



EPISODE 857

Reverse Aging, Prevent Disease & Live Longer

With Guest Dr. William Li

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SHAWN STEVENSON: The conversation about longevity is about to expand in a big way. I think you're going to be shocked to find out just how many people are alive on planet earth right now that are over 100 years old. The number shocked me. Our special guest is a pioneering researcher in multiple fields in the field of cancer research in the field of food as medicine and also in the field of longevity. He's going to share with us what a super ager is and the real definition of this growing term and the really remarkable phenomenon taking place that you might want to be a part of. He's also going to share the three things that are robbing us, robbing our communities of our inherent longevity. We have a genetic template. We have the ability to live a long, healthy lifespan, much longer than the average age of life today. Our lifespan was extending for decades, upon decades, upon decades. But somewhere around the 1990s, that extended lifespan began to reverse. And now, the current generation that's being born right now, that's already here, we're talking about kids and adolescents, is the first generation that's predicted to not outlive their predecessors. Something is going on, but again, simultaneously, there are people who are living longer and healthier lives than ever. And we need to get this information into our hands, this education into our hands and hearts so that we can change this society wide for the better. Now, during this conversation, one of the things that my special guest, Harvard trained researcher and expert in particular in cancer research and reversal, and also metabolic health, he brought up the power of green tea.

And just to speak to the metabolic benefits, a study that was published in the American Journal of Clinical Nutrition found that participants who had a green tea concentrate before exercising, burned 17 percent more fat than those who didn't. The researchers noted a greater improvement in insulin sensitivity, for these participants as well. But what makes green tea so special is that it improves both metabolic health and immune system health, even dramatically reducing the risk of various cancers. A study published in the journal Breast Cancer Research and Treatment found that women who drank the most green tea had an approximately 20 to 30 percent lower risk of developing breast cancer.

Now, just to be clear, this is an observational study, but the results are truly promising. While a meta analysis of 29 studies, published in the peer reviewed journal OncoTarget, found that

people who drink green tea daily were around 42 percent less likely to develop colorectal cancer. So I know why a cancer researcher like our special guest today would bring up green tea because the data is so rich on its benefits. But there's a certain form of green tea that he also mentioned, by the way, that stands out above the others. And that is matcha green tea. The matcha green tea that I drink is called sun goddess matcha green tea. It's shaded 35 percent longer for extra L theanine. to support cognitive function. It's crafted by a Japanese tea master, which there are less than 15 of these individuals in the world.

And it's the first matcha that's quadruple toxin screened for purity. No added anything, no preservatives, no artificial sweeteners. It's just the very best matcha in the world. And it's the sun goddess matcha green tea from Pique Life. Go to Piquelife.com/model and you're going to get up to 15 percent off free shipping, free tea samples, and so much more. Plus they have a 90 day money back guarantee. If you don't absolutely love Pique teas, you get a full refund and that means you've got nothing to lose and only better health to gain. Again, go to Piquelife.com/model. That's P I Q U E L I F E . com/model. And now let's get to the Apple podcast review of the week.

ITUNES REVIEW: Another five star review titled "Fantastic Podcast" by Aunt Jenny5. I just found this podcast in the last six or so months. I am sorry I did not find it much sooner. I love the content and format as well as the study-based information that Shawn provides. The content is interesting and relevant. Thank you for your hard work and an amazing podcast.

SHAWN STEVENSON: Thank you so much for leaving that review over on Apple Podcast. I truly do appreciate that. If you got to do so, please take a moment. Pop over to Apple podcasts and leave a review for the model health show. And if you're listening on another podcast app, all good. It's all love. If you can rate and review the show, it truly, truly does mean a lot. And without further ado, let's get to our special guest and topic of the day.

Dr. William Li is an internationally renowned physician, scientist and New York Times bestselling author. His groundbreaking research has led to the development of more than 40 new medical treatments that impact care for more than 70 diseases, including diabetes, blindness, heart disease, and obesity.

Dr. Li has been featured on Good Morning America, CNN, and countless other media outlets, including USA Today, Time Magazine, O Magazine, and more. He's the president and medical director of the Angiogenesis Foundation and he's a leading global initiatives on food as medicine. Let's dive into conversation with the incredible. Dr. William Li.

My good friend my guys good to see you. Dr. William Li. Thank you so much for coming to hang out with us.

DR. WILLIAM LI: Hey, thanks for inviting me back. It's always great to see you and have these great conversations.

SHAWN STEVENSON: Yeah. Let's start off with sharing a mind blowing fact about human longevity on planet earth today.

DR. WILLIAM LI: All right. So, my research is getting into longevity because it's one of the most exciting topics out there. We're learning more about how to do healthy aging than we've ever known before. And so one of the things that i'm trying to do is to figure out what is the actual fact of longevity. So how many people do you think are alive today who are a hundred years old or older?

SHAWN STEVENSON: My guess would be in the ballpark of maybe 25, 000.

