

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

You are Listening to the Human Upgrade with Dave Asprey.

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

You are listening to The Human Upgrade with Dave Asprey. Today's episode, we are going to talk about longevity, which is actually why I started the biohacking movement. I was so frustrated that no one besides me who was under 30 would come to an anti-aging education group in Palo Alto, California. Two minutes from Google's headquarters said, well, we need to find some words that tie together control of your own biology. And when you're young, you want power, you want energy, you want attractiveness. And then in middle age you want longevity and actually not even longevity. In middle age, you want extended energy. And as you start realizing, okay, there's some aging stuff happening, then you start wanting longevity. So there's sort of this arc, but it's all the same things. So if you learn to do this when you're 20 years old, you'll just get better grades and have a better career and be calmer and happier and have better relationships and better community because your energy is better.

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

And when you're 70, you're going to like what you look like and feel like, but if you start it when you're 70, you can still get benefits. It's just harder. So I'm like, what do we call these tools? Well, we call them biohacking. And one of the areas of interest for me, two of my books have been about this. It's about fasting. And no, I don't think men or women should fast every single day. In fact, my second fasting book was to correct misperceptions about fasting that happen when people get very excited about something in biohacking and decide they're going to do it every day forever. And without regard to outcomes. So there's a fasting mimetic or a substance that gives your body the effects of fasting that is a post biotic. And I wrote about it in Superhuman my longevity book. It's called Sperming, and you've heard episodes on it before.

([00:01:57](#)):

So today I've asked Dr. Elizabeth Uth to come on the show to talk about the new research in sperm aine. Since the publication of my book and since our last podcast, she's got 30 years of clinical experience in orthopedics, cellular medicine and regenerative medicine. I reviewed my labs with her and she just has a great mind for thinking about things. She runs the Boulder Longevity Institute where she's medical director with a focus on nutrition hormones and get this human enhancement. Are you allowed to say that Doctor U? How dare you doctor? What do your colleagues say when you say, I'm enhancing humans? Are they down with that or do they just kind of snb their noses? Really why

Dr. Elizabeth Yurth ([00:02:43](#)):

I had to leave my orthopedic practice and start Blood Longevity Institute is because that didn't go over well.

Dave Asprey ([00:02:49](#)):

Yeah, the funny thing is half the doctors who are complaining probably come in the back door after hours asking for treatments because they don't like being fat and tired either. And somehow antibiotics just don't fix it. It's weird.

Dr. Elizabeth Yurth ([00:03:01](#)):

So I do love to hear you say that. And most of you guys who are probably in the collective and stuff, a lot of us didn't get into this field. It didn't exist unfortunately when I was 20, but my kids are in their

twenties. Everybody in my offices in their thirties and we're trying to do is actually start convincing people in their twenties and thirties ultimately that you have to actually start doing this stuff. Then you're right, anytime you can start doing it is going to be beneficial. But how do we actually reach out? And so those of you guys who are my age or in their sixties and have kids in their twenties and work with people who're try to engage that my kids know a whole lot more about supplements than most of their friends do. And so I'd love to hear you say that.

[\(00:03:43\)](#):

I think that's one of the things we really have to work on is spreading the message because as Dave, a lot of us, our followers, our people finally feel poorly and then they come looking for something to make them feel better. And we really have to start thinking about in our twenties and thirties, what can we do at that point so that we aren't trying to reverse the clock, but we just don't let the clock age as much. So I love to hear you say that, and I think that's one of our goals that we need to really try and reach that younger population a little bit more.

Dave Asprey [\(00:04:12\)](#):

You've got the words when I was 20, even though I was fat and really unhealthy, add brain fog, longevity wasn't my jam. It was I want my brain to work again. It was enhancement, cognitive enhancement. I just want my brain back going, my energy back. Sure, I like to lose weight, but when you say human enhancement, I'm like, sign me up. And it's the same thing, longevity and enhancement. And that's why longevity is one of the three main pillars of the biohacking movement. And I'm just so excited that now you can have 30 years of experience out there talking about that openly. And the fact is there will always be people in every profession who do things that others, some others don't like or do like, and it doesn't really matter. You're going to do what works in your clinical data and they're going to do what they think works and well, one of you is going to be younger and healthier and your patients will be as well and depending on who's right.

[\(00:05:04\)](#):

And that's why we get to shop to find the care team that we want. And I recommend for listeners, your physician, if they're in the functional world or longevity world, ought to be able to have a detailed conversation with you about sperm aine, which is why we're going to share this with you today. I should mention you are on the advisory board at Sperm Aine Life. I've worked with Sperming Lifes because they were the very first sperming supplement you could get in the us. I wrote about Sperming in superhuman, but I couldn't buy it. So I imported illegally some Japanese probiotics that allegedly made sperming and I ordered research chemicals and a little vial and I did take them, but \$150 for 10 grams of sperming was kind of expensive. And when you get research grade high potency, well it kind of smelled and tasted like its namesake, which wasn't great. My biohacker perspective, and by the way guys, if you're listening, you can tell what its namesake is. Anyway, tell me about it. I know some of our listeners know, but what is sperm aine? Where does it come from and why do we care?

Dr. Elizabeth Yurth [\(00:06:17\)](#):

Yeah, you and I are the same boat that I actually got interested in this product way before it was available, and I did the same exact thing you did. And I got interested because what I study is cellular medicine. I study cellular pathways. It's the tedious part of what we do. It's looking at the cell and all of the pathways, all those biochemical pathways that you thought you could forget in medical school. And actually when I was in medical school, most of 'em didn't even exist. We didn't know about them. So we have an organization called See Scientific Research and Performance. That's what we do is we study all these other pathways. So years ago we started looking at this what's called a mean flux pathway and

said, oh my gosh, this is a really important pathway and spermin is a really critical player, so I did the same thing you did.

[\(00:07:01\)](#):

I'm like, oh my gosh, I need this. And I started looking for it and I couldn't find it. It didn't like you and I'm not quite as gutsy with research chemicals. So I didn't go down that road, found some product that had some spermin in it, but really was sort of stuck. And that's really how I stumbled on it was funny because I was calling and calling, calling, this was over a years period and I finally got ahold of somebody who was from this Austrian company, longevity Labs that was trying to actually branch into the us and they were number one astounded that I knew anything about this because nobody knew anything about it. And so the reason just for your listeners, I'm on the advisory board, I'm not a paid member. I don't get paid actually to promote anything. And so my advisory board, just because I was kind of really so interested in this molecule and really wanted it to be a success here in the us.

[\(00:07:51\)](#):

So that's really why I got on the advisory boards to really help bridge it here in the US and for no other reason. So I truly use this product and recommend this product because I believe in it. Those of you guys who spermin has now been around a while, right? Back in when we, you and I first talked, nobody had heard about it. It was just a weird word that had the word spermin in it and nobody had heard about it. And now there's a dozen products in the market that has spermin in them. And so it's made its way into more of the just regular community of people who understand longevity and biohacking. But for those of you who don't really know what it is, it is a polyamine. And polyamines, there's three of them. There's Spermin and Spermidin. They're all actually critically important and it's kind of critically important.

[\(00:08:34\)](#):

You have to remember the fact that they're all sorted together. Just isolating spermidin is actually not going to do you a lot of good. You actually have to have to all three of these together. So you really need all of the polyamines in the body. Our bodies really imperatively, it relies a balance, and we throw a whole bunch of one thing in and we disturb that balance. It's not a good idea. And so really you want all three of these. Now, most things that have polyamines in them are largely spermin, which is why you can call polyamine product spermin. But it really typically, if it's a good polyamine product, it has all three of those things. So basically what spermin as a polyamine does it's found in every cell of your body. In fact, we actually know that it is so critical to the survival of cells that if you take it out of the cell, the cell will die. It is absolutely 100% critical to cell life.

Dave Asprey [\(00:09:24\)](#):

So we could call this up, said why you are addicted to spermin.

