

Speaker 1: Bulletproof Radio, a state of high performance.

Dave Asprey: You're listening to Bulletproof Radio with Dave Asprey. Today's cool fact of the day is that, as your blood pressure rises, so do all sorts of different risks. Some new blood pressure guidelines announced at the end of 2017 just pushed half of you as adults into the unhealthy range. Basically, one 130 over 80 is the new 140 over 90. If you don't know what that means, you're going to learn on today's show.

Dave Asprey: What it means in terms of risk is that, now there's 103 million people up from 72 million people under the old definition of high blood pressure, that need to make some changes in their diet and exercise. Looking to devices or anything else they can do to lower your risk of heart attack and stroke, and all the other bad things that happen when your blood pressure's too high. These new guidelines are the first major updates since 2003, and they were just announced at the American Heart Association's annual Scientific Sessions. The researchers said, "It's very clear that lower is better," and that came out of the Tulane University School of Public Health.

Dave Asprey: I'm going to put a little asterisks on that. Almost everything in your body, it's not true that lower is better. Just because cholesterol is bad, well if you have cholesterol that's too low, your risk of all sorts of diseases go up. Just because cortisol is the stress hormone, if your cortisol is too low you will hate your life. Did you know that insulin that's too low increases your risk of death more than high insulin? It does, so what's going on is, you want your blood pressure and every other hormone level and biomarker to be in the correct zone for living a very long time and having tons of energy. I'm going to put a little asterisks there that says, it's not clear that lower is better. It's clear that lower than where most people are is better, but if you have low blood pressure, don't lower it anymore, because your brain likes oxygen.

Dave Asprey: Now, in my master's degree in foreshadowing that I've been working on here in the show, you probably have guessed that we'll be talking about blood pressure. You probably haven't guessed that we're going to be talking about something that has nothing to do with what you eat or how you exercise, or even medication. If that has piqued your interest, "What's left?" you might ask yourself. Well what's left is technology that you might be able to use that changes your blood pressure and improves it.

Dave Asprey: This is something that if you're a long time listener, or you've been following the blog for many years, the very early days I talked about this technology in there. Just haven't really talked about it much since then, it's called Zona Plus. This is just a really cool tech, because instead of using drugs, instead of going out and making lifestyle changes that you probably really should make anyway. What they're doing is, they're using data and real-time feedback in order to teach your body to control its own blood pressure in a way that's really profoundly effective very quickly with tons of science behind it. The guest on the show today is Mark Young, the CEO of Zona Health.

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Dave Asprey: Mark is a, actually his background is in clinical psychology and he's worked with a variety of medical tech companies and in education for a long time. He's really passionate and motivated about showing people, here's what a small amount of training of your blood vessels can do for you. Mark welcome to the show.

Mark Young: I appreciate that Dave.

Dave Asprey: All right, give me the lowdown. Given that you're working with this new technology, what exactly is hypertension? What's going on with it, just for people listening going, "I'd never thought about my blood pressure too much," what's the deal with that?

Mark Young: Yeah, well I appreciate the intro that you gave, because you talked about the statistics of the number of Americans that are suffering with high blood pressure. We make the claim on our website that one out of three Americans and statistically that's accurate, and that includes most countries in fact. It's not that America is specific.

Dave Asprey: We just have good data.

Mark Young: It's good data, like your research. The reality is that, one out of three people are dealing with it, and of the one out of three, they say that one out of five people don't even know they have it. A lot of people are oblivious to the fact that they even have high blood pressure problems. As you alluded to, the most recent update by the American Heart Association asked the average person what their ideal blood pressure is. They come back and say 120 over 80 right, that's been the number that we all grew up knowing was the perfect blood pressure.

Mark Young: American Heart Association recently came out and said, "No, actually it's better at 110 over 70." 120 over 80, which used to be the perfect score is now actually verging on pre hypertension. People who thought they had perfect blood pressure in fact are elevated by the current standards, and as you pointed out, now we've got a lot more people who are in risk and didn't even know it.

Dave Asprey: Can you talk about the two different numbers in the score and just give people grounding in what systolic and diastolic are?

Mark Young: I mean systolic is obviously the top number of the blood pressure reading, diastolic on the bottom number. Both, I don't know how much science you want to go into on that.

Dave Asprey: With blood pressure there's two numbers. One is, when your heart beats, how much pressure is there when you're actually pushing. The other one is how much pressure is there when you're not pushing. I mean what's the problem with high blood pressure in general? Why should people care if it's high? What are the risks? How does it work?

Mark Young: Well high blood pressure itself is obviously a problem, and what happens is it puts a strain on the heart. Imagine the case, I always give people the example of a kink and a garden hose. You put a kink in a garden hose and all of a sudden the pressure builds up so much that it starts to force it like a backwash if you will. Too high of blood pressure causes all sorts of issues throughout the entire body. You know WebMD would tell you that you're dying of everything if you looked up high blood pressure.

Mark Young: The idea that the heart needs to pump even harder and harder and harder weakens it leading to cardiovascular disease, leading to strokes, leading to any number of medical indications, simply just based on those numbers seeming to be off obviously.

Dave Asprey: Some of the other things that ever intrigued me about this are that, if you have high pressure clearly the heart has to push harder, but you also then have an increased chance of fluids leaking out.

Mark Young: Yup.

Dave Asprey: This is something that happens when you get puffiness in your legs. You get inflammation throughout the body, so-called water weight can happen. Of course things like an aneurism where you have a weakening of a blood vessel, where if you have more pressure in there it's more likely to be a problem. The microtubules in your kidneys really are most at risk from high blood pressure, which a lot of people don't know. One in five people listening, at least the ones who haven't ever measured this probably don't know they have it. If you go to the doctor to measure it, you probably don't know either because a lot of people get high blood pressure from the white lab coats syndrome and just being in a doctor's office, which is usually not the place you feel relaxed.

