

Announcer: Bulletproof Radio, a state of high performance.

Dave: You're listening to Bulletproof Radio with Dave Asprey. Today's cool fact of the day is that getting goosebumps might actually help you grow more hair. That's because nerves and muscles that raise goosebumps also stimulate stem cells in your skin, which make hair follicles and help hair grow. Harvard University stem cell researchers just reported that getting goosebumps when it's cold probably helps make animal's fur thicker. Nerves that are part of the sympathetic nervous system, which controls your pupil dilation, your heart rate, other things like your automatic processes, they nestle next to stem cells that will create hair follicles, which no one knew before this new study. And usually nerves are wrapped in a protective coating called myelin, which you've probably read about in the Bulletproof Diet, or Headstrong or something but it's kind of like the rubber wiring around an extension cord.

Research has found that nerve ends were naked where they meet hair follicle stem cells like wires stripped at the tips. That's something you would never imagine is going in your head, and those nerves secrete the hormone norepinephrine, which is necessary for hair growth. And that might explain why hair loss is a side-effect of beta-blocking drugs, which interfere with norepinephrine's action. However, beta-blockers can help you if you have stage-fright and anxiety going on stage. I've had a few clients who decided to go that route. I don't think it's the ideal route, you might want to deal with the root-cause of that anxiety but now I'm like, what happens if I don't want to be bald, and I want to be a professional speaker? Deal with your crap.

Now you're asking yourself, is Dave going to talk about being a professional speaker? Or is Dave going to talk about hair? What could it be? Well at this point, I think you should go with hair because we're going to talk about hair because well, it's interesting, and it's part of living to 180 because if you lived to 180 it would be nice to still have a full head of hair, right? When if you want to live past 180 I'd be okay with losing a couple hairs along the way, but not more than that. And what does this study mean for you? It means that men with male-pattern baldness lack these interesting muscles called arrector pili muscles in their scalps, which are responsible for goosebumps. And that suggests that sympathetic nerves and goose bump-raising muscles may be important in that one type of baldness.

So restoring nerves and muscles could cause new hair growth. This is cool because when someone says, "You know, we know everything that there is to know about science, therefore what you just noticed isn't possible even though it just happened to you." That kind of ego, well you show them studies like this, "Well we didn't know that before, maybe it was possible, and you just didn't have the right study." So when someone says that didn't happen because it can't, you know that they're following a religion, not science.

Now, back to hair because I'm sitting here across from a couple people with just truly, truly awesome hair. I'm talking about Dr. Sophia Kogan and Dr. Tess Marshall. Now, because I'm interviewing two people with great hair at the same time, and they're both, by the way, from a company called, Nutrafol, that's been studying how to have healthy

hair instead of how to just have hair that doesn't fall out. I'm going to ask each of them to tell me their voices as I introduce them.

So Sophia, say something.

Sophia: Hi, everyone.

Dave: So, Sophia's an integrative hair health expert and this means for men and women, and she's the chief medical strategist at Nutrafol. And she's written peer-reviewed studies on hair thinning, hair-loss treatments, botanical medicine and has an MD in a dermatology fellowship from, how do you say it? S-U-N-Y or do you just say, SUNY if you're cool?

Sophia: No, it's "SOONEY".

Dave: SOONEY, SUNY, SOONEY?

Sophia: And they don't like the word downstate but it never... it wound up never changing to-

Dave: I'm saying it anyway. SUNY Downstate Medical School in Brooklyn, New York. So what... I guess-

Sophia: One of the oldest in the country.

Dave: One of the oldest, all right. So it's like a big deal.

Sophia: Well, I mean it's deal in Brooklyn.

Dave: All right. So in other words someone who's gone deep on the science and medical side of it, and then you flip over it with Dr. Tess.

Tess: Hi everyone it's Tess. Happy to be here.

Dave: You guys sound really similar, this is going to be so confusing.

Tess: Oh no.

Dave: We'll deal with it. So Tess is a naturopathic doctor and director of product-science innovations for Nutrafol. And I wanted to get both of them on the show today because there's the, White Lab Coat MD, I mean it's amazing. I mean, right now Sophia is wearing a white lab coat, she has a stethoscope around her neck and looks super-medical. She's got one of those headbands with the little amplifying light thing on it... Okay, not really. But you do have that, I went to medical school kind of vibe, right? And then you have...

Sophia: I do?

Dave: Well yeah, you look all professional and stuff, and then you cut over to Tess who's a naturopath, so she's wearing a floral dress, she clearly hasn't showered in two months, and she looks like a naturopath you know what I'm saying? Okay-

Tess: I have dreadlocks in the back.

Dave: So now I've offended both my MD friends - by the way, I'm married to an MD - and my naturopath friends. I'm just kidding. But I did want the more natural, systemic, holistic perspective as well as the hard-science MD side of things because I've never been satisfied with hair stuff. When I say stuff, the research on it, because it tends to be either all one where it's like, "Dip your head in castor oil or something and it'll all be good." And then, on the other hand it's like, "Just take some of these pills that might neuter you and it'll all be good." And so I wanted to sort of have this holistic perspective, so it's like, what's actually going on in there?

My understanding is that there's multiple pathways for why hair falls out, why women get thinning hair. So I just want to get to the bottom of it because I think most people listening, you're in one of three buckets, and we're going to hit all three of these buckets. One of them is I'm young and I probably have most of my hair and I'd like to keep it that way and I can't imagine my hair thinning [inaudible 00:06:14] just falling out as a guy. But if you're a guy you look at your dad, you look at your grandpa, you look at your uncles, you're like ugh! Maybe I should think about that.

And so then it's, "How do I keep it?" Then you have people who are starting to see some fallout and they're going, "Oh my God this is actually happening. What the heck is going on?" Then, you have people who already have thin hair or hair that isn't healthy or are mostly bald saying, "Can I grow it back?" And these are like, three different use cases. So I want to go through those with you guys today. Sound like a plan?

Tess: Sounds great.

Sophia: Great.

Dave: Okay. And if Nutrafol sounds familiar to you it's probably because I've had them on more than I think 100 episodes ago. On episode 420 believe it or not, I should have had a CBD one for that.

Tess: Awesome. Happy to take that spot.

Dave: In episode 535 where we talk more about here and some other things like that, but this is an ongoing area of interest. I hear feedback from Bulletproof Radio listeners and now that I'm really focused on anti-aging with my Super Human book, I just thought it was time to have you guys back on for another episode to talk about the stuff we didn't get to cover last time.

So you've now moved into what you're calling with Nutrafol, Hair Wellness. What exactly does that mean? Especially if you're looking at it from the perspective of each of

those three different buckets of people, either; It's not going to happen to me -but I don't really want it to -, the It's happening to me right now OMG, and it already happened to me, how do I get it back? So hair wellness. What's the deal?

Sophia: It's a great question. So it's just like you said it's three buckets of people and actually you missed one I think.

Dave: There's another one?

Sophia: Yes there's another bucket.

Dave: Children?

Sophia: No, the one you missed might have been, I want better, healthier hair.

Dave: Oh so your hair's already healthy but you want it to be even more healthy?

Sophia: Yeah.

Dave: The hair upgrade. Okay.

Sophia: So, what if you're not afraid of what's coming but what if you're just, I want to have better looking hair? And yes, there are so many people suffering from hair loss and thinning and there's just as many worried about it and just as many wanting to do something about it. But there are also a lot... It's also wide range of... If you wanted to sort of go across all of these buckets, you wouldn't just call it hair loss and thinning.