DR. WILLIAM LI: All right. The answer is 722, 000 people are age 100 or older today. Mind blowing fact, mind blowing because, you know, like we don't really think about getting to a hundred as a realistic or achievable goal. But the fact that there's almost three quarters of a million people who have already done it without implantable Google sensors, without being biohackers, without being, all right, it tells you something, right? So that to me is one of the exciting reasons to dive into this whole space.

SHAWN STEVENSON: That is, that is very exciting and just to know again, without all of the, again, there's great innovations that are happening right now, but a lot of people have figured certain things out.

And if you could, I also want to dig in on a surprising fact that is related to their longevity and this might have something to do with their gut health.

DR. WILLIAM LI: Okay. So, I started to get into looking at gut health with gut microbiome, which are the 39 trillion healthy bacteria that are in our gut that do all kinds of things we know. Lower inflammation, they release short chain fatty acids. They talk to our immune system, 70 percent of which is in the wall of our gut. They text message our brain, the old gut brain axis, control our lipid metabolism, our insulin sensitivity. I mean, pretty much air traffic control for our health lives inside our gut, right? So we're normally thinking about this. I started out looking at gut health in cancer patients. I'm a cancer researcher.

And we now realize that if you have cancer and you're being treated with a very advanced therapy, called immunotherapy, which relies on your immune system. The most natural way of treating cancer you can imagine. Let your own immune system knock it out. If you don't actually have the right gut microbiome profile, you're not likely to respond to cancer therapy. That's not like optional. That's life or death, right? So I got into, that's how I got into the gut microbiome for the other thing that got me into this is wound healing. A lot of people, if you cut yourself, you and I are probably going to heal pretty fast. But if you have type two diabetes and you cut yourself, it might take a long time to heal.

And you might have a wound on your foot that you can't see. And that thing will just not heal until it becomes infected. And then it can lead to gangrene and amputation and all this kind of stuff. So I spent part of my career helping to develop brand new angiogenic blood vessels, stimulating ways to quickly heal wounds, very successful. But then I had a discovery with a colleague of mine at the Massachusetts Institute of Technology that certain gut microbiomes, certain probiotics can speed your wound healing. So, you know, I'm just telling you like how I got into this field. So with that, with wound healing and diabetes and with cancer and treatment outcomes. I started to really take this toolkit and start to ask myself, how do we apply this in longevity?

And the natural curiosity is, are people who are super agers, do they have anything special about their gut? It's the last thing you think about, right? Like some old dude, you know, like,

how are you going to actually study their gut? Well, guess what? It's no different than actually studying a young dude. Okay. A young person's got microbiome. You get a swab, you swab their poop, send the tube away. And now 15 years ago would have been very, very difficult to actually study the gut microbiome. We didn't have the software. We didn't have the sequencing.

We didn't have the baseline database to even know what to look for. Fast forward to today. We got it. So it's possible to do research now that we couldn't do, you know, 15 years ago. So, amazing research I want to share with your audience is that a study was done in Italy, Bologna, Italy. They looked at adults across all their entire spectrum of adulthood, 20 to 40, 40 to 70, 70 to 90, 90 to a hundred. And then they actually looked at people who are a hundred to 114 super agers. Okay. That's the, that's like an entire adult lifespan. They looked at their gut microbiome, and then they used computational biology to ask within the age categories, and especially with the super agers, a hundred and above, any gut bacteria pop out as super high, like standout bacteria that, that you didn't see in other populations. And it turns out for the people who were a hundred years old or older, there are four bacteria that are standouts. Want to hear what they are?

SHAWN STEVENSON: Yes, I do.

DR. WILLIAM LI: Okay. One of them I know you've heard of. Three of them I hadn't heard of. All right. And this is the exciting part, like being a scientist and a researcher. I mean, you really appreciate this as much as anyone else, you know, like the excitement of discovery in biology is like why we do what we do, you know, it's cool. So one of the bacteria is called odorebacter. O D O R I bacter, second one is called ocellobacter, like oscillation bacter. Another one is christen ellensis, okay? And then the fourth one is acromantia.

These four bacteria are standouts. More of these bacteria in these superagers than you see in any other group and that stand out higher at higher levels when they get to this age. What do they do? What do they do? Okay. Now we know acromantia boosts your immune system, lowers your inflammation. We know that it helps to regulate blood glucose. We also know that acromantia, we actually think that acromantia might actually interfere with the

development of dementia, somehow regulating brain health, and then the latest piece of discovery about acromantia, so bacteria. All right. So bacteria have a shell around them physically.

They're like, like a beetle. A beetle's got a little shell like the bug, there's a particle on the shell of acromantia. I don't know if you've heard about this. Have you heard of P9? Okay. P as in Peter, number nine is a newly discovered particle on the shell surrounding acromantia. And you know what they found out is that if you take a live acromantia bacteria and blow it up into a million pieces, you just kill it. Like, like, like, pulverize it, the P9 will still have a beneficial biological effect if it's floating around. So, it's like a piece of shrapnel from acromantia that's still biologically useful. And you know what it does? It causes your gut to secrete more natural gLP one.