Dr. Elizabeth Yurth [\(00:09:28\)](#):

Yeah, I mean you have to have it. You would die without, so you're exactly right. So if you don't take spermin anywhere, can you get it? It does come in our diets just in smaller amounts. It's hard to get enough of it. Our body can make it, our intestine can make it. So our intestinal cells, you talked about it as a post biotic, it can be actually made. So it can actually help our gut microbiome and we can actually make more of our own. So it can help sort of optimize that. Just

Dave Asprey [\(00:09:55\)](#):

We're paying attention to the history of vitamins and supplements. So amines are a class of biological compounds that we were easily able to detect a while ago. So the word vitamin is actually vital amine

put together. So it turns out the B vitamins, they're not amines. So we made up this word for the original supplements that came out there, which were based on polyamide, and then we kind of warped it to say a bunch of compounds that we have classified and we of course missed a bunch. And then we kind of forgot about the poly means that we named vitamins after. So we're kind of going back to our roots here and let's see, traditional foods, things like wheat germ,

Dr. Elizabeth Yurth ([00:10:43](#)):

Which germ is probably one of the biggest sources, but you can find other things. You can find it in peas and soybeans and there's other foods that have it as well,

Dave Asprey ([00:10:50](#)):

But very small amounts. Even very small germ small amounts which has high amounts. You still have to eat a cup or two a wheat germ to get a meaningful dose, right?

Dr. Elizabeth Yurth ([00:10:57](#)):

You do. And interestingly enough, you can't actually, every wheat germ does not have the same amount of polys in it as well. It appears to be specific strains of wheated. Germs seem to actually be more robust and a pure form of these polyenes. So you actually have to, for instance, most American wheat germs seems to have much lower quantities of it. So that's why the product running life comes from an Austrian company that actually has to go through some great lengths to actually get a really good source of wheat germ to make these polyenes. So it really is not quite so easy as we think

Dave Asprey ([00:11:35](#)):

American wheat germ does come with free glyphosate though

Dr. Elizabeth Yurth ([00:11:38](#)):

Because yeah, that's true. You right,

Dave Asprey ([00:11:39](#)):

You

Dr. Elizabeth Yurth ([00:11:39](#)):

Get that drone,

Dave Asprey ([00:11:40](#)):

It's slow. Always spray it on there. So guys, if you're looking for a source of extra glyphosate in Santos Finest, you could get American wheat germ,

Dr. Elizabeth Yurth ([00:11:47](#)):

Right? If you want cancer high on your list of things to die from, that's a good thing to do.

Dave Asprey ([00:11:51](#)):

There's also the amount of gluten. American wheat is hard red wheat where wheat German would come from lower sperm aine, but also much higher and more allergenic gluten and gluten like compounds,

which is why a lot of people can handle European soft wheat, but they can't eat American wheat. So I would say you want a European source, but there is still gluten in wheat in Europe, even if it's less problematic. So when you concentrate wheat germ, how much of the gluten are we pulling out?

Dr. Elizabeth Yurth ([00:12:21](#)):

That's an interesting thing because when you read the bottle, say if you're a celiac or gluten sensitive, be careful with this product. And I think truly there's some very interesting data. So what causes the sensitivity to wheats in both celiac and people who have gluten sensitivity is what's called tissue. And very interesting. So if you don't activate tissue transglutaminase, if the wheat doesn't activate tissue, what creates the immune response? Is the tissue just that the wheat will activate this tissue transglutaminase that creates an immune response in some people. So what are the treatments for celiac that is really being investigated? Are these tissue transglutaminase inhibitors? Very interestingly, one of the competitive inhibitors to TT G to tissue transglutaminase is sperm. So when you eat wheat germ that's very rich in sperm, you should not actually get an immune response from it because it's actually blocking the immune stimulating agent.

[\(00:13:21\)](#):

So I use it, I'm pretty gluten sensitive. I can take sperm, no problem. Most of my patients can. I will say some of my patients have had issues. Is it the sperm? Is it something else? I don't know but be wary of it. But basically Racine, sustamine sperm are all tissue transglutaminase inhibitors. In theory, they should actually help celiac patients. I'll also count, remember tissue trans glutamate is not just in celiac diseases and gluten sensitivities, it's linked to cancers, it's linked to Parkinson's, it's linked to Alzheimer's. So inhibiting tissue trans glutamate is actually a beneficial thing and it's probably one of the benefits of Nia is actually on this TTG inhibition.

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

Alright, that's super helpful. So guys, I don't handle gluten particularly well, although when I'm in Europe and I take gluten degrading enzymes, I can eat European wheat for a couple days and I'm okay. So if you ever see me eating baklava or croissants in Turkey or France or Dubai or somewhere, well now you know why? Because well it doesn't have glyphosate. It's a different species and at least I can handle that. But if you are the tiniest trace of a whiff of any kind of wheat anywhere on the planet messes with you, then you wouldn't want to use a wheat germ derive sperm, which is the best source of sperm that I'm familiar with. And I do take sperm in life and I've been taking it well ever since it came out because like you, a friend of mine, Hani from Switzerland sent me a bottle and I said, oh, this is great.

[\(00:14:56\)](#):

So we started reaching out saying, can we get some? Can we get some? And I'm a big fan of the stuff and the research that I published in my book about sperming as one of these new longevity compounds that you couldn't yet buy when the book came out was the convincing evidence that autophagy is important for longevity and this is basically breaking down cells that need to get out of there and replacing them with new young, strong cells. And it turns out sperm ine does that in a similar way to fasting and a similar way to rapamycin.

Dr. Elizabeth Yurth ([00:15:34](#)):

You're right that sperm is a fasting mimetic in a sense, but it actually may be the key player to autophagy that without it, if you fasted and you didn't have adequate sperming levels, that you might actually not be able to induce it. And that's because what sperming does is it actually activates something or

increases expression of something called acetyl transferase EP 300, which you're probably familiar with, right?

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

Yeah. Define that for us.

Dr. Elizabeth Yurth ([00:16:03](#)):

So EP 300 is a crucial molecule that binds to something called beclin one and lc three that are absolutely essential to activate autophagy. So when EP 300 and aspirin actually is an EP 300 increasing thing too, which is why aspirin has some anti-cancer properties, EP 300 is so crucial to activate lc three and beclin one and activate autophagy that without it you cannot induce autophagy. So in theory, if you are fasting but you didn't have adequate sperming levels, and if you're not eating, are you taking in any sperming? No, because if you're not taking supplement, you're just gaining from your diet, you're not eating any, you may actually not be getting some of the benefits of fasting. Now we don't know that for sure, but if you look at pathway mechanisms and you have a molecule that's absolutely critical to instigate the proteins that are responsible for autophagy, it makes sense, at least in my mind, that you have to have this molecule on board. So I don't know that I even call a fasting mimetic anymore as much as I call it an essential nutrient for autophagy.

Dave Asprey ([00:17:07](#)):

So it's actually a fasting enabler.

Dr. Elizabeth Yurth ([00:17:10](#)):

Yeah, I would say yes, that's probably a better term for it. Now can I induce the autophagy without fasting by using it? Yes. I mean I'm going to get more adequate autophagy. I think fasting has some other benefits as well besides autophagy. So yeah.

Dave Asprey ([00:17:23](#)):

Oh of course fasting is a broad spectrum thing. Right? Alright, so it sounds like you're saying that if someone had a choice between taking sperm dine and eating a schedule without restricted eating windows other than don't eat late at night versus intermittent fasting versus going on rapamycin, it sounds like sperm would be your number one recommendation.

Dr. Elizabeth Yurth ([00:17:49](#)):

My belief in aging and longevity is you're going to have to attack it from multiple pathways. So I recommend sperm and I recommend rapamycin and for the right people fasting, I don't know that fasting works for everybody. I'm pretty thin. I'm pretty mean. Fasting is hard for me because I lose a fair amount of muscle when I fast, even short, fast. It's hard for me to get enough protein and then I can't exercise and if I can't exercise I go completely crazy and nobody likes me. But I think that when you look at rapamycin and it's at least somewhat inhibition of mTOR two, those are pieces that are another player and we know that we're not going to find one magical bullet that stops aging. It's going to be attacking it from all these different routes. Probably only one magic bullet to stop aging is exercise because it attacks every one of those pathways probably beyond that. So if you were to take one pill, it would be exercise that would be the closest you could come to being one thing that you could do. But I don't just say sperm is more important. I think it is essential to autophagy, but rapamycin may still be a critical player too to blocking other pathways.