So, hair wellness is something in between the medications that we have available, which are FDA approved drugs like Propecia and Rogaine and the simple vitamins and minerals like... and also castor oil, whatever other stuff that people could be using. It is really about utilizing clinically proven and efficacious nutraceuticals. Basically botanicals that have clinical efficacy to rebalance the pathways from within.

So like you said, there are more than one bucket here of people. If we were just talking about hair loss and thinning, it would be hair loss and thinning. Hair wellness is about encompassing all of these and really looking about prevention as well as restoration.

Dave: So I heard a lot of marketing stuff. Didn't sound very medical in there. So I'm just going to go a little deeper okay? So, topical interventions, it sounds very fancy. Let's start with the people who have, "My hair's pretty good but I want to make it better." So, I mean, are they going to... I know eating more collagen helps for sure, that's one of the things where are they going to take just a supplement? Or are they going to switch their shampoo? Or are they going to start micro-needling, or using lasers? How do you know? You could spend 10 grand on your hair and not even get started.

I was completely blown away that anyone does that level of stuff, but give me a stacked rank. I'm a healthy hair but I want like, goddess hair. What do I do?

Tess: I think it depends, A: what kind of person you are, but then if you were just wanting to support hair I think those people normally turn to the common things they consider good for your hair. So, those people are going to-

Dave: Like Pantene?

Tess: They might use Pantene but...

Sophia: But it's probably going to make them-

Tess: Yeah, everyone-

Dave: Bald?

Sophia: Yeah.

Tess: There's a lot of people that understand that parabens and sulfates are not good, so people are using natural shampoos and conditioner. But that's a misnomer that they can actually help grow your hair. So it can definitely help your texture and clean your hair, condition it, but it's not actually spending enough time on your head to actually do anything underneath the surface.

Also those people are probably looking for biotin, they're taking collagen in their water and smoothies and coffee. They're just really supporting it on a very, not superficial level but we'll call it a nutritional level.

Dave: Okay.

Tess: I think as hair loss or thinning progresses is when people start to turn to other treatments. So those people might be taking a drug and a supplement and topicals, and then they're going to pay \$7,000 for PRP. They might get a hair transplant after that. So I feel like you start at the minimal and work your way up.

Dave: You're a naturopath. Would you recommend the drugs?

Tess: I do not recommend the drugs.

Dave: Why not?

Tess: Mostly because we've seen them not have the most efficacious results. So I'm not going to say that Propecia doesn't work because it does, it just comes along with some unfortunate side effects that are in the sexual realm and aren't too enjoyable for your average person.

And then as a girl, using Rogaine and Minoxidil you have to put something on your hands, you have to put it on your head, it makes your hair kind of greasy and sticky. A

lot of side effects can be like irritation, that's just not something I think I would recommend to somebody else.

Dave: Okay, so it doesn't really work. Okay, now let's get the medical side of things, all right? So we've got our naturopath perspective, all right. And you guys both work for Nutrafol and you're both coordinating on this. I'm expecting there to be some overlap but are there times, Sophia, where you've said, "Yeah pop some drugs. Your hair will like it?"

Sophia: Well, I'm not a practicing MD, I am fully... This is one... I'm one of the co-founders of the company, so obviously my opinion is a little bit skewed. I do not recommend the medications. Like Tess was saying, I think Rogaine could work, and tends to grow hair that is...

Dave: It's got a great podcast though.

Sophia: ...for lack of a better word, the texture feels like pubic hair.

Dave: Oh, when the hair grows from Rogaine?

Sophia: Yeah so-

Dave: That doesn't sound very pleasant.

Sophia: A lot of women do not want to use it.

Dave: Like on your head?

Sophia: Yeah. So a lot of women-

Dave: Does it do that for guys too?

Sophia: Yeah.

Dave: I've never tried it but I don't think I want to at that point.

Sophia: The texture is a little bit harsh and I think... When we did our clinical study we actually asked that question, Would you prefer to take a supplement or use a topical, and the study was in women and, most women said, I think over 80% said, that they would prefer to take a supplement over using a topical because it messes with our hair style, and it leaves a residue.

Dave: Okay.

Sophia: And I do very strongly believe in interventions that are multi-targeted, that have an ability to target multiple pathways and some of those are of course, PRP and the nutraceuticals. And PRP Platelet-Rich Plasma does work. We often use it in conjunction with a supplement.

Dave: Okay and I've talked about PRP a few times on the show, not just for hair. Although I've had it done on my hair. I've talked with... Let's see, it was Amy Killen from Docera Medical who, last time I was there I did this whole, six hands, whole body stem-cell treatment. Where they did every joint all along my spine and my brain, and while I was unconscious for four hours, they also did PRP on my face and my hair and-

Sophia: You must feel amazing.

Dave: I don't remember wherever else they did PRP because I was unconscious but-

Sophia: They do it in every [crosstalk 00:14:24].

Dave: I had some... I've been pretty open about the male, what are they called? Enhancement shots, but they did that as well.

Sophia: The P shot and the O shot.

Dave: The P shot and the O shot. The O shot for me really hurt. They kept... No, I'm kidding... but it's... My wife did have that done as well and it's powerful but so, I did have PRP and my hair done but it's pretty darn painful if you're not unconscious for it, right? Which is expensive and can be painful.

Sophia: I think that... My business partner had it done, and I had it done. And he was screaming in pain and I was just like, whatever.

Dave: You're like, I can have a baby, this is nothing.

Sophia: Exactly, so I think there's definitely a slight difference between how we perceive pain in men and women.

Tess: They do say that women have a higher pain tolerance than men, surprisingly.

Dave: Yeah I think especially for hair. I've had a couple different practitioners mention that, Amy mentioned the same thing, like injections on the face and in hair, women are just tougher than guys apparently.

Tess: And also a lot of our doctors use distraction mechanisms, though they'll use actually a vibrator...

Dave: That would distract me.

Tess: ...on the scalp...

Dave: Oh, oh that's not what I was thinking.

Tess: Yeah on the scalp to distract from the pain sensors, so that helps a lot for a lot of people. And also, sometimes they utilize even nitrous oxide.

Dave: I would just like to breathe the gas and get a little bit high?

Sophia: That's what my business partner had.

Dave: Whip it. They use whip-its is what...

Sophia: Yes. He was great. I loved it.

Dave: Yeah that'll sell a lot of PRP. All right, I gotcha. Now essentially, nitrous oxide can get you a little bit high, but if you have certain types of genetic things it can also make you feel like crap for days, because it affects your nitric oxide synthase system. I'm one of those people. So for me, sorry whip-its are not my drug of choice. That would be coffee, that's my drug of choice.

Tess: Understandable.

Dave: But for other people it's profound, you go to the dentist and like, "I was just kind of loopy and then everything was done." You get whatever done to your hair. So I'm hearing a little bit from both of you. Obviously, okay, you work for Nutrafol and you have a combination formula that works on multiple reasons; people have hair that's unhealthy, or people are losing their hair, etc. and it's well-formulated, obviously you guys wouldn't be on. But what I'm hearing though is that, from both of you, there's a path that goes where you start with getting hair healthier and that's nutrient-based, and that would obviously involve Nutrafol or you guys wouldn't bother making it, and then there's a path that progresses up from there.

What are the pathways that you're going after with Nutrafol? I heard earlier don't use bad stuff on your hair that's not in a capsule. So if we are using natural shampoos made from unicorn juice and whatever else, what are the pathways that you need to hit?