SHAWN STEVENSON: Wow.

DR. WILLIAM LI: Mind blowing. Right. So now, you know, this is a bacteria that's doing a lot of things and it's even got its own, you know, vest of little tricks in the, in the shell. Anyway, so that's one of the bacteria. These other bacteria do things like lower inflammation, fight specific harmful bacteria like E. coli. So, you know, think about it as you get older, most people who get to that elderly age, they don't die of heart attacks, they die of infection. Pneumonia and all this other kind of stuff. So, you know, one of these bacteria seems to really, really mount a good defense against the kind of infection that might take you out. Other ones that you smooth out your metabolism, lower your bad LDL cholesterol and improve your good HDL and lower your triglyceride level. Other ones seem to improve better circulation.

These are not surprises. Once you actually break down what these bacteria, these four bacteria are involved with in terms of your physical health. It makes total sense. And these guys, these centenarians and older, okay. Cause I had never considered when I first started to take a look at longevity. I thought, you know, like a hundred is like, all right, that's a, that that's like a good peak to begin looking at, but I had no idea. Like, okay, let's just do a dive on the deep end of the pool and look at their gut microbiome and look at all this stuff. And guess what? You can eat foods that can stimulate these bacteria to grow.

SHAWN STEVENSON: Amazing. Amazing. I never even thought about how many people are on planet earth right now that have lived to be over a hundred years old. I've never even thought about that question. We know that there are these hot spots that have a lot of centenarians.

DR. WILLIAM LI: The blue zones.

SHAWN STEVENSON: Right? And I think it's so fascinating that this research was done in Bologna because this is the hub of baloney comes from this great part of the planet and the diversity in diet is one of the things that's finally being talked about in regards to Blue Zones. There isn't a particular diet template. It is very, very varied. But one of the consistencies, of course, is that these people are eating real food regardless of the spectrum from.

DR. WILLIAM LI: And different kinds of real food.

SHAWN STEVENSON: Yes. Diverse. The diversity is huge. And also, you know again on that range from plant to animal food that percentage is going to change. But what doesn't change is real food and diverse in all of the real foods that they're eating.

DR. WILLIAM LI: And this is something that makes a lot of sense to how our bodies are designed. If you look at our jaws, you look at our teeth, you look at sort of our digestive system. We are through evolution designed to be omnivores. We can tackle pretty much anything you want to put in. Yeah, obviously you put bad stuff in and your body's going to respond in a bad way, but good stuff in. So there's a wide range. We've got a repertoire, like we got the mixed martial arts of digestion and processing foods that we're hardwired with. And that's a good thing. You know, and yes, there are lots of different philosophies and approaches and practices of how to eat healthy, but I think you nailed it. Diversity is key.

SHAWN STEVENSON: I'm bringing that specific point up. It's a great segue in this conversation about the importance of the healthy gut microbiome. If you want to improve your gut health. You want to improve the inputs, bring in more diversity of inputs for your microbiome, because basically these microbes cannot thrive without their own unique kind of food that they enjoy

And they can't make the good stuff for us if we're not taking care of them.

DR. WILLIAM LI: Right. Right there, you know, like our gut bacteria are no different than any other pet. We might actually have in our home. You got a pet dog, pet cat, pet parakeet, pet goldfish. Same deal. You got to be feeding them every day. You got to feed them high higher quality food if you want them to last longer. You know, and how do our, like, especially the furry pets pay us back with attention, with affection, like it forms that bond, that connection. Well, you know, that's happening at a microscopic level in our gut. Like, we now realize that we've got to take care of, you know, like, the pregnant mom saying, like, I'm eating for two. We're actually eating for 39 trillion bacteria.

SHAWN STEVENSON: Wow. That's a bar. That's a bar right there. All right. One of the things that I'm excited to talk to you about is, you know, you have a very important and distinctive perspective about longevity that is not being talked about today. So I want to ask you from your professional experience, in your opinion, what is longevity really? What does longevity really mean?

DR. WILLIAM LI: So I'm going to tell you how I'm approaching it. And obviously this is a big topic with a lot of people working on it. I respect all the researchers that are actually doing this stuff for me. Longevity isn't just living long. It's not about a number you're trying to hit. It's not like, going online and booking a seat in a movie theater that's reserved for you. Like you can't do that, right? So we all want to live as long as we can. But to me, in addition to trying to get as far as we can in the journey of life, it's really about how do we live in a way that is enjoyable?