Dave Asprey ([00:19:03](#)):

Okay, that makes sense. So order these for me. Fasting then sperming, then rapamycin, you do all three.

Dr. Elizabeth Yurth ([00:19:13](#)):

When I fasted fast for very short periods of time, again because I lose muscle and muscle my kind of priority in my life. So I pass, I used to do three or four day fast. That's probably what you really need to get to really induce that true mTOR inhibition. And then the reboost of mTOR would be feeding. So I fast really for much briefer periods of time now, rarely more than a 24 hour fast. So in my book I'll put sperm, I have everybody stay on it all the time. We'll talk about in my practice I use it in much higher doses for other things, but it's a baseline thing. I have people stay on a maintenance dose all the time to get that autophagy really enabled because again, if it is the one thing I have to have on board, and again there's not a whole lot of things we think that are going to do have the same effect as sperming, then it's going to have to be up there if you want that autophagy effect.

([00:20:11](#)):

There's other things obviously that induce autophagy. So I put that fasting for the right people, the right with the right timing. I don't know that we have the perfect, and I know you're very expert on fasting. I don't know that we have the perfect answer to what is the length of fast that you really need to do. And so I like fasting when I'm trying to reset an immune system in somebody doing things like that. When people are more now stable, I find fasting sometimes to not fall, it falls lower on my list. So I would put sperm. I have most of my patients on rapamycin. I take rapamycin, you probably take rapamycin. I have most of my patients that are rapamycin. It is high on my list in one of my longevity protocols. And there's a whole lot of other things.

Dave Asprey ([00:20:53](#)):

The science on fasting is it is really clear. You need to fast exactly as much as your body needs today given your current state. That's what it really comes down to. There is no fasting window that works for everyone. And if your normal fasting window that works is, you know what? I do an 18 hour fast most days and that's really worked for me. If you do that for two years and you fix your metabolism, you might find that you get lean and that you don't need 18 hours a day,

Dr. Elizabeth Yurth ([00:21:25](#)):

You don't need it as much. Right? That's exactly right. I agree. I used to fast a lot more than I do now and I find that I don't need the longer fast anymore to keep my body habit as where I want it. But I will if I've gotten sick or things like that sometimes to rebo reset my immune system or I have an autoimmune disease like you do with you're live and all this, sometimes get these down, you slip back and I'll do a little fast to try and reboot my immune system

Dave Asprey ([00:21:55](#)):

Using it as a tool just like ketosis being an unending ketosis or unending over-training or unending over fasting. All of those in men and women always lead to the same excessive cortisol and depletion, right? So there are just tools that you can use, but sperm aine is one of those tools you can use every day because it doesn't induce those even though you're getting a lot of different benefits. So for you, what's a maintenance dose of sperm in life? How many capsules, milligrams of sperm aine is that?

Dr. Elizabeth Yurth ([00:22:25](#)):

That's going to depend on who you are. So one of the big critiques of sperm when everybody's like, okay, sperm is the elixir of life, then this article came out which was then publicized by certain naysayers of everything and there's these people who get on and they're very big at taking these newest and greatest things and picking them apart and sometimes it's good and sometimes maybe just leaning too much on false information or a one article. So a study came out in Germany in April, 2023 and it basically said that when you measured plasma levels of sperming, when somebody took sperming, there was no measurable plasma level and said obviously this is a worthless supplement. You can't even get plasma levels of sperm when you take it. So all these people are telling you to take a product that you can't even measure in your system above what baseline placebo measures do is not doing you any good. And what they did however fine was it was high levels of sperm mean. So sperm can turn into sperm and secondarily sperm can turn back into sperm.

Dave Asprey ([00:23:37](#)):

Is sperm useful or not? So sperm

Dr. Elizabeth Yurth ([00:23:40](#)):

Is useful. So sper definitely has some sperm does. So sperm turns into sperm. Sperming definitely has some systemic effects, probably more on the gut. So some it's really beneficial effects have to be in the gut, which is why it's probably found on metabolism. Now the big point they failed to mention here is where is SPERMING doing its job? It's not floating around in your plasma actually it goes very rapidly into the cell. So as proteins to pick it up very rapidly into the cell because inside the cell is where the mechanism we talked about to induce an autophagy that's intracellular. So nobody's measured intracellular levels of sperming. We know it's getting into you and being metabolized because you see high levels of sperming. So we know it's getting into you. It's not as though it's not doing anything because it's metabolite. There's lots of things we can't measure very well in plasma.

([00:24:29](#)):

It's why when we look at even some of the B vitamins, it's better measured in some of the urine metabolites because those are a better measure of the levels. These drugs are either rapidly picked up or rapidly metabolized. So I'm a big naysayer of that and the fact that I think they prove by proving that sperm was in higher levels when you took it. So basically when you look at that effect that we have to get sperm into the cell and we don't have to have these high plasma levels, what dose is the right level? We are basing a lot of these studies obviously on mice, we do a lot of things. But it appears that at a baseline level, if you're healthy and young and you really are just trying to take this drug to just, or the supplement to just sort of stay mice and healthy and young, then one milligram is probably enough. I much more commonly find that I would recommend a little higher. So sperm has a sperm, they have a sperm extra that has one and a half milligrams. I very often recommend in even healthy people to go up to that level.

Dave Asprey ([00:25:33](#)):

I do four of the sperm life heavy pills, so that's about six milligrams a

Dr. Elizabeth Yurth ([00:25:37](#)):

Day, six milligrams. And that's what I typically recommend to. So honestly I think more is better. I think we're oftentimes dosing a lot of things and at a point that probably they are a little under dose. I think it's a good maintenance dose to maintain good levels if you're a young healthy person. But if you get sick, if you have a disease state, if you have cardiovascular disease or you have early cognitive decline or

dementia or you have liver problems or kidney problems, you need more. So in my practice I'm much more often using a six milligram dose and even in healthy people I will cycle them on that six milligram dose because I think you truly need a really high dose to massively induce autophagy. So can I keep autophagy going? Probably with a small dose I can sort of keep a stable level, but I think if you really want to get a big clean the house, you need to use a higher dose and maybe do that on a periodic basis.

[\(00:26:37\)](#):

So when I'm treating my patients who have disease states, I'm much more often using the six milligram dose. There's no toxicity even at high doses that's been seen with this. I mean it's a food. So we really haven't seen toxicity associated with higher doses. And it may well be, and especially in this study when they measured sperming levels more, what's better, more raised sperming more so it may well be that you could even take more in people who have more disease states and we're finding all these different things now that sperm is helpful for liver, kidney, brain and heart. I mean the heart studies are pretty impressive.

Dave Asprey [\(00:27:15\)](#):

You said you like to cycle sperm dine, do you recommend that you stop taking it for a day or two or what's the cycle look like?

Dr. Elizabeth Yurth [\(00:27:24\)](#):

So all people take the one, one and a half milligrams on a baseline level and then I will cycle a little bit. I think that you may be getting, when the question is when you gain to that six M milligram dose, do you want to maintain that six milligram dose? I think if you're well and you're doing fine, probably you want to cycle lower for a little while and then go back up just like you're doing right with your fast and refeeds a little bit of a let's cycle it higher, induce a little bit of more of an autophagy state and then cycle it down a little bit. So I do think, and I believe this with a lot of supplements that you're better off supplementing things up and down, not maintaining doses at the same level all the time of things. I think that that just keeps the body more homeostatic and it keeps these cellular processes more stable.

[\(00:28:10\)](#):

Our body doesn't like when we overloaded with one thing, our cells are really, really, really smart and we see that a lot in our world, Dave, is that people are on a whole lot of supplements and they're taking 'em every day and you may actually start to overload certain cellular pathways and that becomes an issue and I see it, I see one pathway overloaded start to create problems. So I do think if you're taking six milligram every day, do that for a while, go off of it for a little while, go to just a low maintenance dose for a little while.