Sophia: Well, so originally we formulated a men's formula and a women's formula and both of them are targeting inflammation, oxidative stress. Stress because stress has a big impact on hair loss and hair health, as well as the hormonal pathways, such as DHT and of course anything that is coming at us from the environment. We published some papers with very prominent dermatologists talking about the fact that hair loss is not due to one thing or another and genetics are not the only thing. I always say genetics load the gun, environment pulls the trigger. And that's why the formulation works so well because everything else out there targets one pathway only. However today, we've evolved. Since we last spoke, we actually, Tess and I wrote a 50-page white paper looking deep into the research of how functional medicine applies to hair loss. And it's fascinating.

As we were doing the research, and this is really where hair wellness comes in from the scientific and medical support, is that the follicle is actually not separated. It's not separate from the rest of the body. Just like every other disorder in the body is really a combination of different systems being affected, in the same way the follicle, or any disfunction in the follicle, is the result, ultimately, of other systems being impacted as

well in the body. And that's where we created a new and evolved version of Nutrafol and the way that we apply Nutrafol for our customers and to our patients is a personalized and systems-wide approach.

Dave: What does "personalized" mean when we're talking about taking vitamins?

Sophia: Well internally, we do research and we also test people. So, one of the things that we had started doing earlier on is we started doing a hair mineral analysis test on customers that weren't responding fully to the core formulations. And what we found were some very interesting trends that perhaps are not very surprising, is that some of the pathways that were most impacted were the detoxification pathways, the stress pathways, and the gut.

Tess: My favorite.

Sophia: Yes, and the gut.

Dave: So hair loss's detox systems, stress systems and gut? Oh my God, did we just say that hair loss has to do with bio-hacking? Because those are the main things that you go after? Yes. Now does this mean that you're saying people with unhealthy looking hair might be unhealthy?

Sophia: Yes, in fact we are.

Dave: Oh my God! Who would have thought?

Sophia: I think that medicine as it stands today, we look towards normal ranges as a standard. When somebody comes in unless, they're sick, they're basically healthy. And that's not true. There's a period of time before a disorder or a dysfunction happens where there was sub-optimal functioning. And that's where bio-hacking comes in and eastern medicine comes in and naturopathic medicine comes in and functional medicine comes in. Where we understand that normal... If you're within the normal range and you're one off, you're still considered normal but that's not true. You could have a normal thyroid test but that's not true either, and thyroid hormones are very important for hair growth.

So, what we're basically doing is we're supporting the systems that are having sub-optimal functioning. And when they have sub-optimal functioning that results in hair loss and thinning as some of the first signs, along with fatigue, or any other symptoms that can come along.

Tess: And when we say "personalized" it's because not everyone is going to have poor gut problems. Not everyone is going to have poor detoxification problems. So all of our new targeted booster products were curated so if someone had a little bit of stress issue and some gut problems, they could take formulas that would address those things. Then if you looked at your best friend, that person might need some liver support and B

vitamins. It just goes back to the point that no two people are actually the same, even if they're presenting with the same condition.

Dave: So how would I know if I'm a liver guy or am I a stress guy or...

Sophia: You'd probably be a nothing guy because you're already taking all of the...

Dave: I'm working on it. I take all the stuff you guys send me. I mean, I take 150 pills a day, right? But I will tell you that my forehead's a little higher than it used to be, right? But I'm almost 50 and all the guys in my family were bald by their mid-twenties, so I've way exceeded the expectation here. But, I definitely pay attention to it and haven't done anything crazy unnatural. I don't take any medications for stuff like that. So I'm always going through this. I also know many years of thyroid dysfunction played a substantial role in my hair. I finally got on thyroid but it wasn't until probably my late twenties when I did that, and I'd already started feeling differences. And since then there's been times when I've been like, "Oh, go off thyroid" because I've just taken whatever [inaudible 00:23:01] and then I'm overheating from my thyroid, I actually need to reduce it but I reduce it too far and then I'm like, "Wait, what just happened to my hair? Crap!" So you get back on thyroid but you lose a little bit when you're a bio-hacker.

Can I grow that stuff back? Is my forehead going to get lower?

Tess: There is some damage that happens to follicles over time and at first, they get thinner and thinner and thinner and then there's scar tissue that forms. So there's some follicles that are not able to come back unfortunately, if they've been significantly damaged. On the other hand, there are also sleepy follicles that have been dormant. And when they are available underneath the skin, you can stimulate that by proper balancing of all of these pathways.

Dave: So that doesn't answer the liver versus stress versus whatever guy I am. But it was a nice talk, I mean...

Tess: Well to find out what you are affected by in your lifestyle we need to ask you some lifestyle questions. So...

Dave: All right ask away.

Tess: For our listeners today we have actually developed a lifestyle questionnaire on our website, which will actually ask you questions about your energy, about your sleep, it will ask you about your digestion. It will ask you about if you're eating too much fish with mercury in it to really kind of see what systems may be over-compromised for you specifically. It takes about five to seven minutes.

Dave: I want to take this.

Tess: Go to Nutrafol.com

Dave: Nutrafol... N-U-T-R-A-F-O-L dot com.

Tess: And then there should be a nice button that says, "Get Started."

Dave: So is it going to be long and boring?

Tess: It's actually not boring, but it is a little bit long. It takes like I said, five to seven minutes.

Dave: So ask me a couple of these questions that are in there?

Tess: Okay so, do you want to ask him?

Sophia: Do you remember them off the top of your head?

Tess: Are you a man or a woman?

Dave: Okay I'm pretty sure I got that one. Today I am identifying as a man.

Sophia: So, some of the questions might be related to, for instance, what energy patterns do you have to illicit whether or not you have a cortisol dysfunction. We all know that cortisol supposed to be highest in the morning so that you can wake up and be ready for the day and lowest at night. A lot of people who are in adrenal dysfunction will have imbalanced cortisol levels, will ultimately have low energy in the morning and will be wired and tired at night.

We'll ask about fish consumption too, and what deodorant do you use for instance, because aluminum toxicity. We find a lot of connection between the environment and your hair, and since our liver is responsible for helping metabolize all these elements from our body so this way they don't damage us and our hair, that's why we're really asking those questions.

Dave: Okay so, "What do you eat?", "How old are you?", I only got to the, "How old are you?" And, "Are you a man or a woman?" And then you wanted my email address to make [inaudible 00:25:57], and then I give up. You should put that in after I'm already invested.

Sophia: And also age matters, especially for women. We recently came out with a product that targets peri-menopausal, menopausal, and post-menopausal women, so there's a slight difference in hormonal shifts that happens later.

Dave: It's a huge difference.

Sophia: Yeah.

Tess: The science behind it is actually pretty interesting. How come these women are starting to notice similar patterns as to male-pattern hair loss around that age? And it's because when menopause happens your estrogen and progesterone really decrease at a rapid

rate, and their testosterone isn't necessarily high but it's just decreasing at a slower pace. So, we like to call that "Relative Testosterone Dominance", and then you, at that time, you actually have less sex hormone-binding globulin, so then you'll have more free-androgens, which are likely to turn into DHT and then will affect a woman in those specific patterns.

Dave: This is why women in peri-menopause get so buff? Okay, not.