Mark Young: You mentioned kidney failure in there and there's blood pressure has been recently linked as the number one cause of kidney failure. We don't think of that as being a concern, but it's like blood pressure's affecting so many different functions throughout the body that I mean it's almost too extensive to list.

Dave Asprey: Now, I have put up a few videos over the years' sort of eviscerating this idea that "oh, eat less salt to lower your blood pressure." Do you have a perspective on sodium and blood pressure that you want to talk about, versus the way of just training your body to do what you want it to do?

Mark Young: I'll tell you that, as you said before, too little is not always better. With salt intake, certainly too much salt does lead to increased water retention, increased blood pressure. Too little salt has adverse effects as well. It's all things in moderation, Dave you know that.

Dave Asprey: It's about getting the right level, and it drives me nuts because unless you're one of the 3-5% people who are salt sensitive, hypertensives, the amounts that your

blood pressure will go out from eating more sodium is within the error margin of a blood pressure cuff at the doctor's office. It's a very small effect, and so a lot of people have high blood pressure not because they have too much sodium, but because they don't have enough potassium or magnesium. It's about ratios of these.

Dave Asprey: People who have low sodium levels have a serious problem dealing with stress. In fact, if you lower your sodium really even to the levels that are recommended today and the recommended dietary guidelines, it increases your heart attack risk, because low sodium increases something called renin.

Mark Young: Stress hormone.

Dave Asprey: Renin then increases your cardiac risk very dramatically. Same thing, you've got to be in that right zone and of course you named Zona, which is funny. You have to get it there, so for me I was on a low sodium, I was a raw vegan I think for a long time. You know what, I feel a lot better on six to eight grams of sodium a day. That's because it helps my body manage the stress load in my life. It keeps my blood pressure where I want it to be, and if I eat not enough salt I actually get low blood pressure which is annoying.

Dave Asprey: A lot of people though, they eat extra salt, they get puffy, but they take magnesium or they do other things and they don't get puffy. It's a complex thing, but the idea that "oh, I'm not at risk because I eat a low sodium diet," the data does not support that.

Mark Young: Correct.

Dave Asprey: In fact, the head of the American Society of Hypertensive, okay I'm misquoting there a little bit.

Mark Young: You're talking about the American Hypertension Society?

Dave Asprey: Thank you, that's the one.

Mark Young: There you go. Yup.

Dave Asprey: This is going back well, but he did a study of 3,000 people looking at urinary sodium excretion instead of all the data that we look at comes from self-reported salt intake. I don't know, can you tell me how many of grams of salt you had today?

Mark Young: Not a clue.

Dave Asprey: Yeah, neither anyone listening to the show, right, so it's all garbage data and they do all these things that are just not even cool with our recommendations. At the end of the study with real data, direct quote from the lead study guy, he

says, "If you want to live longer, eat more salt." Now clue there's another limit, but we're in there. I just want you if you're listening to this, to be like, "Okay, this isn't the conversation about salt and blood pressure," because salt isn't going to be that big of a factor in your blood pressure unless you're in that tiny 3-5%. Given that 20% of people don't know they have high blood pressure, and about 33% or whatever percentage have it, this is a big deal. If you look to your left and your right, you look at your mom, your dad or your kids, whatever, you know people around you have this.

Dave Asprey: This is a fundamental thing, and traditionally we use medications for this. You go to the doctor, and they say, "You need to be in this medication and has somewhat side effects, and it's expensive," et cetera, et cetera. What's the Zona approach?

Mark Young: Well the Zona approach and you bring up the medications and my personal passion behind being involved with Zona and getting the word out to the public to be honest with you is, it's a medication-free living. I think that speaks to most of your audience as well as the idea behind, there's a lot of solutions to a lot of life's ailments and better living that are not related to medication obviously.

Mark Young: Zona is a, you mentioned the isometrics I believe earlier and Zona is actually, we call it an isometric exerciser. What that means is, it's a medical device that uses isometric exercise to ultimately lower blood pressure.

Dave Asprey: I think most people don't know what isometric exercise is.

Mark Young: I would agree with that. You beat me to it.

Dave Asprey: Sounds like a flavor of malt.

Mark Young: It's good right? Isometrics literally meaning iso meaning equal, metrics meaning measurements, means that isometric exercise is the exact opposite of what most people think of when they think of aerobic exercise. Aerobic exercise, lifting weights, take heavy things, pick them up, put them back down.

Mark Young: Isometric exercise is the idea that you're holding a muscle group and holding your body at a very static resistance level. Like a plank, a person doing a plank is holding all of the muscles associated with holding that position in an equal measurement. The body is not lifting anything and putting it back down. It's not turning in circles like a bicycle, it's doing none of that. What's happening with that isometrics is that it's the difference between aerobic exercise versus anaerobic.

Mark Young: What's happening with anaerobic exercise is, it's triggering the parasympathetic nervous system and that has multiple different outcomes for it, which is what the Zona helps. What the Zona Plus is doing Dave is, it's actually working to help the body use its own healing properties to heal itself. The Zona's not doing

anything to someone. It's not doing anything other than helping you do exactly what your body's naturally programmed to do.

Dave Asprey: It's really cool how it came about. This is what got my attention years ago when I first heard about this.

Mark Young: Great [crosstalk 00:12:55].

Dave Asprey: I was so excited about it, and I've actually gave one to my dad who has high blood pressure. He uses it on a regular basis. It looks like a little joystick.