Dave Asprey [\(00:28:41\)](#):

This is a good strategy for pretty much all supplements except maybe some things that you're taking for very specific reasons that are daily if you're taking adrenals or something

Dr. Elizabeth Yurth [\(00:28:54\)](#):

Or like your D three K two magnesium, those kinds of things I think you just need on an ongoing basis, those shouldn't be cycled. We're all low on them. We all need those on an ongoing basis. So I think if you're maybe like your beam minerals, things like that where you have humic and fulvic acid to bind up because I can't get away from glyphosates if I'm going to live in the us so I want something that binds out glyphosates. So I think there's some things I think you just stay on all the time.

Dave Asprey ([00:29:19](#)):

I kind of put that in my coffee danger coffee has a therapeutic dose of those minerals. Cause I also agree those are daily dose things.

Dr. Elizabeth Yurth ([00:29:26](#)):

Those are things that especially when you'll get humic and fulvic acid is one of the few things that are going to get rid of glyphosates and I metric glyphosate levels on my patients. There is nobody that does not have high glyphosates. So you really have to sit down on top of that because we know they're linked to so many diseases. I will mention when I said is there too high or too much? So there are some studies, and this also came back, all the naysayers, whenever I talk about something or post something and you get this, I'm sure all the naysayers come out of the woodworks and say, oh my gosh, you're taking this and it's causing cancer. And there was a study that showed there was higher levels of sperming in some cancers and so now everybody was like, oh my god, so sperming is causing cancer.

([00:30:08](#)):

And the study would sort of imply that you have high levels of sperming in cancers. So what does that mean? Well, what it means is that our body is trying to get rid of cancer. So this is that whole cause and effect confusion that occurs where what is my body going to do when I have cancer now until it gets too distraught and too disturbed? I'm going to try and induce autophagy. I'm going to try and get rid of cancer. Now eventually the cancer cells take over, we don't do so well. So of course there should be higher levels of sperming because the body's actually trying to accelerate the mean pathway to actually help us fight the cancer. So when you read these studies guys, you have to be a little careful are these causes are the effects? Because a lot of people who are coming after you for this stuff, they love the shock impact of saying, oh my gosh, you're just doing something that's going to cause cancer. Look at the study that showed high levels of sperming cancer. So you have to think and you have to go back down to the pathway levels. And we know that this poly immune flux pathway is disturbed in cancers and that higher levels of sperming restore that.

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

And it's funny, if cancer makes a lot of something, people will argue that that causes cancer even if there's no evidence. And cancer is one of those weird metabolic conditions where I've had a variety of experts on the show and the story we hear about cancer from very western trained doctors, even ones who say they're longevity doctors but don't think we can extend human life. Maybe they don't show an understanding of the complex nature of cancer. And that said, there are some things like mold toxins and smoking and alcohol that we just know there's really no question about those being pro cancer. But there's other times, especially when for some reason we're coming after supplements, they'll talk about it even though the cancer increase from pharmaceuticals might be 10 times higher, but they don't talk about that for some weird reason because

Dr. Elizabeth Yurth ([00:32:06](#)):

We love shock impact of things. It's like semaglutide, everybody getting semaglutide face and losing all their muscle mass, which is complete net Bs and these GLP one agonists are hugely beneficial drugs on a whole lot of basis. But the press loves hitting on this because everybody was starting to take it. And so the press loved it and people are going to read bad press a lot more than they read good press. So you always have to remember that it's like the news. Nobody wants to give the good news. It's only the bad news. And that's how a lot of these articles are done too, or at least what gets out to you in the press.

Dave Asprey ([00:32:45](#)):

One of the more important pieces of evidence for the longevity effects of sperming is simply that at about age 25 to 30, you start losing levels. You can roughly predict someone's age based on the amount of sperming in their tissues. You get cellular decline as you age. So this is one of the many things that are a sign of cellular decline. So it's something that you can change, but do you take it on an empty stomach? Do you take it with fat? Do you take it with protein? Do you take it in the morning? Do you take it at night? Give me the perfect sperm aine dosing and schedule for the average person who's healthy and wants to live a long time.

Dr. Elizabeth Yurth ([00:33:24](#)):

It's interesting because personally I take it on the morning, in the morning with a little bit of fatty food or some food and that's probably a good way to take it. It seems to be well absorbed even if you take it on empty stomachs, which is why I encourage you if you are fasting, take it because again, you want that autophagy effect. You want that. It doesn't make you very few people get nausea or anything like that from it. So a lot of those vitamins where you,

Dave Asprey ([00:33:46](#)):

It's a fasting booster

Dr. Elizabeth Yurth ([00:33:47](#)):

Or essential, a critical piece to fasting. So I think you can take, I have some people who really describe taking at night helps their sleep. I've experimented with that a little bit. I have some people who open the capsules and they mix 'em into a little bit of a tea or something and they love that before bedtime and they said it's really helped their deep sleep when they look at their aura ringing data. I haven't noticed that in myself, but I have some patients who swear by it, they love their sperm for sleep. I don't think there's a live documented evidence of that, but whatever. So I don't think there's a critical, take it in the morning, take it in the evening, take it when it works for you, play with it. Look at your ora ring data. Are you better when you take bermin before you go to bed?

([00:34:31](#)):

So I just find with me, I'm a lot more compliant with my stuff I take in the morning. So I tend to throw in most of the things I can earlier in the day. And then obviously a few things you've got to take later or a couple of times a day. And I think with food there's been certain to be, again, we can't measure plasma levels. So are you getting better absorption with food? Don't know. We got to measure plasma levels. We need to measure intracellular levels. I think that in general the recommendation is take it with food, but I don't think it's really critically important one way or the other. Honestly, it's one of those pretty forgiving supplements.

Dave Asprey ([00:35:06](#)):

That was my conclusion as well. A lot of postbiotics don't need to be with

Dr. Elizabeth Yurth ([00:35:10](#)):

Food, right? You don't.

Dave Asprey ([00:35:11](#)):

And so I don't notice a difference with or without food.

Dr. Elizabeth Yurth ([00:35:15](#)):

You talked about the declining levels with age, and this might be one of the really good, and you're right, we forget that we start aging our twenties. People always think, oh, I'm super young. Really our decline starts about 25. I mean we start aging pretty darn early. And so when you look for instance, one of the places Sperming is found in very high, oh, it was a semen, right? Because that's one of the ways it's got its NAS semen and breast milk has some of the highest levels when you look at semen levels as sperming, they definitely declined with the age of the male and it seemed like males who were having fertility issues had much lower levels of sperming in the semen two. And we also have now mouse studies in October, like fall of 2023. So just six months ago or so published in Nature Aging, I think it was.

([00:36:11](#)):

They did studies in both culture, but live mice as well looking at fertility because OO sites age pretty rapidly. That's why we have a hard time getting pregnant after the age of 35 or our fertility declines. It's also why they tell you if you had a baby later in life, you live longer. That's nothing to do with having the kid. It has to do with that you were able to get pregnant later in life, right? It means you're younger, your cytes were younger, but ovaries is aged five times faster than the rest of our body. So reproductive aging is a sign of, so the earlier you go into menopause, the earlier you can't have kids. Those are both signs of earlier or more rapid aging. And what they found is that sperm, at least in mice, allowed their fertility extend much, much longer. Mice have a pretty short time of fertility and so extend much longer.

([00:37:07](#)):

Don't only humans, but it makes sense. And if we have something, if we look at oxidative stress and all the things that damage eggs or egg cells, then inducing autophagy and getting rid of damage is going to be beneficial. Getting rid of damaged cells. So I think particularly if you're younger and you're thinking of delaying having children, this is probably a really good supplement to take at least at maybe a three milligram kind of dosing on a regular basis if you want to maintain fertility a little bit longer. Again, we need the human studies, we don't have it. That's true of so many of the things we did. I was just at a huge longevity docs event, sort of the top a hundred longevity docs in the world, and we have this great little WhatsApp chat that we do all the time. And then we finally met in person and we talked about how we all need to get our data together because this n of one data that you and I do all the time has to be put together so we can prove these things in humans. Right now we have to go on the best data we have, which lots of times is simply mouse data. Nice data.