Sophia: I think the dietary questions are really important. Most of us are not eating a great diet, and some of us that are eating an amazing diet... Usually I would like to say that I'm pretty good. I'm still impacted here in the United States versus when I go abroad, because of glyphosate and because of all the other toxins and antibiotics and it's... Even if you're eating organic it's usually still going to not be fully organic. And so the microbiome is significantly impacted, and some of the most interesting things that we have witnessed recently is that hair connection to the gut. And the hair connection to the gut is through the permeability of the digestive tract, also from the inflammation, systemic inflammation, that occurs that actually ultimately impacts the hair follicle. There are some interesting studies that came out recently. Two case reports of two alopecia-universalis patients that were refractory to treatments, so alopecia-universalis is when... It's one of those auto-immune hair-loss pathologies.

Dave: Like your whole body [crosstalk 00:28:18]...

Sophia: Yeah, your whole body loses hair. And interestingly enough, they were refractory through normal treatment, like steroids and all of these other things. And they also happened to have clostridium difficile infections. So they were given FMTs, Fecal Matter Transplants, and low-and-behold they grew hair back.

Dave: Whoa, so-

Sophia: Yeah, super interesting.

Tess: And I think that just is case-in-point that the gut has a large part to do with your immune system and immune regulation in your body, because while it's crappy they had to have C-Diff infection.

Dave: Did you say it was crappy, FMT. Okay, I'm sorry. That was funny.

Tess: Pun intended. You know, it's unfortunate that they had to have a C-Diff infection to be able to receive an FMT, but that they got this huge side benefit.

Dave: Just in the U.S., you can go overseas.

Tess: Can you go?

Sophia: If you go overseas you can definitely get an FMT.

Dave: Magic that there's medical freedom in some countries.

Tess: Just say if you can just go to the pharmacy, be like I'll just have a little FMT capsule.

Sophia: And they probably don't even need it that much. Their food is healthier.

Dave: I was just thinking, like, you guys have good hair, can I just have some poop? Okay, never mind. I wasn't thinking that. But-

Sophia: I want a young organic farmer.

Dave: You guys are both like, "Gross."

Tess: [inaudible 00:29:25] give my microbiome away.

Dave: You're all, "I'll sell it." But in all seriousness, do you see a future... That's where I was trying to go with that, even though it was gross. Do you see a future where actually we might do specific, not necessarily, fecal matter transplants, but the bacteria from those. And you can already buy those for people who are really sick, but there'll be ones, "Oh, we know these bacteria make you grow hair like crazy."

Sophia: Absolutely.

Tess: So we know one of those strains already is called Lactobacillus reiteri.

Dave: Reiteri? You can buy that as a probiotic, right?

Tess: Mm-hmm (affirmative).

Dave: Okay.

Tess: Yes you can. It actually has really wonderful benefits for upper GI issues. The brand, Bio Gaia, I don't know if you ever heard of them?

Dave: I don't know that one.

Sophia: Or Nutrafol.

Dave: Oh you guys put it in Nutrafol?

Sophia: Yes.

Dave: Oh that's a new edition, though, right?

Sophia: Mm-hmm (affirmative).

Tess: It's not in our core formulas, it's in our Hair biotic.

Dave: Oh, interesting. I did not know about this, well how come you haven't sent them to me?

Tess: So they...

Dave: You've been holding back on me.

Tess: They're coming.

Sophia: We did.

Tess: They're in the mail, as we speak.

Sophia: Unfortunately we can bio-hack our bodies, but we can't bio-hack the delivery system. Or the mail.

Dave: Got it. Okay, so you did send them to me it just didn't arrive. All right. That's a fair point.

Tess: But this one particular strain actually has preliminary studies, they're done in mice, where they have actually shaved off part of their hair. So the mice are still living and being treated wonderfully. And they take this L-Reiteri and actually grow more thick and lustrous fur. They also dove in a little bit deeper to see why that was happening. And they noticed it's because of a modulation between aisle 10 and aisle 17.

Dave: Which are inflammatory cytokines for people who are not as bio-hackery as the three of us. So basically when you get inflammation there is different pathways and these are signaling molecules for inflammation.

Tess: Right.

Dave: So, that's intriguing. Do you know what that stuff eats? Does it like fat? Does it like protein? Or does it like carbs?

Tess: That is a great question. I'm going to say it likes fat, but I'm really just using my educational knowledge off of that.

Dave: I'm guessing if it's Lactobacillus it's probably going to be more of a fiber or a carb.

Tess: Okay.

Dave: Most of that species, that I'm aware of, don't eat fat, although they tolerate it. The reason I'm asking is that most probiotics, you can take them, they work, and then they go away.

Tess: Right.

Dave: But if you take a prebiotic with it you get an explosive thing, where it just grows like crazy.

Tess: I would love to talk about our prebiotic.

Dave: Oh, you guys have a prebiotic? Well, we have a Bulletproof one too. So tell me about your prebiotic.

Tess: So we use a non-conventional prebiotic. It's actually a bacteriophage, which-

Dave: Interesting.

Tess: ... sounds like a scary word, but it is a really innovative, proprietary blend of different viruses that you actually take and it goes in there and basically targets all of the bad bacteria. Think of as a little-

Dave: And you call that a prebiotic?

Tess: It is considered a prebiotic-

Dave: That's pretty-

Tess: ... because of the results that you get.

Dave: That's very cool.

Tess: So it goes in like a little sniper, it kind of blasts the bad bacteria and then the good bacteria eat those cellular components. It's been clinically shown to grow.

Dave: Okay, I am so going to get some of that stuff. So bacteriophages are an area of interest for me. For people listening, the only time you've ever heard me talk about those is probably with Naveen Jain from Viome, because their test, I think if you use code "DAVE" they give you a deal by the way. But, Viome is the only one that can actually measure what phages you have, and these phages are basically viruses that feed off of certain bacteria.

Sophia: And they only target bacteria. I know "viruses" sounds scary. But think for any probiotic/prebiotic combination there is this concept of weed, seed, and feed. And the idea is you want all of those three components in there. For us, when we developed a Hair biotic we wanted the bacteriophage to weed the bad bacteria. And then to see it we have also Bacillus subtilis, which is acid resistant to spore forming.

Dave: Mm-hmm (affirmative). Is this in-hair biotic? They're all in there.

Sophia: Yes. All of this is in Hair biotic.

Dave: Okay so this is in-hair biotic. It has the good stuff. Okay. The phages are really unusual in a probiotic formula and I'm super interested. Most of the phage research, by the way, was done in Russia, you guys may know this. And then, the Russians, when the economy went down, hundreds of millions of dollars of research is just in some guy's freezer at

home. And this has largely been ignored in the West, but it's now resurging. So, I'm super stoked that you have that.

Tess: Yeah. Let's go find that freezer.

Dave: Now, I mean there are people who are out doing that sort of stuff. It's fascinating. I'm actually going to totally take that stuff. I'm really interested to try it. And I'm doing... I wrote about this in Super Human, too, the Bulletproof Inner Fuel, which sounds like it'd be very compatible. There are no phages in that, and there are no probiotics at all. It's just the growth medium to cause Lactobacillus, and the other good strains, to grow. So when you take something like a Hair biotic it can grow and proliferate and just have a substrate to grow on and to get enough digestive fiber in your diet. Because a lot of people, when they're going on keto, especially the dirty-keto. Guys you should read the thing about more vegetables than anything else, but a lot of people, they go down the pork rinds and-

Tess: Eggs.

Dave: Pork rinds, eggs, and diet soda keto route and bad things happen, as you guys know. In fact, I don't think they could feed that special species that you've discovered because what they're eating, there's no food for that Lactobacillus strain in there.