Mark Young: Like a Star Trek phaser, yeah.

Dave Asprey: In fact that's even better, like a little phaser.

Mark Young: The grocery store scanner is what we hear a lot.

Dave Asprey: Yeah, a barcode scanner, it's like that's the most likely descriptor for it. The idea though is that, fighter pilots used to pass out when they do high G maneuvers. The reason they pass out is blood pressure control issues. The blood drains out of their head when they're spinning their jet and then it crashes.

Mark Young: Correct.

Dave Asprey: In fact,, I lost a great uncle to a jet fighter pilot thing like that I mean before I was alive, but family lore. The point of it though is that we learned with pilots how to not pass out. One of the things that they do is they wear pressure suit, which actually compresses the body so that the blood won't go where it's not supposed to go. Then they learned this cool hack, that if they squeeze the control stick really, really hard, that that pressure was allowing them to maintain their blood pressure the way they wanted to.

Dave Asprey: The Zona Plus used that knowledge in that original research where they noticed, hey, some of these guys who had high blood pressure don't anymore, what's up with that? They realized, oh you can squeeze this little joystick like device not too hard, not too soft, just in that Goldilocks zone. Just like you don't want your cortisol too high, too low your blood pressure too high too low. You want your grip strength not to be as hard as you can squeeze, because you can do that with a spring, you don't want to be too soft. You do this for two minutes per hand twice a day, essentially eight minutes a day. What kind of results did you guys see? On even like a dozen clinical studies behind this thing now, which is why I wanted to have you back on. What did people see from that?

Mark Young: I'm actually going to go back to your first point.

Dave Asprey: Okay.

Mark Young: I'll get back to that one, but you mentioned the story behind how Zona even came about. We get a lot of questions, probably one of the biggest questions that we hear from people is, "Why that have I ever heard of this before? Is this brand new? Is this real?" So on, so forth and it's fun that we can take the story all the way back to 1969, which is when Dr. Ronald Wiley who is actually a well-renowned actually cardiopulmonary physiologist, who was commissioned by the US Air Force to start this research. The reason was they wanted to test the effects of isometric exercise on G-force blackout when planes are doing it. Dr. Wiley became intrigued and for decades ended up continuing this research to find out and to your point Dave, you talk about that sweet spot that Goldilocks, not too hot, not too cold but just right.

Mark Young: The reality is, that's exactly the beauty behind Zona is that, you can squeeze as hard as you want, but that's not going to get you the effect. You cannot squeeze at all and obviously that's not going to get you the effect, but Zona speaking to your second point, is that what Zona does is it actually holds your grip in exactly the same position. One of the stories we tell people is they think they can just hold something at a static rate, and it's going to be okay. The problem is, is most people if you tell them to squeeze to their maximum pressure, if you cover up any kind of display that lets them know what pressure they're squeezing, eventually they completely let go because they get distracted.

Dave Asprey: I will say that when I use my Zona Plus, if you try to watch Netflix or something when you're doing it, it doesn't work. You actually have to look at the screen.

Mark Young: Have to pay attention.

Dave Asprey: We're talking really real-time feedback.

Mark Young: Correct.

Dave Asprey: The things that have changed my life the most aside from just not eating garbage, is things like heart rate variability training, where in real time, oh that's what the space in between my heart beat looks like on neural feedback. That's what my brain waves are doing right now.

Mark Young: Right.

Dave Asprey: I mean I love my aura ring and all, but waking up in the morning and saying, "Here's how I slept over the last eight hours," that's valuable data, but it doesn't allow me to correct my sleep in real time.

Mark Young: Correct.

Dave Asprey: What this is though is, it is eight minutes of concentration where you're looking at a number and it goes up a little bit, down a bit. I also have little grip strength like the proper trainers that they use for like the world grip champion stuff.

Mark Young: You [inaudible 00:16:58] arm wrestler.

Dave Asprey: Yeah, and like my grip strength is, I have a digital one too and it says that it's off the charts for an 18 year old and I'm 46. I know I have a strong grip, but it doesn't matter when you use the Zona, it's not a strength issue. It's a control issue, like how tightly can I vary the window of it and can I do it for two minutes? I find it to be challenging, but not muscle challenging.

Mark Young: Discipline.

Dave Asprey: It's like developing a skill.

Mark Young: Yeah.

Dave Asprey: Yeah. It's fascinating.

Mark Young: It's kind of cool and when you say that Wiley spent literally two decades almost perfecting the calibration, and what happens is that, with using a device like this, it's not the maximum grip strength that gives you the benefit. It's not the minimum grip strength that gives you the benefit, it's that sweet spot right in the middle. Also, it really depends on the rest periods, it depends on the precision of the pressure and it depends on the intervals that you're doing it. All three of those factors play into how effective it's going to be. Wiley we spent decades trying to come up with the exact measurement, so for instance you mentioned the two minutes of therapy. Two minutes is perfect. More than that doesn't have the effect, because you need the rest in between the two minutes. Move to the other hand, your two minutes doing that.

Mark Young: To your point, you're talking about the pressure of the device, it must be held at the same pressure. You talk about biofeedback, the Zona's beeping, and it's giving you a visual aid to tell you squeeze less, squeeze less, squeeze more, squeeze more. It's counterintuitive when using the device because seldom do you use something that tells you to squeeze less. You're usually used to something telling you to do more, do more, but to tell you to slow down or to grip less is counterintuitive. It has to hold you in that exact range in order for you to get the benefit of the exercise.

Dave Asprey: Is there a correlation between controlling your blood pressure and having a good memory? No, I'm kidding.