We've got not just quality of life, but really joy of living. And that's really what I'm fascinated by is really sort of like, how do we get there? And how do we align that long runway, along with having a good time along the way, the good quality of life. To me, those two things are really important. And, you know, people talk about healthspan, but healthspan is just a word that goes back to health, which itself is kind of an objective word. It's a term, you know? But when I tell you quality of life, enjoying life, you're hearing that and you're already imagining what it would mean for you. And so that to me brings our humanity back into it. So for me,

one of the ways I'm looking at longevity is really thinking about our humanity. No, who we are, what's important to us as individuals, as communities, as people along the way.

I think that's really how you get a fuller picture of it. So I totally think, you know, all the people working in a lab on the hallmarks of aging and the biological and the cellular, the senescence, the mitophagy, all that stuff. Amazing. There are the building blocks or the bricks being placed into the brick wall to understand what's going on with aging and how to counter unhealthy aging. I'm actually trying to take a little bit of a larger sort of humanity oriented look at it, which is to look at the quality and you know, things that are particular interest to me are cognition, brain health, so important brains, not a black box anymore. It's still a lot. We don't know but did you know since we're talking about the microbiome? Did you know that the brain has its own microbiome?

SHAWN STEVENSON: This was theorized for years, but now we know.

DR. WILLIAM LI: Now we know you're back, you know, listen, I went to medical school. I was told in no uncertain terms. That the brain is sterile.

SHAWN STEVENSON: Sterile environment.

DR. WILLIAM LI: Sterile environment You do a tap of the spinal cord and if you're tapping into the fluid around the brain, there's no way in heck you're gonna find any bacteria in that unless you've got meningitis or some kind of brain infection, right? Well now we now have within the last few years like really nailed it down that there is a bacteria ecosystem in our brain like in our gut brain and you know what the brain bacteria are not quite as diverse as in the gut. But about 20 percent of the diversity of the gut bacteria is also in the brain.

SHAWN STEVENSON: Wow.

DR. WILLIAM LI: Undiscovered country. Think about that. I mean, what could we be doing? I mean, could we be treating, in the future, neurodegeneration using a probiotic? How cool would that be? And in fact, there's some good data already, like, I was really struck by some of these bacteria.

So, you know, you get your gut microbiome checked, you get a huge amount of information. Hard to know what to do with if you're not like regularly, if you're not an expert in the field. Okay. But we do know a few bacteria that are standouts. And I think that knowing some of these standouts, like the acromantia mentioned earlier, well, there's a new one, a new player, a new kid in town called Lactobacillus Plantarum.

Now, if you go buy a typical probiotic, you know, like anywhere you order, you'll find a lot of times it's got Lactobacillus Plantarum. But there's one of, there's a version of it that's called PS 128. Have you heard of this?

SHAWN STEVENSON: Yeah.

DR. WILLIAM LI: This thing has been shown to level off the symptoms, like pretty much stop the progression of Parkinson's disease. Bacteria, brain, brain interaction. I don't have the explanation that how it works, but wow, what a phenomenal find because it opens up a whole new gateway for us to try to figure out how to solve these previously unsolvable problems.

SHAWN STEVENSON: Yeah, it's so fascinating because when the explosion happened in the conversation about the microbiome, and it really just kind of rose in popularity and discussion, there's always going to be certain entities that are trying to capitalize on this. And the truth is, we still just didn't know very much. At this point, we're really starting to know some cool stuff. But this piece of the brain biome is, this is a revelation, like, this is one of those moments for us to just like, we need to really take a moment and take this in. For me, it is kind of obvious because if you think about what we are, we are an ecosystem, literally from head to toe.

And to think that this one part of our brain is off limits, but you know, we know that we have a skin microbiome, we have a gut microbiome, a lung microbiome, heart microbiome. Our brain, of course. But the interaction, the communication of all of this is what it's really about and understanding that we've now identified a certain species of probiotic. A certain species of microbes that can essentially reverse or put a halt in neurodegenerative conditions. Like you start to see this interplay. Now our problem is we tend to like, okay, I need, just need to

take a bunch of this probiotic and it's going to solve all the problems. And we have this system. And I want you to talk about this of medicine and also even supplementation can be well meaning, but it's trying to isolate and find this one "miracle cure" or the smoking gun in a situation. And negating the whole, because you can bring a powerful thing into, we'll just say, into an Olympic swimming pool. put a drop in there, but you've got this entire swimming pool that it's fighting against.

DR. WILLIAM LI: Yeah. No, no, it's so true. And that's like my approach to research is you have to sort of start with acknowledging the complexity and dive into the complexity to try to find out what might be some of the turnkey things that can still work in spite of the complexity. Okay. And that's why I think that the microbiome, like it's easy to jump to the conclusion by excited, motivated, inspired, and well meaning people that, Oh my God, we got a solution. Let's go create a probiotic and everybody should buy it. Subscribe to it and go do refilled every month or every three months.