Tess: Exactly. And I think that's why keto has gotten so much heat on that it's bad for the microbiome, but it's really based off the dirty-keto practices.

Dave: Yeah when you eat enough veggies, it's good and the problem I was having is that when I travel, you can go to restaurants, say, "I'd just like a plate of steamed vegetables," and they bring you two pieces of asparagus. And I'm like, "Oh no, I'm sorry, I wanted a whole plate of it." It was \$1000. And they bring you four pieces of asparagus. So you cannot get vegetables, it doesn't matter what you do.

Sophia: Yeah.

Dave: So, I'm traveling 150 days of the year. So, half the time my diet is not enough fiber from vegetables because when I'm home I get it. That's why I made Inner Fuel. But stacking it with phages and with the specific species you've found that grows hair growth is something that I'm actually really excited to give that a try. So I want to look like a werewolf next time I see you.

Tess: Lovely, you'll be our test subject then.

Dave: Right, right. That sounds cool. All right. That's fascinating. I did not realize you guys have gotten into phages. I also didn't realize you could call phages a prebiotic, but I like it.

Tess: Yeah.

Dave: What's the difference between short term stress. The sort of thing where I got in a car accident, or I got an infection, or I had a bad breakup, versus just the longer term stress? What does that do to your hair?

Sophia: I will answer that question.

Dave: Okay.

Sophia: I love this question because from an MD standpoint most doctors believe that there's only one type of stress related hair loss. And that's called telogen effluvium. It basically means that our follicle is suddenly, very suddenly, pushed into the resting phase, which is the telogen phase. And it can only stay there for three to six months. So inevitably after a stressful event all the hair that's suddenly shifted into that phase will fall out. And that's what your average doctor will test for. They'll do a pull test and they'll see how many hairs come out.

Now what we are understanding now from research is that we're not encountering life threatening events very frequently today. What we are really and truly encountering is this chronic level of stimulation.

Dave: Like Facebook.

Sophia: Like, exactly.

Dave: Facebook makes you bald.

Sophia: I want to say that, actually.

Tess: It contributes. It's a part of your [crosstalk 00:37:10] cloak.

Sophia: It's a part of your Instagram, Facebook, dating apps, WhatsApp, I Messenger, it's that whole... Emails, what else is there? Now I have Slack.

Dave: Hey, you're not caught up on your Bulletproof Radio episodes. There's so much pressure to listen.

Sophia: Exactly. So, we never disconnect from our phone. I want to say, I think back in Day Hans Selye, who actually coined the term stress, basically said that, in the 60s or 70s, he basically said, "Oh, we don't have enough anabolic time." They did not have enough time to disconnect. Now think about what that means today. If they did not have enough time to disconnect, then what does that mean for us?

So there is this chronic level of underlying stimulation of the hypothalamic pituitary axis and of course, the autonomic nervous system, and the adrenals are constantly working. And that disrupts our normal cortisol patterns and the follicles actually have receptors for cortisol and for corticotropin releasing hormone. When they're stimulated, interestingly enough, they can actually produce their own hormones. So they act as

almost antennas for stress on the skin. So with that in mind, we can't say that it's a sudden stressful event that will impact them. It's actually every little bit of accumulated stress that might not look like stress.

So I often ask people, "Are you stressed?" And they're like, "No." At the same time they will say, "Oh yeah, I don't really get a chance to eat in the morning or in the afternoon." That was a recent question I asked for some residents, medical residents. And I'm like, "How do you just said that you're not stressed?"

Dave: Yeah.

Sophia: So, that's why we ask the questions on our quiz in a very sort of roundabout way. We want to make sure that we're not asking directly, "Are you stressed?" But were asking about energy levels. We're asking about sleep patterns and things like that.

Tess: And we do ask if you've had a big event, because sometimes it's just like the event that tips the glass over. You can have all this cumulative stress adding up, adding up, and you haven't reached this threshold yet, and then you have a breakup, you get surgery, or you have a big move and then your adrenal system collapses.

Dave: And you just get handfuls of hair coming out.

Tess: Then yeah, then you're going to have those handfuls of hair.

Dave: I think everyone's noticed that. You know, like, what the heck is going on?

Sophia: Yeah.

Tess: Because sometimes it's hard for people to identify one thing, or they'll be like, "I had this traumatic event happen to me over two years ago, I should have my hair back by now." And we notice people do not. And that's because even after that there's no rehabilitation time. Your body can't fully recover because you're still exposed to these low-level chronic stressors on a daily basis.

Sophia: And that's very common for post-pregnancy, actually. A lot of women. Well, pregnancy is in itself beautiful and wonderful, but it can be very stressful in the beginning. Once the baby is born. And the body actually during pregnancy, it tells the hair follicles to stop cycling. So all the mechanisms that were happening normally in your normal life, but the body is very smart it just says, "That's not important right now, can we stop, we'll focus all of the attention on the baby and the pregnancy." And so during that time the hair looks beautiful and luscious and wonderful. And when the baby is born, inevitably within 3 to 6 months a lot of those hairs will fall out.

Dave: M-hmm.

Sophia: Now, normally speaking we used to tell patients back in residency, I remember this, "Don't worry about it, it will come back." Now, what I hear a lot now is that those

women actually never recover fully and what's behind that, well, also that baby's very stressful to have in the beginning.

Dave: Lack of sleep.

Sophia: Yeah, there are nutritional differences during pregnancy and post pregnancy and that accumulates. So, there hasn't been a chance for the woman to regain her normal way of being. And that's why two to three years after they're still feeling that the hair hasn't come back fully. So that's chronic stress for you. And that's really what's important to address. Not just those sudden stressful events.

Dave: So having babies causes baldness in men. That's what I got out of all that, right? Pretty much, yeah?

Sophia: Like you said it is very multi-modal.

Dave: I can tell you, it's a little stressful to have babies, because they keep waking you up, and then-

Sophia: Sleep is disturbed.

Dave: Yeah.

Sophia: It is stressful for men also to have a baby, because you're dealing with, maybe a hormonal lady.

Dave: Well that happens.

Sophia: Then also, waking up.

Dave: Yeah.

Sophia: And having to feed the baby. You're having to deal with stress as well.

Dave: And like no more sex for like six years. And-

Sophia: We have to study those effects.

Dave: Yeah, that's probably good for-

Sophia: Maybe that's the next [crosstalk 00:42:17] episode.

Tess: I'm sure it's great.

Sophia: I'll look into it in the meantime. And that's a really good point. So, one of our boosters is actually the stress adaptogen and the... Yeah. We actually had to have two boosters for the stress response system. One of them is the B complex because B vitamins get

depleted during stress. One of the only things that happens is that we actually deplete all of our nutrients and most importantly B vitamins. And some of them have been studied and shown in mice, when we replete them, that the adrenal glands get healthier.

Tess: And we can actually prevent them from getting worse if you take B vitamins in early stage stress.

Dave: Yeah, I think it's a good idea for most people to be on those.

Sophia: Exactly. And the stress adaptogen, we have a stress adaptogen in the core formulation it's the ashwagandha. It's standardized to very high percentage of the bio actives. And has actually been shown in clinical studies to reduce cortisol levels in chronically stressed adults. And then the boosters have many other adaptogens in them. And that's for people who have that. Who have really almost at a point of adrenal fatigue or have been impacted by chronic stress. [crosstalk 00:43:29].

