. I recently had an interview on one of the top podcasts in the world, and I talked about the benefits of animal protein. And I got an email yesterday, they spiked the episode. They said, oh, we're sorry. We can't do it. The number one sponsor was a plant-based food company. And so far I'm negotiating with that podcast. I'm not going to name the plant-based food company involved or the podcast yet, but this is happening. So there's actually censorship of good science and good products when there's commercial interests at heart. And so as you know, the world's getting more and more difficult to figure out what's real. And I just would ask you, look at Colleen, decide if what she's saying is real.

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She's got her credentials, she cares about this. She's involved in the company, she does the research, she runs placebo trials on herself, and there's a mechanism for everything we just talked about. So this is a kind of bio hacking that I like. That's we reality-based biohacking instead of commercial dollar-based biohacking. And I'm going to continue to bring the good stuff because I think it's important. And on a personal basis, I'm very happy if you don't use pendulum life.com, I'm totally okay with it. If it's not right for you, blood sugar is not your thing. You want to allocate \$50 towards peptides. You need to allocate every penny you spend and every ounce of energy and every ounce of discomfort, every single day to the things that are going to give you your goals. And one of your primary goals should be don't get diabetes because it leads to cancer and it leads to heart disease and it leads to Alzheimer's.

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And those are the big four killers in my longevity book. So in my mind, this is an easy one to say, I'm going to take my pendulum and yes, I'll switch back to glucose control even though it's in the refrigerator. Thanks, Colleen. But I'm going to do it because it has many downstream effects, including longevity effects from GLP one that we're still discovering that I talked about on another episode with one of the research scientists behind one of the big pharma drugs. So this is one that I think deserves mention because of the longevity stuff, because of the glucose control stuff, because of the not dying from a degenerative disease stuff. All of those are benefits that come from having healthy blood sugar control. So I think it's worth it, but you might not, and that's okay. I just want you to spend every penny in the right way, and that's why I'm launching this AI thing for you to guide every dollar you spend to be the most effective for you.

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You won't follow anyone else's protocol plan, blueprint designs, including mine. I've never published everything I take in one place because you would just shit yourself if you took what works for me and that is a reality. And if I took what works for you, I would probably shit myself. So I don't want to lead you down a path of copying. I'm going to lead you down a path of understanding. And hopefully this episode helped you understand why you might choose to add pendulum to your stack because it's got all these different benefits versus just a single benefit. And one more time to remind you, pendulum life.com code Asprey 20, save additional money here. And this one I think is worth it. Thanks, Colleen. Thanks for having me. You are listening to the Human Upgrade with Dave.