Mark Young: [inaudible 00:18:50], but yes actually there is. Actually it's one of the things that is being studied right now is the connection between proper blood flusher and brain oxygenation. Many people have been diagnosed with, I don't want to get into the claiming of medical things, but people who are showing signs of dementia are in fact poorly oxygenated brains.

Dave Asprey: Well this is legit, because this actually happened to a family member. It happens to huge numbers of older people who are diagnosed with Alzheimer's and [inaudible 00:19:23] cognitive dementia. You know what they have? They have medication for high blood pressure that pushed their blood pressure too low, so there's no oxygen in their brain.

Mark Young: Correct.

Dave Asprey: Daniel Amen's been on the show a couple of times. He looks at blood flow, a hemodynamics they call it in the brain. Even though I recovered my brain from all the toxic mold stuff that I had going on, it was actually chemically induced brain damage, I still have lower blood flow in the brain than average, but I have none of the damage remaining from that. I do things to make sure my blood pressure is high enough, because I don't have high blood pressure problems at all. I do track it, I measure it.

Dave Asprey: It's really fascinating that, if we took all these people who are over medicated and don't have enough blood pressure, and said, "Hey, let's get you off the medication. Let's train you on how to control your own blood pressure. Do this biofeedback for a while so that you learn how to do this," you won't need medication, but you'll have enough blood pressure that your body can regulate it the way you're supposed to. Then it's like your brain just wakes up.

Mark Young: Yeah, and well one of the things, you talk about the juxtaposition between using a medical device like a Zona as opposed to using blood pressure medication, blood pressure medication in no way helps your body regulate itself. Blood pressure medication is doing the regulation itself. It's actually doing it, it's forcing the number lower, which means too much blood pressure medication can actually put you into even more dangerous territory than the blood pressure that you started the medication to treat.

Mark Young: Using something like the Zona Plus, your body's not naturally going to push itself too low. What Zona's doing is training your body to get itself to a standard so that it knows how to regulate itself. We get people who ask regularly, "What are the side effects? Is there a side effect to using it? Can it be dangerous to use it?" The real only side effect that we have ever been able to determine, which is in fact not a side effect at all is, people who are currently taking blood pressure medication. Then they decide to use the device to get a more natural solution, to get away from pharmacology, they use the device. They don't adjust their blood pressure medication or they use it without their physician's knowledge.

Mark Young: The problem is, is they end up, because their body is, I'll use the word healing, they don't need the blood pressure medication anymore, but they're still taking it potentially at levels that are now dangerous. People using the device who are on medication should keep that regulated. They should make sure that they're taking their blood pressure regularly and consulting their physician, because they will likely have to stop or reduce the amount of medication they're taking.

Dave Asprey: Now, this isn't an infomercial kind of thing, but I'm sure people who are looking or listening to this right now are saying, "All right, what does this thing cost?" We're talking few hundred bucks? I don't actually remember what the cost is.

Mark Young: Yeah, the cost of the device is \$599, it's available on our website.

Dave Asprey: No prescription required?

Mark Young: No prescription required. It's available to the consumer and we actually have a 90-day money back guarantee, not to sound like an infomercial. I say that because in all of our clinical studies, the device actually was effective for over 90% of the people who used it.

Dave Asprey: I have recommended this dozens and dozens and dozens of times to friends and people who are consulting with me about their health, it's people I ran into. I'm like, "You know what, if you've been battling this blood pressure problem, this is going to cost less than medication for a year."

Mark Young: Sure.

Dave Asprey: That 90% number is in the studies that you showed to me before the show, it's a real thing. Does it fully solve it or it's just help with 90% of people?

Mark Young: It depends on the person. Like anybody, again the device is not solving the problem, the device is training your body to solve its own problem. In so doing as I said, 90% effectiveness are people getting that reduction that they need. Some people are completely medication free, some people will go right back into normal ranges. The device itself is going to definitely increase reduction.

Mark Young: A statistic that you may find interesting Dave is, the biggest thing for most people's health is diet and exercise. It's not a secret. Most people feel like they're, whatever's happening and for a lot of conditions diet and exercise fixes things. Giving you an example, doing aerobic exercise, aerobic exercise which is you're bicycling and you're running, you're doing something like that, it's the first line of defense that most doctors will give somebody. You've been diagnosed with high blood pressure. It feels like a death sentence. Cut salt out as you said, and start going to the gym more. That will probably change your blood pressure if you're doing it regularly by about 5%.

Dave Asprey: Oops not enough.

Mark Young: 5% reduction. If you're at a 140, a 5% reduction you're probably now somewhere around like a 133, 132, you're still in the danger zone. You pulled yourself down, but not clearly enough to make that big of a difference. That's not a lifestyle difference. Doing anaerobic exercise as we mentioned that the Zona, if you just gripped something at maximum strength or just did a squat

went halfway down and held it, planks, so on and so forth, probably a 2-3% change in blood pressure reduction.

Mark Young: Using the Zona because of the exact prescription again Wiley's beautiful science, that exact prescription actually we find that most people using it in about, can be as little as four, but can be as high as eight. Somewhere in that six weeks sweet spot average, they notice an average of 10-15% reduction. It's incredible.

Dave Asprey: That's more than diet and exercise about three times more?

Mark Young: Potentially two to three times.

Dave Asprey: Two to three times more than diet and exercise. What do blood pressure medications do?

Mark Young: Blood pressure medications can take it down further. The problem is again as you mentioned earlier, you're setting up all these questions here. With diet and exercise you can take it down that 5%, medication can take it down even further. The problem is now you're living on synthetic medication that comes with it, often the side effects worse than the blood pressure itself. That's what we deal with all the time, is people who are on blood pressure medication and can't stand being on it, because it's chronic cough, it's dry mouth, it's dizziness, it's all of the other things that are coming along with the blood pressure medication. For some elderly people it's often just the fear of leaving the house without it.