Tess: It's reishi mushroom, rhodiola, and schizandra.

Dave: Beautiful.

Tess: And surprisingly schizandra has some research that actually tie it to hair health as well.

Dave: There you go.

Tess: Yeah.

Dave: All right, let's talk about stuff that's bad for our hair, that we do, that is just purely environmental. Like, not enough sunshine. Too much Sunshine. Bad Air. Air pollution. I don't know, standing in garbage rain. Tell me what's bad that people are doing.

Sophia: They're using products that are not healthy for them. I think one of the biggest issues that we find is, xenobiotics. Including BPA, and...

As Tess is drinking from her plastic water bottle. We don't often do that, that's one of the questions that we actually do ask from our customers is how often they use plastic. Or anything that is contained in plastic. Parabens, sulfates, all of these, phthalates, they do damage us and one of the biggest things about the hair follicle is it is one of the most sensitive hormonal tissues. So it's incredibly sensitive to a good endocrine balance. And anything that disrupts at endocrine balance is a big issue for the follicle. And it's a finely tuned mechanism through multiple growth factors and cytokines and hormones. It has receptors for absolutely every hormone.

If you do throw off even one thing, the rest of the biological clock suffers. And so I think, in terms of air pollution and in terms of the topical things that we put on our hair, on our scalp or even on our skin because that travels, and anything that we ingest as well, such as the BPAs from the plastic can throw off that balance.

Tess: Sophia is making a great point for how the environment can throw off our endocrine system. Then you have the direct toxins that actually come in and can hurt your mitochondria. They cause higher reactive oxygen species, which in a fancy world is oxidative stress. Which can eventually damage the follicle and impact the growth cycle.

Dave: So, give me some specifics here. What should I not do if I want to have a head full of lustrous hair?

Sophia: Well, first, don't eat a lot of sushi.

Dave: What? I just had that for lunch.

Tess: It's not just sushi, because-

Dave: What are you worried about mercury?

Sophia: Mercury, unless you're really using a great liver support, something that helps you detoxify well, otherwise all of that mercury will accumulate and aluminum, for instance, in our deodorants. I think we spoke about that last time. I use a crystal deodorant. Salt.

Dave: Doesn't it say, aluminum on there, right on the crystal?

Sophia: No.

Dave: You sure?

Sophia: Absolutely 100 percent sure. I tested negative. I was one of the few people in our office-

Dave: Who had no aluminum?

Sophia: ... Who had no aluminum in my hair.

Dave: That's cool.

Sophia: The rest of the people who were not using a crystal, and who were not hippies like me, were actually...

Tess: Me specifically.

Dave: Hold on a second our M.D. was cleaner than our naturopath? Oh my goodness.

Tess: Yes. Yes.

Dave: You guys are defying stereotypes.

Tess: Everyone always says that about us, actually.

Dave: Okay.

Sophia: So again, so not utilizing any aluminum.

Dave: So keeping the metals out is a big deal.

Sophia: Keeping the metals out, I think E-Cigarettes as well, or cigarette smoke-

Dave: Those things trash your hair. Yeah.

Sophia: Exactly. So cadmium was found in hair.

Dave: Just nicotine itself in high doses is bad for hair follicles.

Sophia: Yes.

Tess: Fun fact about cadmium, they found in pre-menopausal women, most of the cadmium sources were actually coming from soy products. So, we have a lot of vegetarians and vegans who are eating soy and it can be a potent source of toxic exposure.

Dave: Couldn't we just translate that to, "eating garbage?" Couldn't we just be real [crosstalk 00:47:26] about that?

Tess: Oh, okay.

Sophia: [crosstalk 00:47:27] It has so many issues because not only is the soy product with the cadmium, but also thyroid. Thyroid hormones.

Dave: Well yeah.

Sophia: It's a huge interference for a normal...

Dave: And Glyphosate and the pseudo estrogens and all the other, and lectins, and all the other reasons that it's not food for humans or animals.

Tess: And now to both of yours point, we kind of just covered five different things that are influencing five different systems in our body that we've actually found tied to hair. So, you're using products that are disrupting your detoxification system. You're eating food that is disrupting your gut. You're eating soy, now you have thyroid problems. So all of these things are compounding in your body at one time, ultimately with the end result of inhibiting the hair follicle.

Dave: So, I'm going to fix all this with some Nutrafol capsules, right?

Sophia: Well, the way that we've evolved as a company is that normally speaking you would take the Nutrafol capsules to really target the pathways at the follicle. And then, once you identify which system is impacted for you, and it's not just really based on what

your environmental inputs are, also it's the cumulative effect. Not everyone is going to have the same system impacted because it's the cumulation of all the different stressors that makes an impact. And genetics and biochemical individuality do play a role. So, for you it might be the detoxification system and the stress response. For me it might be the sugar support or sugar metabolic system that is impacted. So it's different.

So once we identify which of the supporting boosters you would need that's the personalization aspect of the intervention.

Dave: So, if the average person who has average or below average hair decides that they're going to eat less of the bad stuff. They're going to, I'm going to assume, eat some of the Bulletproof Collagen because it just makes hair easier to grow.

Tess: I support that.

Dave: And they're going to add Nutrafol and how long would it take before they would say, "Oh, look, I can see a difference in my hair?"

Tess: That's a great question. Sophie loves to answer it, but because I think people like to jump the gun they take a product for a month and they don't notice anything is happening, but the hair cycle actually takes very long to go through it's process.

Dave: How long is very long?

Tess: It actually takes years, but we-

Sophia: About six years. Three to six years in the anagen phase and then, the catagen phase, which is the... So anagen is the growth phase, for anyone listening, and catagen is the regression phase. And that's about three weeks. And then a follicle goes into the resting phase which is telogen. You can think of it as having a cup of tea.

Dave: Okay.

Tess: And so the follicle is essentially resting and the hair has already detached so it's just waiting for it to fall out.

Dave: And how long does it wait before it fall out.

Sophia: About three to six months.

Dave: So you can have like a dead hair for six months that hasn't fallen out?

Sophia: Yeah.

Dave: Wow, that's cool.

Sophia: And, that's when the regeneration process starts and when the stem cell gets activated for the new hair to grow, however, again when you don't have all of the pathways balanced that hair just might decide to stay in the in between phase. And kind of sleepy.

Tess: We call it the keno gen phase, but that's not often used in common language.

Dave: Okay. So it's going to take me six years after I switch-

Tess: No, no.

Sophia: No.

Tess: In our clinical study it actually showed that people saw results in three to six months progressively. So, as time goes on, they were seeing better results.

Sophia: In general, everyone is different, again. I hear some people call me and say, "I see new hair," in one month. And I think to myself, "How is that even physiologically possible?" And it happens. There's also others that didn't have a result for six months and then start to slowly see that in month seventh and eighth. The average, I would say, is most people see a decrease in shedding between one to two to three months, and that is a good parameter to look at, because we're not always seeing new growth right away because the follicle does take all of that time to cycle.

Dave: Okay.

Sophia: And then, six months they should be seeing some new baby hairs.

Dave: All right so that's longer. Most people will say I'm going to try a new supplement for a month. By the way, most supplements, unless they're direct mitochondrial things - and I make a few ones like that - you feel those in five minutes, but most of them, if you're going to take your vitamin D, like you probably aren't going to have angels singing from Heaven from your vitamin D, but if you take it for three months, like, "Oh what do you know I didn't get sick the way I used to." And you see these changes. So, it's not an unreasonable amount of time but it's longer than the short attention span that most of us naturally have.