You know, we're at the tip of the iceberg. And the iceberg is really, really exciting because every bit we're uncovering is telling us just how important this actually is. But like everything else in science, you go from excitement to wondering, like, how do we really apply this and will it actually work? And I can tell you this as a cancer researcher, we've cured cancer in mice over and over again. It's like a no brainer how to do it, to be honest with you. If you're, talk to an experienced cancer researcher. You're a mouse with cancer, no biggie. All right. Translating that to people has been climbing Mount Everest.

Okay. You can get to the top. People do get to the peak of Everest, but it's not easy. And a lot of failures. I mean, the road to the tip of it, to the summit littered with the bodies of failed efforts, right? Okay. Same thing with all this. And you know, that's why I'm super excited by where the science of longevity, Gero science, is actually going. You know, recently I gave a keynote in London at a longevity group and they asked me to give some of the state of the art and I didn't just jump into the latest frontiers of science. I basically said, you know what? We all want to live a long time. In fact, it's the search, the quest for immortality is one of the oldest quests known to mankind. All right. And in fact, I gave this as an example, the first

emperor of China sent organized squads of his people to go scour the planet looking for the ampule that contained a vial of liquid that he could take that would give him immortality.

And, you know, never found it obviously, and he knew he was going to die. So the way he ultimately achieved immortality is by building 10,000 terracotta warriors to look after his tomb. And that's like the famous terracotta warriors in China. And then if you look throughout history, there've been the great paintings and sculptures of immortality, the fountain of youth. You know, all this kind of stuff. That's been, the quest has been described, right? I mean, even like the Holy grail, they refer to it, right. But I'll tell you the situation changed in modern times. I think when Google created Calico, the spinoff company, whose mission was to conquer death. Do you remember that? It was like a cover of Time Magazine.

Like can Google Conquer death? It seemed like a ridiculous topic, but you know what? Actually quite a worthwhile enterprise. If you want to take investor money, put it into a high bar, like a really stretch goal and try to figure it out. Listen, we've now actually got the capitol. We got brain power, we've got computational biology. It's a worthy thing to kind of look for. And then you fast forward even more, you've got all of these people that are beginning to embrace the study of aging in order to be able to understand us first. It's not all just about living to pick a number. You know, like I know some people say I want to live to. Pick three digits and they, they call it out. I'm I'm a, I have a, I have more modest goals, which is just to understand what's going on when we age and are there ways that we can actually temper that? So we can do it better, more eloquently, more nobly, you know, frankly.

SHAWN STEVENSON: Yeah. Yeah. Thank you for that reframe earlier as well with joy. As far as our life span and our health span, but being able to, yes, live a long life, but to be able to enjoy the process, the quality of life being the key. And for all of us, we have something that comes up when we think about a joyful life. When you said that, I thought about play. That was something that I thought about. And so, yes, being 80, but being playful, playing with my family. playing sports, competing in my 90s, so on. Do we want to have a long life if we're not able to have the quality of life and to have the joy that we want from this life?

DR. WILLIAM LI: That's and that's a mindset, right? And you got to be able to look forward to something. By the way, you know that exercise is one of the non controversial aspects of healthy aging, right? You gotta work out, you gotta exercise, you gotta stay in motion. You know, the body that stays in, you know, that is in motion stays in motion. You know, like a, you know, basic physical law, true for aging. You wanna get to whatever number you wanna, where you're able to get to, you gotta stay in motion, right? So, that, that, that's the opposite of the couch potato, the sedentary person. But, do you know we're discovering additional benefits that can affect mental health, mental wellness, the ability to feel hopeful based on exercise? Have you heard of hope molecules?

SHAWN STEVENSON: Listen, Will, we're the show that broke the news. We broke the news with Kelly McGonigal years ago, and I saw it's gone bonkers on the internet. Hundreds of millions of views with this terminology being popularized. But of course that data came from some researchers and she was consolidating it for us.

DR. WILLIAM LI: Well, you know, now it's really becoming clear that regular exercise, the contracting of skeletal muscle releases natural chemicals as a consequence of contraction. All right. And they're called myokines that hope molecules kind of like the popular nickname for them, but it's aptly named myokines, you know, myo meaning muscle. Kine is like a cytokine. It's a natural chemical that gets released. It gets into the bloodstream as a biological effect. Uh, so myokines released by an exercise, circulate in the blood, go to your brain, and they actually make you feel hopeful, optimistic. And what I think is so great about that in this conversation is that it actually gives people a different perspective and a different reason to believe that being physically active and trying for exercise is worthwhile as they age. You know, think about it. Most people who, you know, maybe not that physically active through most of their life, you get to 60 or older and you're going to tell them to go work out? Bah, humbug. I don't do that.

You know, that's for younger people. I'm not going to the gym. I'm not, why would I want to, why would I bother to do it? I got this far. Well, look, you want to be hopeful, man. You want to be, you want to have a good mood. And by the way, it all interplays with it, right? When you feel hopeful, optimistic, when you're capable of feeling joy, then you're going to want to

seek out other people that are like minded, and now you're socializing. And we know from Dan Buechner at the Blue Zones and many other research studies that social interaction is so important for healthy longevity, healthy aging. You want to be with your tribe, man. You want to be with people that you enjoy hanging out with, that you get something out of, and you wouldn't want to hang out with people when you feel bummed out or depressed, you want to feel hopeful. I can't wait to see this person.