Dave Asprey: Do you have a price in your head for many big pharmaceutical companies?

Mark Young: For like a year's worth of blood pressure medication or?

Dave Asprey: No, just a price in your head like there are like these guys are selling a device that could potentially disrupt a multi-billion dollar market for drugs. That people have to take for the rest of their lives, I mean do you sleep with a handgun under your bed and a tin foil hat or anything like that? Are you worried? I mean are there black helicopters following you man?

Mark Young: I totally misunderstood that question. I'm listening to the question as, did you have a prize in your head? I'm like why are you buying the company, but I'll talk. Got it. Do that again.

Dave Asprey: The deal is, are you worried? I mean like seriously, anytime a device comes, it comes along, and you're FDA cleared and all that so it's a real medical advice. Even so, like you're going up against the multi-billion dollar pharmaceutical giants in one of their sweet spot cash cow things. Like oh yeah, we've got some huge percentage of the population on blood pressure medications that don't work very well because half the populations still doesn't have their blood pressure controlled. You're saying, "I have this, buy it once," and last I checked

anyway it's been a couple years since I looked, there's no subscription, like monthly cloud based or anything like that.

Mark Young: No, not at all.

Dave Asprey: You buy the thing and you use it as long as you want, forever and it's all just included right?

Mark Young: It is.

Dave Asprey: Okay good deal. That's not the monthly subscription go to the pharmacy, flow through your insurance company all that kind of stuff.

Mark Young: Yeah.

Dave Asprey: I mean are they just pissed at you?

Mark Young: Is their high blood pressure \$46.8 billion a year, is what high blood pressure costs Americans alone. Not talking worldwide, just the US \$46.8 billion is considered the cost of high blood pressure. That's copays on medications, that's missed days at work, that's strokes, that's heart attacks and so on. Is there a price on my head? No one's actually showed me a wanted poster yet, but I can imagine that there will be pharmaceutical companies not happy with this. To that point I will say that Zona has recently and you know this, you've been an affiliate with the company for years, you've known about us, we've been on your show before.

Dave Asprey: Just a full disclosure there, I used to carry in the very, very early days of Bulletproof back when it was called Upgraded Self on the website, I used to carry Zona. Like this is one of those pieces of biohacking that no one's ever heard of that's based on jet fighter pilot medical stuff. It's just cool, and I don't think we carry it anymore.

Mark Young: No, I remember.

Dave Asprey: Yeah, but it's a cool thing, so that's the little affiliation we're talking about.

Mark Young: Yeah.

Dave Asprey: Other than that we say affiliation like there's no other commercial stuff going on.

Mark Young: Oh yeah, no, I just meant, you obviously know the company, you've known them for a long time. We've actually really forced mainstream as of last year and I'm super excited about it. Then Zona has been like this off the radar science that no one's 'heard of', and then all of a sudden we've really taken the juices and gone full strength. We started actually advertising national television last

year, I'm sure you've seen that around. Full disclosure, we're all over the place. We've got tons of physician backgrounds. In fact, we just had an endorsement by Dr. Phil recently.

Dave Asprey:

Beautiful.

Mark Young:

Who got involved which was fun and Phil learned about us because Travis Stork who was actually the host of the TV show The Doctors, I'm sure you've heard of The Doctors before.

Dave Asprey:

Oh yeah.

Mark Young:

Worldwide syndication on that show, Travis Stork who's the host there, he's actually the face of our brand. He's our spokesperson for the brand, so you're talking some pretty big names willing to put themselves out there to promote this type of science. Their goal is that they want their patients, they want the people in general to live healthier lives, to live longer lives and that's not a medication ridden life.

Dave Asprey:

It's hard for people to really understand what it takes for someone like a Travis Stork, to be able, or Dr. Phil to be able to step up to do this. I mean I've been on a few shows like that. Even on Dr. Oz, I interviewed Dr. Oz on Bulletproof Radio about the incredibly high standard that's required for any doctor, but specifically someone who's on TV to be able to stand up and endorse something, how people actually misuse doctor's names and all that. You actually have a fully legal vetted sign, sealed, delivered proper agreement in place, which means that it's subject to level scrutiny that most people would not even believe.

Mark Young:

Well and doctors like that because they're in the public light, it's not some doctor, the clinic down the road who's willing to recommend it. I mean these are people that have their careers potentially at stake for making these types of things. It's like not that there's any legal implication behind it, but you're talking about, I remember talking with Travis initially when we first went through getting him to be a spokesperson for the product. He went through this with a fine tooth comb, because his name was going on nothing that had not already been vetted. Went through the research, read all of the studies himself. In fact, his mom has high blood pressure and the first thing we did was sent a unit to his mom. He waited the entire period just to see if it had impact on his mom, before he was willing to do anything. It's like for him the idea that here's a doctor whose mother suffers with a condition and he could prescribe her anything he wanted by writing the prescription himself. He sends her a medical device to try to find a solution, like to me that was, he was our kind of people.

Dave Asprey:

It's exactly I sent it to my dad, and I definitely will talk about things that I don't know if this works, but generally if I'm going to put something on the website, I want to have a good degree of rigor there. I read all the studies and said, "This is

based on fundamental real science and observed effects, someone did the work." It's amazing, because a lot of the stuff that we do at Upgrade Labs, I'm pretty sure we have this at Upgrade Labs at retail. If you're listening to this Upgrade Labs is a company that I spun out of Bulletproof that has this experience.