Tess: Well, and Nutrafol comes along with a lot of side benefits. Some of the ingredients have been, like ashwagandha for instance, actually helps reduce anxiety, it helps promote stress resiliency, you might sleep better. And these have been proven to happen before the three month mark. So a lot of our customers they say, "Nutrafol has been making me feel great, I don't notice my hair is growing yet, but I'm still going to take it because I feel so great on it."

Dave: That's the systemic effects, okay.

Tess: Right.

Dave: That makes good sense. All right, so we talked about bad stuff you can do, how long it's going to take to get your hair to grow better, I'll say. What if you're just full on bald, and you're a guy. Are you screwed?

Sophia: I wouldn't say you're screwed because there's plenty of really beautiful bald men, but-

Dave: I mean your bald and you want to grow hair.

Sophia: Yeah, it's probably unlikely I would say. It depends on how bald you are. And it's interesting to me, sometimes, I meet men who actually shave their hair, and they are bald. And I don't offer them Nutrafol. I have friends like that and all of sudden they come to me and they say, "Hey, so what about that supplement? Can I take it?" And I'm like, "What?" The reason is they actually want to have those little black dots on their scalp still maintained. It's not like they're looking to grow their hair. But they actually still want to prevent the loss of it. So I think in those circumstances you can still take it if you're really set on having... on retaining hair, which you have to do something, because it is progressive.

Dave: Mm-hmm (affirmative).

Sophia: But you would not grow the scarred follicles back. It's just impossible because there's not much you can do with that unless you're having a transplant.

Dave: I will use the True Light, red infrared light stuff. This is full discloser. I am a founder of True Light and hope to... Actually some of the patents they have on the glasses, I wrote. But I've been using that on my head and noticing a difference. Would you stack red light therapy with Nutrafol? Is that a good plan?

Sophia: So, yes. Low level laser light therapy has been actually shown to stimulate mitochondria in the follicles around the follicles and stimulate growth. So a lot of our doctors who have Nutrafol in their offices they are utilizing it together with the helmets as well, so-

Dave: Okay.

Sophia: It does work. I think that if you stimulate the mitochondria and lower the inflammation and provide the botanicals that are countering all of these other pathways it's a really great combination therapy.

Dave: Okay.

Tess: And, even in addition to that, Nutrafol does contain vitamins and nutrients that help support hair growth nutrition. So you have more mitochondria, you have more cellular energy to be using all these great things coming through the blood stream to actually help generate the hair that you see.

Dave: Should I also use a Derma roller on top of that?

Sophia: It wouldn't hurt.

Tess: Yeah, it wouldn't hurt.

Sophia: There are some studies that basically show that healing, or the process of creating a micro-incision does generate some level of good inflammation, right?

Dave: Mm-hmm (affirmative).

Sophia: It stimulates growth and stimulates stem cells as well. So they do help. Sometimes the Derma rollers that are at home are not deep enough. So a lot of our doctors, they also use micro needling which goes a little deeper.

Tess: And just a quick disclaimer on the Derma rollers, I think they're starting to crack down on how deep they can actually go. Because doing a medical procedure in the safety of your home isn't always that safe. If you're not cleaning your head-

Dave: It's terrible if you have a doctor's license.

Tess: ... If you're not cleaning the tools. Yeah. You might end up seeing more people because of infections.

Dave: "Oh my God, I did a Derma roller and my hair was dirty and I got an infection and it was my own damn fault."

Tess: Yeah.

Dave: So let's definitely not let people do that, sorry.

Tess: Yeah.

Dave: A little bit of a shout out there for self-responsibility. But you're right, okay, if you're going to take like one inch needles and roll them over your head.

Sophia: Yeah, don't do that.

Dave: Yeah that's... Okay. Got it. How deep do you think it's safe for just mere mortals to go who don't have white lab coats?

Tess: I don't even know. Maybe like one, one millimeter. I think 1.5 is actually significant enough to actually cause a microtrauma.

Dave: Yeah you'll start bleeding around 1.5 or two.

Tess: Yeah. If you're drawing blood in your house it's probably not the best thing to do. You should see your dermatologist, see your esthetician to do some micro needling then.

Dave: Oops. Probably depends on where you're doing it, too. If you're doing it in the middle of your scalp it's a different animal. If you're doing it on your forehead and you're going to look like someone roto-tilled you, that's a problem.

Tess: Ouch.

Dave: Okay. I'm just speaking for a friend.

Sophia: I would say if you really want a real micro needling treatment...

Dave: Yeah, go to a doctor.

Sophia: ... Go to your board certified dermatologist.

Dave: And are you a board certified dermatologist?

Sophia: No I'm not.

Dave: Oh, you're not board certified.

Sophia: I left my residency.

Dave: Okay.

Sophia: To do this.

Dave: The other thing is the doctors have the electric little vibrating micro needling stuff that works really better than the rollers anyway.

Sophia: Yeah.

Dave: That's what they did on my head when I was unconscious. At least that's what they told me. I believe them. If you were to just go all in. And there's a lot of people who listen to the show. A lot of people who are exactly this, "Well, why would I just do one thing? I want a result and I'm less worried about knowing exactly which one thing." So you would start out by saying, "Don't eat crap?" Okay.

I might plug the Bulletproof diet there. That's got the kryptonite foods at the bottom, avoid those. And then I'd say, "All right, toss some collagen in there because that's really easy. And you're probably already doing it if you're listening to this show. Bulletproof made collagen cool."

And then you'd add Nutrafol. Right? And you'd figure out whether you need the core product for men or women. And I'm intrigued, I can't say that I've tried it yet, but this new prebiotic, probiotic, Hair biotic they're calling it-

Sophia: Hair biotic.

Dave: Okay. I would toss that in there. Right? I'd add some Bulletproof Inner Fuel. Because you want any probiotic you take to have area to grow and it's good for gut health anyway. And then, from there you would do first light therapy then micro needling?

Sophia: I would likely... Well, first I want to say that we don't just have the Hair biotic. We also have the liver support. We also have other products.

Dave: Okay.

Sophia: So there's about-

Dave: So, you'd want to fill out the survey and figure out what you need.

Tess: We have 7. 7 targeted boosters.

Sophia: You'd want to fill out the survey and understand if you need the particular booster. Because you also might not need boosters. And we don't want to push a product on you. So by taking the survey you'll understand what it is that your body's needs are.

Dave: Okay.

Sophia: And based on that you might wind up with Nutrafol Core and two boosters, for instance. And then, with all of these other components, which I fully think are amazing. From Bulletproof as well. And when you decide what procedure you want to do I think it's really good to go to a doctor who actually knows all of these things, who is actually utilizing multiple therapies. Like a person who has a good hair restoration component to their practice. And they can really identify what it is that you might need or desire at this point.

And not everybody needs everything. That's the thing. I think we all jump the gun by saying I want to do everything right now, and it's not necessary.

Dave: No, it's not necessary, but there's a counterpoint to that.

Tess: Well because there are those people who are, "I want every one of those products."

Sophia: And if they are those people then I would do the three-pronged approach. I would do the nutraceuticals and the food and everything else. And then I would do both. Low level laser light therapy as well as the PRP.

Dave: Oh, so you'd add PRP and the light therapy.

Sophia: I would bundle PRP with micro needling because I think they are very similar in that way.

Dave: Okay.

Sophia: Except PRP adds to the micro needling.