SHAWN STEVENSON: Yeah. And also, you know, this is what's possible. It's a different narrative than the one we're kind of indoctrinated with. I'm just being honest with everybody. Every time I see you, you get fitter and fitter. This is true story. And you know, one of the big revelations with these myokines, these hope molecules is the fact that it sensitizes our brain and our biology to more pleasure. So it's kind of like a, a, a primer, virtuous circle instead of a vicious circle. And so, and one of the arguments, first of all, So the vast majority of us know this to be true, that being active makes us feel better.

But one of the arguments that come up, because again, we broke the story, bonkers on the internet. I'm grateful for that. And, you know, some people like, well, you know, my best friend works out every day and he's, you know, chronically depressed, you know, and it's the whataboutism. And so there's a couple of things that I want to share in rebuttal, which is why is he still doing it? You know, just ask that question, what if he didn't have that exercise? How much worse might it be? And also, it's not saying it's a, it's the cure for all things that ail us or all of our mental health struggles. But we know as a fact, being human, it's one of these epigenetic inputs, like our, our genes expect us to move, like life is movement.

And when we're not doing this thing, we're going to have all manner of dysfunction start to show up, really forms of adaptation. And so just to keep that in context, because instead of being in the whataboutism, let's focus on. I get to do this thing and to literally produce chemistry that gives me more hope. I get to do this thing and it sensitizes my body and my brain to more of the things that make me feel good. Or I can do the opposite. Or I can say, you said it, bah humbug. All right. We're very timely. I'm not for that. I don't believe it. I don't want it whatever and choose another path. But that's the cool thing today is that we have the knowledge and we get to choose.

DR. WILLIAM LI: And you know Every little bit counts and that's the key thing. You know, like I'm involved with some pretty you know deep and very heady types of research. But we don't want to talk to people, I try to bring it to human levels, things that people can understand. Things that are affordable, things that you can actually achieve. You can reach for, because you know what, there's a lot of stuff that's really cool in research, but in particular things that are discovered that are, you know, we don't know how to actually attain that or might be super expensive. I don't think quality of life and longevity are reserved for a subpopulation of people who are privileged to have a lot of money. That's not it at all. In fact, most of these 722, 000 people who are a hundred and older are not part of the elite clubs. You know, they're ordinary people. And I think that tells us something you don't need fancy to get to where you want to be in your life's health and longevity goals, but you need to be sensible and you gotta need to be practical.

You know, like, I don't know if I told you this, but my great uncle lived to 104. Completely healthy, mentally intact in China. And I went to his hundredth birthday party. All right. Which he planned by himself. He made the guest list. He chose a restaurant, he planned the meal and he hosted it. Okay. Amazing. And I asked him before his birthday, I went a little bit early to go visit him. He, you know, we were having a conversation and I said, you got to tell me what's the secret to longevity, right? I mean, how do you get to be a hundred? He was almost a hundred, like days away. And he said, you know, I don't really have an answer for you, which is honest.

And I think most people say the same thing, but he did tell me three things that he felt contributed. Number one, he said, I don't let things bother me. I let him roll off my back. I always remember him telling me that. And he's like, I don't get pissed. I don't hold the anger in, I don't stack, you know, it's not that important. He's like, I might not be happy about it, but I let it go, let it go. And so he's already talking about a mindset. Where he's not going to get too upset about things. He's going to have enough mental awareness and mindfulness. Not everything matters and he's going to try to lower his stress. That was one thing.

Second thing I remember he told me, he lived at the base of a T Mountain and he knew, every picker and the season and he knew all the people that and he's like I drank tea my whole life.

You know, and he was drinking at least five or six or more cups of tea a day. He was just sipping it all day long. He's like green tea is my life and of course now we know there's many benefits clinical studies that have shown the persistent benefits of drinking green tea with the catechins and polyphenols and for matcha even the dietary fiber in it. So he attributed to that. And then he said, you know to drink my tea every morning I get up and I he would walk up this trail, the stone trail, uneven trail. Up to the this tea temple like this like this overhang It's like basically like a picnic area that he would walk up to to get his tea for the day. All right. And sit with his buddies his other really well aged buddies to sit there and socialize, right?

So he's exercising, he's drinking tea, staying in motion, having the right diet and having the right mindset. So, you know, I always remember this, you know, ultimately he passed, he had a stroke, but I mean, he was really fit all the way to the end. He had a very supportive social network. I lived a lot of his. Family and friends, but he had people that took care of him and he took care of them too. And so these are the recurrent themes and yeah, I think mitophagy is important. I think that NAD is important and sirtuins are important, all that kind of stuff. Those are the little mechanisms that are going to add up.