Dave Asprey: You go in LA today, the Beverly Hilton and in Santa Monica and we have a whole variety of devices that are based on this idea, that you can have more control over your own biology. We have the Zona Plus there because I wanted people to understand, you can get two and a half hour's worth of cardio in about 21 minutes if the pressure, the timing, the speed, the cadence, the recovery are all carefully designed based on data to give you much bigger results. This is exactly the same line.

Mark Young: Exactly the same.

Dave Asprey: It's hugely disruptive though. The thing that gives me the most pleasure is disrupting things, like breaking big dumb things. When I hear that there's tens of billions of dollars getting poured away on blood pressure medication, and there is a use for blood pressure medication on some people.

Mark Young: For sure.

Dave Asprey: Like no problems, but it's just way over prescribed. Even the latest numbers I opened the show with, about this new low number, part of me wonders is that real or is that a marketing ploy to sell more drugs? They did that with cholesterol numbers awhile back. They keep lowering the safe upper limit for cholesterol, even though probably two dozen people have been on the show have gone through a hard science as well as in two of my books saying total cholesterol is not a useful number, inflammation's a useful number.

Dave Asprey: All right, let's talk a little bit more about what happens when you do this type of training of your vascular system. One of the things that a lot of more experienced biohackers or the doctors listening to the show will know about is nitric oxide. This is a signaling molecule that we really didn't know matter very much until recently, and it has to do with vessel dilation. Does training your vascular system with biofeedback the way Zona does, does it have any effect on your nitric oxide level?

Mark Young: I love that. Yeah, nitric oxide levels interesting that people take supplements nonstop to try to increase nitric oxide.

Dave Asprey: Like Beet is the most common one.

Mark Young: All right, I mean personally I take like Pycnogenol and L'Arginine and other stuff, but everything that you're taking for that is actually triggering the production of nitric oxide. It's not actually delivering nitric oxide to your body. Using like the

Zona, to use that isometric exercise, I know I use that phrase a lot, the isometric exercise found in the Zona is actually triggers the production of nitric oxide levels even beyond what supplements and stuff do. Nitric oxide is linked to so many different benefits in the body when it's at higher levels obviously. People want this elevated and it's everything from workout recovery. It actually helps and again I'll say that I'm speaking to the claims of nitric oxide not Zona, but actually helps reverse symptoms of diabetes. It actually lowers blood pressure, decreases overall body pain, it's ridiculous what nitric oxide overcomes.

Mark Young: One of the things that's really fun about one of the claims that we don't make about Zona, but I would love to, but no clinical studies are there. Zona increases nitric oxide production. Nitric oxide production actually has the ability to cure erectile dysfunction. It actually has the ability to stop migraine headaches.

Dave Asprey: You know it's not a medical claim, morning wood.

Mark Young: Biohack. Morning wood there you go. Zona can create morning wood.

Dave Asprey: There you go, regulated that.

Mark Young: There you go, put that on an FDA clearance.

Dave Asprey: What I'm saying to not be too crass about things, is that when you do things to increase nitric oxide, whether it's supplements, whether it's exercise, all the things that do that. When I say increased it, you can measure it with saliva on a little saliva test strip for nitric oxide, so this is a real data point. When you do that, when you wake up in the morning and you're a guy, you wake up more like a teenager and less like an older person. That's pretty darn predictable, there I said that without being too crass.

Mark Young: That's good.

Dave Asprey: By the way if you guys are looking for crass, just listen to my episode about games wave, because sometimes you just have to talk about your junk in some certain way.

Mark Young: Amazing. To quote one of our board members, "I want to make the claim Zona makes your woody woodier." That was our research proposition.

Dave Asprey: Well you could do clinical trials on it if it increases nitric oxide. What about for women though, what effect does it have on women?

Mark Young: All of the exact same issues, because you're talking about nitric oxide which is a vessel dilator, so it increases blood flow. Any place you want blood flow to be positive, obviously that's going to affect that.

Dave Asprey: It's a vascular health issue at the end of the day.

Mark Young: Oh it's vascular health, but I'm going to add to that and say that, the nitric oxide levels increase vessel dilation, which obviously blood flow is nonrestricted in an environment of vessel dilation. It also acts as a muscle relaxer in that area as well. Not only is the veins opening wider, particularly resistance vessels which haven't been given a lot of credibility, or not credibility but a lot of notoriety if you will in medical research. We're now finding that even that's a big deal. It's not just the veins, it's not just the arteries, but it's actually the resistance vessels that connect them together are even more important.

Mark Young: Nevertheless, it's not just blood flow, it's also letting the muscle relax around the blood flow. It's kind of like a double whammy in there, less muscle constriction.

Dave Asprey: What else happens with nitric oxide? There's sexual side effects, there's more pump like if you exercise it and you're going to see your veins pump back. You're going to get better blood flow in the muscles. What else does the researchers think, suggest nitric oxide can do? Not necessarily Zona, even though you may influence nitric oxide, you're not claiming that those effects are yours until there are clinical trials. What other things do nitric oxide do that might be useful?

Mark Young: My recommendation is a quick web search would find all of that for you, because every site says something different. The reality is, is that nitric oxide is as I said, it's obviously a muscle pump. It's obviously vessel dilation, which leads to cardiovascular health. It's as I mentioned the upset and reversal of the symptoms of diabetes. It's any number of things relating to that. My favorite one as I was saying is that, increased vessel dilation and decreased muscle constriction actually resolves migraines. That's actually a proven effect, which is absolutely amazing to me that there's something that you can do to interrupt migraines. Now of course we don't make that claim because we don't have the clinical study to support it, but all of the evidence that we have in our clinical studies actually leads to the same place.