Dave Asprey ([00:38:05](#)):

No, I think we might be in that group. I don't know. Or is that a different group?

Dr. Elizabeth Yurth ([00:38:10](#)):

No, it's just docs.

Dave Asprey ([00:38:11](#)):

It's just docs. Okay. There's a longevity experts. That's a very similar group that I'm in there and it's all docs except for me, I'm an honorary member. But is interesting the conversations that happen in those private groups versus what you see online because there's so much good stuff happening in the clinic, probably will never get studied by NIH or something like that. At least not with our current leadership in place.

Dr. Elizabeth Yurth ([00:38:39](#)):

I mean that's a hard thing with all these things guys. Everybody wants the data. The data. Give me the data. If you wait until we have all the well proven data on these things, you're probably, I mean I'll be dead. So maybe if you're 20, you've got at least a few years. But rapamycin, I'm willing to take the chance if something's improving, safe and efficacious, well, we'll say safe because maybe we don't know its efficacy yet, but safe and efficacious in at least the animal models. And in my mind, in a cellular model then I'm, I'm going to take it. I mean I know you think the same way. It's like I'm willing to take roll the dice.

Dave Asprey ([00:39:17](#)):

It always makes me laugh and people are like, well, it's not proven safe. I'm like, okay, if you do nothing, what does it

Dr. Elizabeth Yurth ([00:39:24](#)):

Look like in a die? Right? If

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

You do nothing, you're going to have 25 years of suffering and die broke without knowing your name in a diaper. That's the status quo. If anything you can do likely moves the needle away from that, even if your goal is just to extend your health span, which is a crappy, childish, 1970s goal compared to extending your life and your healthspan. So, oh my God, look you right in there and say there's not enough evidence for that. I'm like, there's plenty of evidence that doing nothing is worse than trying to do something. So let's do something. And Meine is an obvious, we

Dr. Elizabeth Yurth ([00:40:01](#)):

Know the outcome of doing nothing. Absolutely know the outcome of doing nothing.

Dave Asprey ([00:40:05](#)):

And I just maybe fortunate that I got to experience being old in my late twenties where you have pre-diabetes and arthritis and cognitive decline and a high risk of stroke and heart attack, all that stuff.

Dr. Elizabeth Yurth ([00:40:19](#)):

I mean, honestly, when you look at bad things in our life that happens sometimes they end up being good. It's like that, right? Had that never happened to you, would you have gotten into this field? Would you have the health you have now? Probably not, right? Yeah. As long as it is these bad things that sort of drive us. Somebody has a heart attack and now they become the healthiest person in the world. I find a lot of life is like that, right? Some bad event pushes you to something better, but I don't think you have to wait for that bad event. You can sort of look at people who have gone through it and start learning from them.

Dave Asprey ([00:40:51](#)):

It's one of the things that everything you have happening in your life that sucks right now. It probably will give you something good once you've gone through it and you have a chance to look for gratitude, even if it's a crappy little gratitude, at least one good thing happened. And so it doesn't mean you had to like it, but it means you got something out of it. I would've rather not gone through that, but I'm really grateful they able to help people as a result

Dr. Elizabeth Yurth ([00:41:14](#)):

Of it. Yeah, I mean because look at you now, right? Yeah. You probably wouldn't be there. Who knows? But probably not.

Dave Asprey ([00:41:18](#)):

Probably not. God does what I'd be doing or something. That was my plan when I made \$6 million and I was 26 and lost when I was 28. But when I was 26, I'm so done with tech. As soon as this company, I get my four years of stock. I'm out and I'm going to get a PhD. And then of course I ended up working for another. Now there's something about Sperming that we haven't talked about before. Even when you were last on the show to talk about this, it was about 250 episodes ago, so it's been a little while and it's hair growth and sperm. Tell me what Sperming does for hair and the best way to use Sperming to make your hair better.

Dr. Elizabeth Yurth ([00:41:58](#)):

Honestly, it is one of the things that, it was actually probably one of the first things that was in shown with Sperming was improvement in hair growth. And there's some very good data on it, but it was very interesting from my patients. I would start hearing that. I wouldn't even tell them that story. I wouldn't tell them, oh, this might help your hair grow too. I would put 'em on it for some other reason, their liver enzymes were high, something like that. And especially at the high dose, they would say, oh my gosh, my eyelashes are so much longer. We had this one patient who she sent me pictures and it was dramatic. I mean, her eyelashes were dramatically longer when she started doing this high dose remedy. So we know that it actually induces or helps with hair growth. And again, that was actually one of the earliest studies that ever came out. I don't have that study in front of me, but that was one of the earliest studies that ever came out on this. I do think it takes a little bit of a higher dose. So probably like the dose you're kind of doing for a little while to start inducing that hair growth is tough because in post covid, everybody lost their hair. I lost almost all my hair post.

Dave Asprey ([00:43:07](#)):

Wow by protein does that. Yeah,

Dr. Elizabeth Yurth ([00:43:09](#)):

It's horrible, right? And we're seeing that all these people who lost here after that. So hair growth is tough. There's a whole lot of pieces, but immune dysfunction is on one of the very important players there. So one of the things that we know Sperming does to assist the immune system, and this actually came out in a 2022 article actually when they were studying kidney disease. But in 2022, an article in molecular medicine showed that sperming blocks something called NLRP three. LRP three you're familiar with. It's an inflammasome, it's a bad player. There is no disease that is not leaked to high levels of NLRP three. So NLRP three guys is this inflammasome that initiates this big inflammatory response. It's okay to get a big inflammatory response acutely if it sticks around, not a good thing. And you lose your hair and your macrophages start attacking your hair cells and your joints and your brain and everything else.

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

So by inhibiting NLRP three, that may be one of the reasons that it's actually helping with the hair growth is by inhibiting this inflammasome and restoring the immune system so you can actually stop destroying your own hair follicles and get yourself into a growth phase. There's a lot of other pieces there because Berman actually strikes from a whole lot of angles there. But that reducing inflammatory state is really important. It's why I love it for joints. Honestly, if you look at things that are elevated in

arthritis, arthritis is an immune mediated disease. It is not a wear and tear disease. It's an immune mediated disease, whether it's rheumatoid or osteoarthritis. We know that we have very high levels of these nlrp three inflamma zones. We know we have very high levels of something called interleukin one beta. There's not a lot of interleukin one beta blockers on the market, but sperm does. Sperm has been shown to lower this inflammatory cytokine.

Dave Asprey ([00:44:57](#)):

It's a hard one to lower.

Dr. Elizabeth Yurth ([00:44:58](#)):

It's a hard one to lower.

Dave Asprey ([00:44:59](#)):

IL six is easy.

Dr. Elizabeth Yurth ([00:45:00](#)):

My L six is easy. TNF alpha is not hard. We have a lot of products. Lotus naltrexone works well for those, right? Look at one beta, not so much. I use pectin poly sulfate a lot for that, but Sperm does that and it lowers this inter one beta which is really triggered for kidney disease and for joint disease. So if any of you guys have osteoarthritis, I use high dose sperm in my osteoarthritis patients, especially before doing any kind of regenerative procedures on them to try and get the cells into a much better state by blocking this inflammatory piece. And then that was a pretty recent article. Molecular medicine 2022 showed this very significant reduction in the NLP three inflammasome and interleukin one beta. So to me, it just confirmed when I was already seeing with these patients and intuitively new because the cellular pathways but actually can have it nicely confirmed now in an article is great.

([00:45:49](#)):

And that's probably one of the reasons it's helpful in cancer too, is by blocking some of this inflammatory state. But that's why it's so useful in kidney disease. I think we forget kidneys are also, boy, kidney disease is, I think John Hopkins has estimated 50% of people over the age of 60 have kidney dysfunction mean 50%. So half of us are walking around with kidney dysfunction and your doc will look at it and go, oh, well your memory filtration rate 60 is fine. Well normal really should be greater than 80. If you have optimal kidney function, it starts to decline. But we have to make sure that we maintain kidney function because your kidneys are one of your key detox organs. So if my kidney function is declining and I'm going to have more and more problems, and we don't really have great ways to treat this declining in kidney function, but sperm has been shown to do that.