The whole is going to be much greater than some of those parts, but I'm looking at, you know, my research right now, I'm actually looking at like, What is quality? What is it like in people who've actually gotten there? What can we discover using the modern tools to figure out some of those aspects of longevity and quality? And if you can line both of those things up, that's exactly the shot I want to take.

SHAWN STEVENSON: Yeah, I went on an adventure with you. And also with him and that making that climb to get to each day. He built in movement into his nourishment, right? And the community piece and the mindset piece. I don't think it could be overstated how important it is to have a youthful mindset. Or, you used this term earlier and I want to ask you about this again. You said super ager, right? And I, I think a lot of people might not have heard that term before. So what is a super ager?

DR. WILLIAM LI: Well, I think this is a term that has been coined by longevity experts at the, who study aging and the population level. And kind of like what we were talking about, you

know, the centenarians, people get to a hundred, like, you know, at one point, certainly when I was younger, I went to medical school, you know, like, Oh, can you get to a hundred? Like, Most people can't. I mean, maybe you've got one or two people that are really old.

Obviously, I had no idea, like, so many people were getting to 100. But, I think once you breach that 100 mark, once you cross that line, alright, now you start entering Super Ager territory. And super agers or super centenarians are people to get to 110, 111, 112, 113, 114. I mean, those are the people who are getting to the summit. Okay, and I don't think there's a strict definition. I do think it's in that 10 percent of the 10%. You know, the tippy top of all the people who age. And I think that the super ager probably also includes people that are actually very vibrant along the way. You're not counting. I don't think you'd call a super agent or somebody who's in a coma for the last 10 years of their life. Yeah. That's not super.

SHAWN STEVENSON: Got a quick break coming up, we'll be right back.

In the conversation about longevity, we want to remain youthful from the outside and the inside. We don't want to have a youthful appearance, but a very, very old heart or a very, very old brain. We want to make sure that we're taking care of ourselves from the inside out. And there are certain foods that are well established, not only in peer review data today, but have been utilized for thousands of years for their longevity benefits. More recently, a study published in *Advances in Biomedical Research* found that royal jelly has the potential to improve spatial learning, attention, and our memory.

In addition to being anti microbial, anti tumor, and anti inflammatory, royal jelly has been found to facilitate the differentiation of all. All of our brain cell types, and to top it off, researchers in Japan discovered that royal jelly has the power to stimulate neurogenesis, the creation of new brain cells in the memory center of the brain. Now, if you're wondering what royal jelly is, it's not that kind of jelly. It's not smuckers. All right, we're talking about this incredible, well renowned bee product. And while worker bees live an average about 100 days. The queen bee exclusively feeding on royal jelly lives one to two years. All right, so we're talking somewhere in the ballpark of like seven times longer lifespan.

There's something really remarkable about this food. Now I've been utilizing royal jelly for years from regenerative bee farms and also it's third party tested from the incredible folks at beekeepers naturals and combined in their incredible nootropic called brain fuel. Not only do you get royal jelly, but you also get one of my other all time favorite things for brain health and longevity and cognitive function. Something that's called BACOPA. A randomized double blind placebo controlled human trial published in 2016 found that just after six weeks of use, BACOPA significantly improved speed of visual information processing, learning rate, memory consolidation, and even decreased anxiety in study participants.

This is some remarkable stuff here. We're talking about brain fuel from the good folks at beekeepers naturals, go to beekeepersnaturals.com/model. And you're going to get 20 percent off store wide. So that includes their phenomenal brain fuel. Also, their superfood honey, their propolis immune spray and so many other phenomenal things that again, this is exclusively at beekeepersnaturals.com/model. Go to **B E E K E E P E R S** [naturals.com/model](https://beekeepersnaturals.com/model) for 20 percent off site wide. And now back to the show.

SHAWN STEVENSON: Now having that incredible insight, that experience to be able to talk with the family member and to interview him upon his hundredth birthday, that's priceless data, right? On the other side, we've got a sound body of data on what's robbing people of their longevity as well. So let's talk about, if you can, can you share with everybody, what are three things that are robbing people of their longevity today?

DR. WILLIAM LI: Oh yeah. I mean, look, there's a big movement with a lot of interesting, super exciting pioneers trying to figure out how to extend the number of years they've got. But actually the best way to live long is to dodge, prevent, thwart the conditions that are going to rob you of your life. They're going to cut you down short. And if you can dodge those, what are those things? Cardiovascular disease, metabolic syndrome, diabetes, cancer. Just to say a few things. If you've got any one of those three things, you're probably not going to make it as long as you would like to.