Dave: It's a little expensive, though. It's a lot more expensive.

Sophia: Yes. But if you are one of those people who wants everything then you're probably going to want to go the full gamut. So that's the way that I would approach it.

Dave: Okay that makes sense. And the reason I say that you might not need everything, we're all walking this delicate balance where, I want to get results. And I went down this path 20 years ago. I said, "All right, I'm going to try Vitamin C for a month or two." I don't know, didn't work. So, I'm going to try vitamin B for a month or two. Okay, it didn't work. And eventually you realize, wait if I try everything possible for just two months it will be the end of my life and, I won't have tried everything. And I haven't tried combinations of things either.

So, the pragmatic bio-hacker approach is, "Look, I'm going to do everything that might work that doesn't contraindicate. I'll just do it all at once." And then, we get the results, which is what I wanted. Then, I can say I'll quit doing whatever this thing is, and maybe, this is going to sound amazing, maybe I had expensive pee for a while. But it's okay, because I got the results I wanted.

Versus this fear of, "Oh my God, what if I took one thing I didn't need?" Well, it probably isn't going to hurt you. It's a vitamin for God sake. So, that's why I'm just like, no, go big or go home on getting something done. And when you're walking around, you feel the way you want, your brain works, you look the way you want, and you've got it, I'd start pairing back until you fall off the rails. Go, "I guess I should do that." It's just so much easier. That's why you'll be surprised how many people are like, "Just give me everything." Right? They'll book something, they'll probably call... They'll go back to the episode with Amy Killen, and be like, "Hook me up with my PRP, whatever." Because their goal was I only have so much time, and I want hair. So, just do it.

Sophia: I agree, and I think that's actually one of the things that a lot of our doctors are doing as well. The ones who really truly understand hair loss and thinning, and hair health in general, is they really just throw everything at the patient. I'm, of course, coming at it from the medical standpoint and looking at the integrative standpoint as well, I agree. I think that if you do everything at least you know you did everything. And ultimately, something is going to stick.

Most likely it's the combination that is going to stick because it is a multi-effectual ideology. So, no matter what you do, you're making yourself healthier.

Dave: Yeah.

Tess: And that's where the philosophy of the Core Plus targeted boosters came from. It's that, you know, Core is wonderful on its own, it's supporting your body. But when you have these incoming stressors from all different angles you just need more. So, we're

supporting some of these foundations to health that if they aren't balanced your hair can't thrive.

Dave: Got one more question from you, and Tess, we'll start with you.

Tess: Now I'm scared.

Dave: Good. You should be. You know, Super Human, my new book on anti-aging is in pre-order and I've been pretty public about this. I'm going to live to at least 180, but people think I'm completely crazy pants for that. How long do you think you're going to live?

Tess: I think I will live to about 95.

Dave: That's it?

Tess: That is it.

Dave: Even with Nutrafol?

Tess: I think I might be tired at 95 though. No?

Dave: Ugh. There's pictures of being old... Okay, what if when you are 95 you weren't tired?

Tess: If I was 95 and I wasn't tired, then by all means, let's live as long as we can.

Dave: Do you know how many 95 year olds, when you ask them, say, "Hey, do you want to die right now because you're so tired?" Do you always hear them say yes?

Tess: A lot.

Dave: No.

Tess: No?

Dave: Very few of them! And the ones who do usually do something about it.

Tess: Yeah.

Dave: My grandfather did that. He's like, "I'm going on the all wine diet." And like four days later he was dead.

Tess: Oh no.

Dave: Right? Yeah.

Sophia: I would just like to say my grandmother is 95, and she's just one of those people that's always curious. I think if you're always curious about life, about everything, she just picked up yoga. Come on. 95? Really?

Dave: That's awesome.

Sophia: She does Chi-Gong in the park.

Tess: My 85-year-old grandma sent me a headstand photo the other day.

Sophia: Yeah-

Dave: Oh whoa, that's cool.

Tess: I can't even do that.

Sophia: You've got good genetics Tess.

Tess: I do. I do.

Dave: Yeah, so I think you could step your game up a little bit.

Tess: Okay, I'll move it up to 110.

Dave: There you go. And also, I mean you guys are young, and science is moving along. We have this picture, especially if you've been through med school where old age is like diapers, and tubes and monitors, and wheelchairs and not knowing your own kids' names, right? If that isn't what aging looks like, because you took care of your stuff 50 years before that, the picture changes. Now, you're like I'm that wise person who walks around and talks to people a third my age, and tells them how to not be idiots when they're 50. That's cool.

Tess: I would say my most important thing is to focus on health span, not really life span. As long as I have it all together and feel really great, I even call it within our company your hair span. So, if you're supporting your body for health, you'll have better hair for longer.

Dave: Did you just say you want to live as long as you have good hair?

Tess: Yes.

Dave: I think that's what I heard you say.

Sophia: Oh my God.

Tess: That's-

Dave: What a great answer.

Tess: It was good.

Dave: All right, Sophia?

Sophia: I would say I'm immortal.

Dave: You're immortal? All right. Now, you've got to unpack that a little bit. Is this because of your hair?

Sophia: Totally, because hair, it's a spiritual... The length of the hair really does have an energetic component. I don't often think about this. I think we are immortal in many ways, and...

Dave: Is this like a reincarnation sort of thing?

Sophia: Yeah.

Dave: Okay. Like, I've been here before, I'll come back.

Sophia: I'll come back.

Dave: With even better hair.

Sophia: Exactly.

Dave: All right.

Sophia: That's really my answer. I think Tess gave a great answer. I would probably, if you were really to push me, I would say around that age as well. I look at my grandma and I think, well she's really thriving still. She's having some backaches and some issues, but she's thriving. She's thriving because she is still... Her spirit is up. I think having the spirit up is one of the most important things as well. Yes, having the health of the body is important, but the spirit is super important.

Dave: Cool.

Sophia: So, self-care, and finding ways to support our soul and spirit is very important to me. I think, in that aspect, I think I am immortal.

Dave: All right, no one has ever answered that way before. So, I could take-

Tess: You ask everyone this question?

Dave: I do. Yeah. Absolutely. I switch from the, you know, perform better as a human being after Game Changers came out, which was 500 samples and really good data. And now

that I'm talking about anti-aging, the mission is to change the way people think about being old. I think the world is missing a lot of village elders because a lot of old people are too tired, and too sick. And, just in firm, because of what we're doing to the environment, the way they live.

So, what if, when you're old, you're like, "I'm wise and highly functional." Then, what does it look like?

Sophia: I have this great idea. I have a whole plan figured out. I just want to go to an island and have a home with all my friends, and live in the community.

Dave: They call that Bali, right?

Sophia: We'd have a lot of fun.

Dave: Beautiful. That's a good way to live a long time. All right, I'm with you there Sophia. I appreciate you guys coming on Bulletproof Radio today. Your with Nutrafol. Nutrafol.com and, you have that cool survey. I'm super intrigued at the new Hair biotic, and I think that the idea of personalizing what's going on with your hair is really important, and paying more attention to my hair. I think that you guys are onto something here. So, I appreciate... Is this your, I think, third time on the show. But we got on some stuff that we've never talked about before.

Have you on again in a while, I'm going to follow up on that hair has energetic powers thing because I think there's maybe something to that. Then, we're going to have to talk about the effect of laser hair removal, but that will be on another show. Have an awesome day.

Tess: Awesome, thank you.

Sophia: Thank you.