Dave Asprey ([00:46:42](#)):

In superhuman, my big longevity manifesto, there were four big killers that you have to avoid. And it was number one, diabetes, which is a precursor to cancer, heart disease and Alzheimer's don't get those and you'll probably live longer. But the fifth killer, if I wanted to go one higher would've been avoid kidney disease. And it is caused primarily by two things. One is high blood pressure, which is treatable by minimizing insulin or at least lowering it to safe levels, not necessarily too low and by taking potassium and whatever. But the second one is eating a lot of plants that contain oxalate because 70% of kidney stones are oxalate not caused by phosphorus from eating meat and

Dr. Elizabeth Yurth ([00:47:29](#)):

Right, I mean metabolic control is very key to kidney disease, but so is endothelial function. So when you talk about why hypertension, hypertension is just a sign that you have endothelial dysfunction, your blood vessels aren't pliable. So you have to work on endothelial dysfunction. And actually that's another place where it actually was shown is improvement in the cardiovascular studies. Recent study, actually 2023, I think it was fall of 2023, there was a report on sperm and endothelial function of blood vessels in post heart attacks. And there was significant improvement in revascularization blood vessels again in mice and blood vessels with that. So that's one of the reasons it's protecting the kidneys because you're right, hypertension is a culprit, but it's really, hypertension is the first sign that you actually have endothelial dysfunction. And guys, when your doctor's like, oh, 130 over 85, that's fine. It's actually not.

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

I mean, optimal blood pressure is really one 15 over 70. I'll let it go up to one 20 over 80 above that is hypertension. Really. If you look at endothelial dysfunction above one 15 over 70, you still have to start focusing on improving vascular function, improving endothelial function. You have to have these nice pliable blood vessels or you do get kidney disease. Kidneys are very, very sensitive to that dysfunctional blood flow. So that's one of the reasons kidney function starts to reduce as we age. And you're right, it's a key player. Now caveat there is when your docs measure GFR, like in you, Dave, who eats a lot of protein, or if you're taking creatine as a supplement or if you're really muscular, you could sometimes look like you have very poor kidney function because kidney function is an estimation based off creatinine. And creatinine will be fooled by creatine or high muscle mass or high protein. So your GFR can microfiltration may look very poor caution. You guys who have that, you eat a lot of protein, you take creatine as a supplement, all of you should be five grams of creatine, then you might look worse. I always measure what's called a cystatin C. So something to remember, ask your doctor to measure cystatin C. It's a much better measure of kidney function for people who are healthy.

Dave Asprey ([00:49:39](#)):

I love it that you said that because yeah, our estimates, even people who are on very low carb diets, your cholesterol calculations are horribly wrong because they think you're average. And even when they tell you, oh, your kidney function is where it should be for your age, you should be outraged

Dr. Elizabeth Yurth ([00:49:59](#)):

For your age, right? Don't you hate that? Yeah.

Dave Asprey ([00:50:01](#)):

What the hell? I'm sorry. I identify as being 30 years old, so how dare you not respect my age? Because look, if they're saying you're aging like a normal person, you already failed. And then you're looking at the health span and that fake longevity stuff where like, oh, you can't extend life, so just work out all the time, which is nonsense. You got to protect your kidneys. So sperming is a way to do that. And the other thing is clothe, which we're not going to talk about in this show, but I wrote about that in the book as well. And I'm about to go be one of the first humans to get klotho gene therapy to raise my clothe levels.

Dr. Elizabeth Yurth ([00:50:36](#)):

Lucky you. Yeah, CLOs is actually, and I know there's a company that's been working for a long time on that, and so you're lucky to get that. It's going to be really a huge player for people who have polycystic kidney disease. CLO may actually be the answer for those people. So lifesaving, because that's a disease

you really don't have a lot of control over. So clot those guys, which is our longevity gene as well. But it's really critical to kidney function. So lucky you, Dave.

Dave Asprey ([00:51:03](#)):

Well, it's funny because both klotho and spermin, they affect kidney function and cognitive function, and they're both core longevity substances. So I look at the stuff that I always take. I mean, I might pause for a little while for a weekend or something just to get cyclical levels, but things that are my permanent longevity stack, SPERT life is on that. And if I could buy CLO though, I would, but you can't. And it's not digestible. Anyway,

Dr. Elizabeth Yurth ([00:51:30](#)):

I think we'll get there. We'll be more available even beyond gene therapy. I think some of the companies are doing, I think we will get there with clo. I hope so, because a lot of these gene therapies are still cost prohibitive to most of us. Oh

Dave Asprey ([00:51:42](#)):

Yeah, that's a temporary problem. Cell phones were cost prohibitive and didn't work very well in 1980 as well. But look at them now, right?

Dr. Elizabeth Yurth ([00:51:48](#)):

Yeah. I mean the brain studies with spermin, some of the first studies that came out, the smart age study, which was 2018, showed that, and this was actually in humans, so actually you do have some human studies showed over 12 months significant improvement in adults with cognitive decline. So we have the data on brain, even in depression, there was again, a really good study on mental status and spermin. We know it improves and it makes sense, right? If I'm lowering inflammation, if I'm increasing vascular function, if I am improving autophagy, then my brain function will be better. Really, there's no organ that is not going to be helped by addressing all those factors.

Dave Asprey ([00:52:29](#)):

So there's going to be a stack of things that we know work for longevity. And at this point. We know enough to say we might have to change the dosing amount and schedule based on who you are and what you do in your state, but these are things you want to keep elevated for the course of your exceptionally long life.

Dr. Elizabeth Yurth ([00:52:49](#)):

Yeah. One of the things we talked about is there's a stack, right? So how can we address these? And one of the things spermin life recently did is you guys are all familiar with NAD, right? And it's important because NAD is sort of the currency to make a TP. So a lot of companies now are trying to say, okay, well how can we maybe attack multiple pathways? So spermin a recently kind came out with this product that has other things in it. So has this interesting compound called IL and RIBOT is this compound that is what's called an I CAPA beta kinase. ICAP beta is really highly linked to the inflammatory cascade. There's a lot of cancer drugs that are I kappa beta kinase inhibitors. So basically by blocking I kappa beta kinase and I use a drug called lox as well. For that you can actually prevent cancers and things like that. But also as rib patrol has this very interesting effect on phosphodiesterase four and five, and you guys will know PD five inhibitors are things like Viagra and alis, which are also very linked to longevity, right? Particularly brain.

Dave Asprey ([00:53:50](#)):

I take microdose Cali every day because it makes you live longer.

Dr. Elizabeth Yurth ([00:53:56](#)):

Exactly right. It's not because you want to be walking around with an erection. It's because you want to live longer. I have my women, my women will go to the pharmacy and fill s and the pharmacies are like, but it improves cognitive function, it improves vascular flow, it helps support kidney function. It is a longevity drug. So what they did is they said, okay, well here is, well, we'll mix a PD five inhibitor. So Ribo has acts as a PDE five inhibitor rib.

Dave Asprey ([00:54:22](#)):

It's

Dr. Elizabeth Yurth ([00:54:22](#)):

R-I-B-O-T-R-I-R-B-E-T-R-I-L.

Dave Asprey ([00:54:25](#)):

Yeah. That's not a drug I played with, but I will after this.

Dr. Elizabeth Yurth ([00:54:28](#)):

Yeah, I think it's a patented compound. I think it's found in something called mito active or something like that. But it's a patented compound, not really. So it's a PDE five and also PDE four inhibitor. So SSTA four inhibitors are really have a lot of research going on in them and also treating diseases like cancers, autoimmune disease, COPD. So there's a lot of drugs coming to market, really expensive drugs. I will say these are the \$20,000 a month drugs that are coming to market as PD four inhibitors. So this compound has an effect on the ICAP beta kinase, the PD four, the PD five, they mixed that with S bourbon. So now we're attacking all these other pathways and they mixed it with some nicotinamide. And so a little D ribose and nicotinamide with, again, nicotinamide being one of your precursors to NAD. Now where some of these products scare me and all you guys who love your NAD and all your NAD precursors, here is my 2 cents on that. If your NAD levels, they do drop as you age. And one of the main reasons for that is because you've got this bucket of NAD, there's actually a bigger hole in the bucket. So there's enzymes that are depleting the NAD. You

Dave Asprey ([00:55:38](#)):

Have to fix the enzymes.