Dave Asprey: Very interesting. For people who suffer from migraines or have loved ones who do, they pretty much know that it has to do with changes in blood flow in the brain that's triggering it. It would follow that if you could train your blood vessel system, your circulation system to be...

Mark Young: If that may be.

Dave Asprey: Yeah, to be more tightly controlled maybe it would have an effect, could be worse, could be better, but certainly it's a plausible hypothesis until it sets it all right. I like that thought and I do know people whose migraines are made worse by increases in nitric oxide, as well as better, and that's probably because they have too much blood flow because it's not regulated well. In that case, probably if you had sustained increases they'd be fine. I think that's a really interesting aspect there. What about just cognitive fitness in general, is my brain going to work better if I have better control of my circulatory system?

Mark Young: Well I think we were talking earlier about people who have actually been misdiagnosed with early onset dementia and stuff like that. The overregulation of blood pressure medication, people who are on too much blood pressure medication are getting side effects from it. One of the side effects is memory loss, one of the side effects is just a decreased cognitive ability. When we end up in a situation where we're able to get people off of those types of medications, you notice that the people are being I say the personalities almost restored. People are coming back to life in some ways, not literally coming back to life, but the fact is that the cognitive function has been restored where it hasn't been in a long time. Increased nitric oxide as you're well aware being a Bulletproof guy increases brain operation. You end up with higher cognitive functioning simply because it increased nitric oxide levels in the brain. It almost becomes a rabbit trail of conversations when you're talking about the benefits of this type of thing.

Dave Asprey: Do you notice anything happened, you mentioned that you take L'Arginine, which is amino acid that increase vessel dilation and nitric oxide, and you take Pycnogenol which is an extract of mostly pine bark that also can increase nitric oxide levels. In fact, I think we have Pycnogenol in one of the Bulletproof formulas, but at least if either it made it in the finalist or didn't, but I put it on the first list, anyway.

Mark Young: It was a contender.

Dave Asprey: Yeah, it was a contender if it didn't make it in the final one. These are useful well studied supplements. You take those personally. Do you notice an additive difference whether or not you've done trials? I'm just like personally, so if you're doing training over your vascular system and then you add things that improve vascular health, is there a synergistic effect or would you predict one?

Mark Young: Oh my gosh, yeah. If I get off of doing supplements, let's say I travel and I don't take them with me, I will notice brain fog by the time I return home.

Dave Asprey: Even if you're training your Zona Plus along the way?

Mark Young: No, if I'm using the Zona, no, because the same thing. Bear in mind I will say Zona has effects as I mentioned earlier, that four to eight week window. Taking a supplement is going to have a relatively rapid effect. Using the Zona takes a little bit of time because you're building your health. It's like jumping on a treadmill once and expecting to lose weight. Not the case, it needs a buildup of that. Using the Zona is much the same way, so all of the effects, the lower blood pressure, the increased nitric oxide levels, all of that stuff does come over time. The good news is, is because all of those effects are long lasting. You take that and then when you don't take it for say you don't use the Zona, you go out of town and you don't take it with you, your blood pressures not going to spike while you're out of town, because your body's already been retrained. If you don't jump on the treadmill this afternoon, you're not going to gain 10 pounds

over time. You're going to end up going back to that same entropic state that your body was in before you started using it.

Mark Young: Nevertheless, it's not an overnight solution nor is it an overnight detriment if you don't.

Dave Asprey: Okay, it's a slow response curve. You say you use it for six to eight weeks. Do people stop after that or they see the results in their blood pressure if they're going to see results? Then how often do you have to retrain or how often do you continue using it?

Mark Young: Again, I'll use the treadmill example and say that, that's probably the most common one that I use, and that is, if you're on a treadmill six to eight weeks, you start noticing a change in your body. It's not the same change that you'll notice with Zona, but you try to lose weight, great. You go out, you exercise. Six to eight weeks you start noticing that your endurance levels are up, you start noticing that much like that same treadmill, if you stepped off of it, you don't fall out of shape tomorrow. If you stopped using it for the next six months, you're going to notice physiological deterioration. Same thing with the Zona. You're going to use it for that four to eight weeks until you get your real initial big push, that 10-15% reduction is usually that I'll say four weeks is the earliest that we normally find. Eight weeks is the very latest, so that's six week window is usually the sweet spot. People are going to see that reduction and sometimes it literally happens overnight Dave, it's the craziest thing. People can use it for four weeks, five weeks. They call us, they say, "I'm just not noticing the results," and we beg them, "Stick with it. We'll extend your money back guarantee period, so that you feel better about using it for another two weeks."

Mark Young: We'll get a return phone call saying, "Oh my gosh, my blood pressure literally just dropped 20 points last week. I'm back in the normal zone," and it just happens overnight like that, because the body makes the change. Again, I use weight loss as an example because a lot of people can relate to that. It's like hitting that plateau and you can't lose a pound no matter what you do, and then all of a sudden you lose three pounds one morning when you jump on the scale. It's that same kind of feeling when you notice that reduction go down. Much like that treadmill, you're not going to stop using the Zona. Throughout your entire life using the Zona as a, I'll say a supplement to a health life overtime don't stop using it.

Dave Asprey: If it takes about eight minutes a day to do this, I'm amusing that in fact I already know, because it has different user levels, but multiple people can share one of these in the household or something like that.

Mark Young: It's 12 minutes per day.

Dave Asprey: Oh it's 12 minutes, okay.

Mark Young: Along with the device. The device actually stores all of the data for two users. The same thing goes, we actually have a website where people can actually plug the device into their computer and via USB it actually uploads all of the results. Two users can use the device, two users can use the website portal. It's fantastic for people that are going to their doctor and showing their doctor the results and that they're tracking all their numbers. Knowing your numbers is the first issue for most people to overcome, it's figure out what they are and now start tracking, because what gets measured gets accomplished.