Dr. Elizabeth Yurth ([00:55:39](#)):

You have to fix the enzymes, you have to block the enzymes. Now one of those is you can use agen to fix P 30 A. You can use agen to fix, and there's another one that's a little harder, and that's called NNMT. And N MT is a much worse enzyme to be upregulated because NNMT is upregulated in cancer in visceral fat cells in senescent cells. So you guys who keep pouring NAD into your bucket and you're old or have cancer pre-cancer lesions, or you have some visceral fat cells, those guys are stealing all your NAD. So you keep filling the bucket and they're like, great, we've got more because they just keep accelerating NN mt. There's some peptides that will block it, but they're block NMT, but they're expensive. So we

recently worked with a company in Europe to bring over like sperm, another compound called one M and a.

[\(00:56:26\)](#):

One m and A is a really ideal blocker of NNMT. In fact, you could probably use it alone to boost NAD. And the problem with nicotinamide, you guys all saw, you saw this study, Dave, where they showed that study that showed high dose nicotinamide actually even long dosing that raised cardiovascular risk. And that was because it converted something called four pone. And four perone is really bad. Well, one m and a very interestingly, even though it's one of the byproducts of nicotinamide does not convert, you can't raise four purine levels with it. It will raise them to just the right level and then get excreted. So one m and a is a much safer alternative and that's why we work so hard much suburbany to get it here to the us. That was not very easy. But to get it brought over here to the US so that we could actually have a safer way of replacing NAD.

[\(00:57:15\)](#):

Wow. So I think if you did this product right, which has, it has some nicotinamide in it, it has this rol, which looks a very interesting thing. And to block for your PD four, PD five and I capa beta kinase, and then you use a little epigene and the one m and a I personally just use one m and a myself just as my NAD boost that you're going to have a really nice stack with just a couple of compounds. So it might be a nice thing to look at for you guys who are taking a lot of, you're taking this and this and this and this. It might be a nice kind of compound to look at.

Dave Asprey [\(00:57:51\)](#):

Beautiful. And that is a supplement or

Dr. Elizabeth Yurth [\(00:57:54\)](#):

It's one of the new SPERMING supplements that they've come out with.

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

Excellent. And is that from Sperming Life?

Dr. Elizabeth Yurth [\(00:58:02\)](#):

Yeah, from Sperming Life.

Dave Asprey [\(00:58:04\)](#):

Okay, cool. So I'll switch to that stuff. Why not?

Dr. Elizabeth Yurth [\(00:58:07\)](#):

Yeah, it's a little packet. It's a little sachet packet, so it's nice. Oh

Dave Asprey [\(00:58:10\)](#):

Man. Stupid packets. I don't want any more packets guys. I take 180 supplement, actually 156 a day right now, but 156 packets I would, shit, there's too much fiber in there. I'm sorry.

Dr. Elizabeth Yurth [\(00:58:22\)](#):

The problem is it's hard to get a capsule that has that stuff in it. So yeah, maybe for you it's better to just take your sperm, take your Ali, and in my mind, take one m and a instead of NAD precursors. I think the data is becoming more and more compelling about that, but whatever you want, otherwise, take your NAD precursors plus one m and a, and that might be a way to substitute. I agree with you. I literally have my water bottle. I've just thrown 8,000 packets into it and now it tastes like shit. So it's hard for me to drink all day, mostly just dust. So I agree with you. It does become a little difficult because the problem with some of these, when you're trying to put a lot of thing into a supplement, you just can't put into one little capsule.

Dave Asprey ([00:59:04](#)):

Yeah, I feel it feels like the solution for longevity just for the world is not to have 25 packets or 25 canisters of powder to take every day because that sucks. And the worst thing would be to mix 'em all into one powder and sell that because no one needs the exact same ratios of all this stuff. Right?

Dr. Elizabeth Yurth ([00:59:30](#)):

And that is a problem. And you see a lot of companies doing that, putting together these little packets. And I'm not a real fan of that because number one, I like to toggle things around with my patients and I use different dosing on different patients for different things. So I am a little more of a fan of even if it means opening a few more bottles to actually sometimes separate these things out. But this is for you guys who want out of a simple approach. I do think this is a very interesting product and I'm kind of eager about

Dave Asprey ([00:59:57](#)):

It. We'll come out with pills after this episode. I know that I have harassed lots of companies into taking packets and making pills, including the Euro litan a stuff. I'm like on just give me pills. And here's the thing, most people think they can only swallow one or two pills. They never thought about

Dr. Elizabeth Yurth ([01:00:16](#)):

It. Yeah, I could at least fall 50 at a time.

Dave Asprey ([01:00:18](#)):

Yeah, I do 50 at a time. Kind of shame liver king once. I was just teasing. But he was like, anyone who drink more than 20 pills is more Mel than me. And I'm like, I pulled my shirt off. I'm like, I'm going to take 40 pills. But it's a weird flex is what Brian Johnson says. But guys, if you drank beer in college, it's not that I just go from one to two, go from two to three, and all of a sudden my girlfriend's like, oh my God, I can swallow eight pills at a time and it's not even hard. Why did I not know this my whole life? Right?

Dr. Elizabeth Yurth ([01:00:45](#)):

It is funny, when you start taking more, it would take you and your entire day to take them all one at a time. So

Dave Asprey ([01:00:50](#)):

I love it that you can go deep on all these topics. We weren't planning to necessarily go into all these, but you're very well-rounded in your knowledge here. And I should have mentioned this earlier, but

guys, sperming life has given you 25% off because you listened to the show, which is a big discount and thank you Sperming life. Sperming life us use Codey 25. So that's a big savings on sperm ine. So buy the big pills now they're probably at the same price as the little pills. Yeah,

Dr. Elizabeth Yurth ([01:01:18](#)):

I would recommend you guys get some of the higher dose ones at least, and at least cycle through those occasionally, right? Yeah. Even if your baseline is, unless you're 20 and you just want to maintain fertility for a while and you feel great and your life's perfect, then you could probably get away with the one milligram.

Dave Asprey ([01:01:30](#)):

And I also just want to say this. There are people of all economic brackets listening to the show. I don't have space in my stomach for all the supplements that I could afford. So it turns out all of us have three things that control what we're willing to take. There's cost, which is obvious. There's the amount of time and effort it takes to do it. How much energy does it take to do it? And the other one is how much does it suck? So it's time, money, and pain. What that means is that you have to look at, okay, what are the biggest goals for you and how much pain, how much time, and how much money is available to allocate to those? Right now, in my twenties, I allocated 20% of my paycheck towards health and wellness because I was so damn sick and it was not easy.

([01:02:33](#)):

In fact, it caused relationship problems with the person I was with in my twenties. And she said, why do you spend so much money on all this stuff? I'm like, because my brain doesn't work without it and I'm in pain all the time and things like that. So I just want you to make efficient and intelligent choices and not to feel like you have to do everything. I don't do everything. I just try to know what everything is and then choose everything I'm willing to do. So 25% is a good savings if you want to try this. And if you're saying, that's not my thing, I want to save money, start with intermittent fasting. Just don't overdo it. And you'll get some of the benefits that's

Dr. Elizabeth Yurth ([01:03:06](#)):

Cheap,

Dave Asprey ([01:03:06](#)):

Right? Or get the discounted bottle sperm life, US code ASPIR 25 and take one every two days as something to encourage your gut bacteria or

Dr. Elizabeth Yurth ([01:03:16](#)):

Take it while you're doing it fast. So you get that benefit of the autophagy. But I also remind, that's what Dave and I were talking about, cycling supplements. So if you're like, oh my gosh, this is so expensive. This is so expensive. Think about cycling things. So what I do with my patients who have a fixed income that they cans spend supplements for a while, we're going to do this and then we're going to do this, and then we're going to do this. So there's not more than maybe six, seven things at one time. You got your baseline supplements, then we have, I'll do a month of sperm, then I may do a month of this and a month of that. And that way it makes it more palatable, less supplements and less money, and it becomes a better way of thinking about it and not necessarily a bad thing for your buy. Like I said, when you over supplement, you can start to create problems. It's like too many antioxidants are horrible for

us. We need oxidative stress. So if you're taking a ton and ton of antioxidants and you never stop, you're not doing yourself any good. So think about that when you, you're feeling overwhelmed. Just say, okay, I can do this for a while and then I can do this for a while.

Dave Asprey ([01:04:12](#)):

Right? Such good advice. So if you're saying, I have a budget, that's okay, everyone has a budget and doing different things on different days is a way to stretch your dollars a lot. And because I really respect this problem. When I was dealing with the very beginnings of my health problems from mold, I actually worked at Baskin Robbins scooping ice cream, and I welded Toyota truck frames. I put auto parts in boxes to help pay for my college. I also started a t-shirt, e-commerce company. I did everything. I was scrappy. I didn't have many money. And that's what happens when you're out of money and

Dr. Elizabeth Yurth ([01:04:50](#)):

You have to prioritize your health over, do I need a hundred thousand dollars car or do I need my health? I think we all prioritize putting money into our 401k keys for retirement and not thinking about putting money into ourselves because otherwise my retirement's going to be miserable. And hopefully the goal being that you never want to retire because you feel good, you feel active and you want to be productive. So I think that that's it. I really think the number of people I see come to my office driving their a hundred thousand dollars car in, and I mentioned a supplement that's like Spencer. I go, oh, I'm not doing that. And I say, well get a cheaper car.

Dave Asprey ([01:05:23](#)):

I drive a 10-year-old Jeep. So there you go.

Dr. Elizabeth Yurth ([01:05:27](#)):

Yeah, that's where you put your money on the health,

Dave Asprey ([01:05:29](#)):

Right? My hyperbaric chamber and my supplements cost more than my car. That's just how it is, right? Good. Perfect. I'm also, I need help on how to allocate my own time, energy, and dollars and just suck on biohacks and supplements. So at the biohacking conference this year, I'm planning to launch a really detailed data-driven AI tool to guide you. If you only have six bucks, here's what to do. If you have 600 bucks, here's what to do. And the weird thing is, your goal is not the same as, my goal is not the same as your partner's goal. We all have slightly different goals. So if we can actually use the data and the tools we have now to guide you to know what do you really want first and then how do you get there in the shortest possible time? It makes it so cool.

([01:06:17](#)):

Then you really know where to focus when you go into your doctor. Because I took care of my basic minerals and vitamins and all that stuff. I knew what to do, what the data says, and now I need help with the really cool high-end stuff. So it should waste less time and less money for everyone who uses it. So I'm really excited. Yeah, that's really cool. It's like, just tell me what to do. We all want that and I'm happy to do that on this show. But there's 1200 episodes. Have you even heard the last episode with Dr. Earth? It was awesome. But how much time do you have to listen to this podcast? I don't know. I thank you for listening, but if I can give you everything I know in a chatbot, which I'm doing as part of this, yes, I'm going to do it. Because I don't think most people have time to go to medical school like you have and

study for 30 years and it's hard to get meeting with someone this qualified. So I think this is a necessary tool for biohackers. I'm so excited to be able to bring this to you guys. And of course Sperming life is going to be right in there because well it matters. Perfect. Alright, I have one thought for you. So topical sperm.

Dr. Elizabeth Yurth ([01:07:17](#)):

Ah, topical. Yeah. This is funny because I had read these articles on topical sperm back when we first, you and I first finally got sperming, right? Actually even before that when I had these weird little green things I was taking from somewhere I bought

Dave Asprey ([01:07:30](#)):

Were so similar.

Dr. Elizabeth Yurth ([01:07:32](#)):

And I had read this article about how much topical sperming improved collagen function in skin. I'm pretty skinny, so the hardest thing for me is saggy skin. And so I was like, oh great. So I just opened up all my sperm, I crushed my little things and I put 'em in my face cream and I started putting, it was the worst thing. It was like this greedy mess and got all of them, made a big green mess over my pillow initially and at least the other smia wasn't green. So that helped. And so now recently Young Goose, I left this all the company, but it's an incredible company. So Young Goose actually decided, oh wow, we need sper in our products. So they actually made now a great, and it's much, much nicer feeling. It has a tiny bit of green tinge, but not much from some of the other things in it actually. But the sperm is, I think it is a combination of sperm. N-A-D-N-A-D topically is great and copper peptides. Copper peptides amazing for skin, right?

Dave Asprey ([01:08:30](#)):

GHK Copper peptide is a major longevity compound,

Dr. Elizabeth Yurth ([01:08:34](#)):

Major longevity, both subq injections but also topically or for wound healing, things like that. And so they put mixed copper peptide, a little bit of resveratrol and they made a face cream out of it. So they sort of partner with sperming on this sperm life on this and it has a really good product. It feels so nice on your skin. I just started using it recently, but I also already know some dark spots going away. I mean it is an incredible product.

Dave Asprey ([01:08:56](#)):

Founders of Young Deuce when they first started came on the show and shared their product and they've been at the biohacking conference too, right? They're

Dr. Elizabeth Yurth ([01:09:04](#)):

Always there. Yeah.

Dave Asprey ([01:09:05](#)):

Yeah. In fact, I think they're there this year as well. By the way guys, it's coming up here just in short period of time, biohacking conference.com. And I love seeing collaboration between different brands where you have a great ingredient.

Dr. Elizabeth Yurth ([01:09:20](#)):

I know that's cool, right? When you see these different companies actually getting together. Yeah,

Dave Asprey ([01:09:24](#)):

I run into this problem now where, okay, I take my S Remedy in life, so I've got my internal version, but I have six bottles of amazing stuff that each has its own set of longevity compounds that don't overlap. And I'm like, I don't know how much oil my skin can absorb. I slap on five things and it's like I don't really want one bottle on my bathroom counter cause I'm a guy and I have three things I spray in my hair. So I want the one skincare mush to rule them all. And maybe this is the one.

Dr. Elizabeth Yurth ([01:09:58](#)):

Yeah, I think this is a pretty complete right it, it's pretty robust at least again, you could do this one day something else, but I think it's a pretty robust product. I think they did a really nice job with this product. I mean I love that company anyway, but this product I really like, it was a little bit with their products that's like there was eight of them when you're doing their whole regimen. So this is kind of a nice catchall for those of you guys who want to simplify routine, I think it looks like a nice catchall, everything

Dave Asprey ([01:10:25](#)):

That makes sense. One thing that doesn't get appreciated enough in the world is that topical absorption oftentimes is the same as intravenous absorption and way better than swallowing it. So I don't know the systemic effects of sperming, but some peptides are so powerful. Getting 'em on your skin in the right formula trumps even an injection.

Dr. Elizabeth Yurth ([01:10:46](#)):

G HK copper is like that, right? The high enough dose, I dunno what kind of dosing they have in this product, but G HK Copper, lots of times when I have somebody who doesn't want to give themselves injections because G HK copper is so important to longevity too, I'll just have 'em use a lot topically, skin's being a little more pricey, but album use a lot topically get the skin effects and they will get some systemic absorption of it. So you're right, that is a really nice weight. I don't know what the systemic absorption, I think part of the sperm effect is going through the gut. So you're going to get a lot less of the benefits from it, taking it topically. So it's probably going to be more isolated skin. But for the GHK copper, that probably is actually a very nice way to get some GHK copper into your system.

Dave Asprey ([01:11:24](#)):

Well, Dr. Uth, thank you for coming on the human upgrade today and just sharing the latest on sperm and thank you Sperming Life, 25% OP Sperming Life do US code ASPIR 25, totally, totally respectable savings. And guys, it's a foundational longevity supplement and the evidence is very strong for that, which is why it's on here, why Dr. Earth is on here and why you are here. So thank you for listening. I will see you at the biohacking conference or online.

Dr. Elizabeth Yurth ([01:11:54](#)):

Thanks guys.

Dave Asprey ([01:11:56](#)):

You are listening to the Human Upgrade with Dave.