Dave Asprey: All right, so that basically cuts the cost in half, and if you were to share it with more than two people, which you're probably not supposed to do, it'll be even less. I think this falls within the realm of affordable biohacking technology. I'm just looking at how would you make this happen in millions of households?

Mark Young: Oh my gosh, just the idea of the blood pressure medications themselves average \$1100 a year.

Dave Asprey: Oh okay, I mean you do know right?

Mark Young: Yeah, someone taking blood pressure, one person taking blood pressure medication spends on average \$1100 per year just paying for the medication.

Dave Asprey: Unbelievable.

Mark Young: That copays with insurance and everything. \$1100 versus a one-time purchase and the \$1100 never comes back.

Dave Asprey: All right, I've got one more question for you, and this has to do with my new book on anti-aging that I just finished the draft of, it's coming out in a little while. It's how given that you have, your Zona Plus, you're hacking your blood pressure, you take supplements, you're clearly a healthy guy, you're in shape. How long do you think you're going to live?

Mark Young: Personally I'm shooting for 120.

Dave Asprey: 120?

Mark Young: I laugh because when I turned 40 years old, people say, "Oh what's it feel like being 40?" I would say, "It's just weird to think that a third of my life is over already."

Dave Asprey: Nice.

Mark Young: I would get some math challenge people would actually take a while to get that. Yeah, personally I see no reason why people can't be living well beyond what people expect life expectancy to be. You know that better than anybody, right?

Dave Asprey: Yeah, I told people that 45 was my 25th percent birthday.

Mark Young: That's amazing.

Dave Asprey: You get some pushback, like it's okay to pushback, because something is going to happen. One of them is that, you'll die before me and I won't make to 180, and that's okay. Or you'll die before me and I'll make it 180 and that's okay too, because you're not taking care of yourself. Maybe we could talk about those two what we can to feel really good right now and live a long time and then we'll both live as long as we're going to. That seems like good table stakes where people don't believe that's possible.

Mark Young: I'll drink to that Dave.

Dave Asprey: There you go. All right, what is the website for your magic device?

Mark Young: The magic device, I like that. Well we're easily found at Zona.com Dave and that's for here in the United States, because we're here in the US right now. I know you're a resident in Canada, Canadian listeners can find us at Zona Health.ca. Either of those sites, our team has actually put together a coupon code for any of your listeners. You talk about the affordability factor and although we've already proven that it's affordable biohack, anyone using coupon code Dave immediately gets a \$75 coupon anyway.

Dave Asprey: Nice.

Mark Young: 75 bucks off the price of the price unit.

Dave Asprey: Zona.com, coupon code Dave saves you \$75.

Mark Young: True enough.

Dave Asprey: Which is a nice give for listeners. Thank you for that.

Mark Young: Oh sure.

Dave Asprey: This is really good science. I looked at the dozen research pieces that exist around this, that we talked about ahead of the show. I think if you're listening to this, you have high blood pressure, talk to your doctor. This is a cool device and it's one that gives you a little bit more control without needing any chemicals at all. I think this totally meets the bar as an epic and amazing biohack, plus it came out of the Air Force, how cool is that?

Mark Young: It is really cool. Yeah, the other cool thing too Dave is, we mentioned earlier is, if someone wants to try it, try it. We talked about so many different things that it does.

Dave Asprey: 90 day money back guarantee too.

Mark Young: Absolutely, we've got a 90 day money back guarantee and what's the sad part, I'll tell you this is the saddest thing. When we get returns back, I see a box come down our hallway and it just makes me cringe because, the majority of the returns that comes to us are people who never even tried it.

Dave Asprey: It's still shrink rep.

Mark Young: The device actually keeps track of all the usage, so when return comes back, we go look and I'm like, oh my gosh. The people who are returning it, are the people who didn't even try it. They got it and decided they just, buyer's remorse or whatever set in.

Dave Asprey: No, it comes down to this.

Mark Young: What do you have to lose?

Dave Asprey: Zona Plus, jelly doughnut, Zona Plus, jelly doughnut.

Mark Young: Seriously.

Dave Asprey: You know some people are going to choose the jelly doughnut, they really are.

Mark Young: They really are.

Dave Asprey: That's a mindset thing, energetic thing, but if you're going to do the work, well it's eight minutes of actual work and four minutes of rest, so 12 minutes a day.

Mark Young: 12 minutes total rate.

Dave Asprey: It seems like an investment to me. That's why I've been a supporter of this tech, this idea of this type of biohacking for I think more than seven years now.

Mark Young: It's been a long time, yeah. Your audience is just such a perfectly primed audience for a product like this though. To me it's the ultimate biohack. It's absolutely crazy.

Dave Asprey: Yeah, if this is something that someone's looking to hack, I fully agree. If you have no issues with your blood pressure, this probably isn't the one for you, but so many people have this or it's in your family. That's why I got it from my dad, and it has my full endorsement here because it's real. Thanks for bringing it out, fighting the good fight and just talking about this. It is a true disruptor.

Mark Young: Appreciate the time Dave and I'm hoping that price on my head's not accurate.

Dave Asprey:

If you liked today's episode, you know what to do. Go to [Zona.com](http://Zona.com), use code Dave, save yourself 75 bucks, you have a 90-day money back guarantee. Consider this device for yourself if you're dealing with hacking your own blood pressure or for a family member. If not this, show's meant to give back, it's a beautiful gift that Zona's providing there for you, but mostly I just want you to have control over your biology. High blood pressure just sucks in so many different levels, let's stop it.