Chances are, because you've got all these other conditions, which are, we think largely preventable with diet and lifestyle. Genetics for cancer plays maybe 5 percent of the

equation. Sure, screen for cancer genes. That would be good information for you to know, but honestly, if you didn't have the tools for screening, just live a healthy lifestyle, avoid things that are, carcinogenic or toxic, eat healthier, whole plant based foods. Primarily eat diversity, watch your gut microbiome. You'll make it a lot of the ways and dodge the cancers that you can. And if you do have one of these diseases, you know, this is an interesting conversation I had.

You know, I was at a, I was at a strategic retreat for my nonprofit and we were brainstorming like literally just got some really smart people in the room to have a roll sleeves up, have a conversation about like, what are we thinking about chronic diseases and somebody you might know, do you know, Rupee Oshla, the doctor's kitchen? He's in England. He brought up an amazing point. Because he was one of my guests. He said, you know in medicine because he's a doctor like me. We're trained that chronic diseases. You never stop treating chronic diseases. That's why they're called chronic. We don't think of reversing and we don't think of coming off medication. We think of just lifetime non stop endless prescriptions and I thought how profound that topic was, you know, like, okay, you've got diabetes. You ain't reversing that you're going to be on insulin or whatever other medication forever.

All right. You've got cancer. The cancer is a chronic disease. You're going to be treated until you're dead. Heart disease, cardiovascular disease, you're going to be in statin forever. And you know, that's just actually the wrong way to think about our health when it comes to longevity, shouldn't we be flipping the script and saying, It's only a chronic disease, if you let it become chronic. Why don't we take an illness and reverse it? Can we reverse engineer it back to your healthy state? And then you can get back on the journey to go to your destination. It's like a flat tire. You're not going to just keep on rolling down the highway, the flat tire until your car breaks down.

Right. You're going to pull off to the side of road, fix it, get it back, get the tire back into shape. Then before you get on the road, the reversal of disease is an under... it's an underappreciated concept. We do know you can reverse type 2 diabetes. In many cases. We do know that you can reverse cardiovascular disease. And certainly you can restore the resilience of your cardiovascular system. We are beginning to think that you can actually

manipulate brain as well to be able to regenerate the brain. I, and I know that, you know, if you talk to most neurologists and you know, the mainstay of people are saying, it's just like you were saying about like, Oh, the depression is not going to work.

You talk to people who are neuroscience, they're pretty at the state of the art. They're pretty optimistic. You know, like one of these days, not only going to be prevent, we should be able to reverse some of these neurodegenerative diseases. That's the hope molecule directed way of thinking about our long term health. We should be able to just actually, I think we should be reserving the term chronic disease. Okay, non communicable chronic disease like diabetes and cancer and cardiovascular disease. We should be reserving those for the few cases that can't be reversed.

SHAWN STEVENSON: I love that. I love that. Re reframing.

DR. WILLIAM LI: Reframing.

SHAWN STEVENSON: Being mindful with the labels as well. And I love that analogy of the flat tire, because our system is sort of like, you've got this flat tire. Let's put a little air in it. Next day, put a little air in it. Just keep putting a little air in it, forever, in perpetuity. Until again, we're not fixing the leak. We're not fixing the leak or changing the tire. We're just putting a little air, not even, not even completely getting the air pressure correct. Right. Just putting a little bit in there, messing around. You might put too much, too little, but you're just still uneven.

DR. WILLIAM LI: And it's still not riding right.

SHAWN STEVENSON: Yeah.

DR. WILLIAM LI: The tire is still flopping around when you're driving. You know something's wrong.

SHAWN STEVENSON: Yeah.

DR. WILLIAM LI: And you gotta live, you learn to live with that. And I just think that in the gestalt of the conversation that's going on, In our nation, and I think around the world, it's time for us to reframe how we think about health care. We can't just go along. The cost of treating chronic disease as chronic disease of forever diseases, no country can afford that. We can't afford that. And at a human level, on an individual, family, community level, we can't afford that either.

SHAWN STEVENSON: Yeah. All right. That's a good segue. Now, let's get very specific. Give me three specific things that are robbing us of our longevity. Let's just bullet point them. What's one thing that, that's taken away our lifespan...

DR. WILLIAM LI: Metabolic syndrome. Okay. Metabolic syndrome is, sneaks up on us. It's one of those things that, you know, you might think you're okay. And then one day you realize, you know, I'm not, I'm not so okay. What we don't realize is that what's been going on because of lifestyle and dietary choices and lack of exercise and all kinds of other lifestyle mediated things. You've built up a body of excess, harmful, visceral fat, even if you're skinny, it's the fat inside the tube of your body.

Even skinny people can have a lot of excess, we used to call it skinny fat, and that fat is inflammatory. That inflammation actually sets off a chain reaction in your body, and you might not even know it until you start having insulin insensitivity, and you start having gaining weight and you start having poor circulation. And by the time most people are diagnosed with metabolic syndrome by their doctor, big waist size, high blood pressure, high fasting blood glucose, high cholesterol. That's the definition of metabolic syndrome. You know, you're already way down the line. And again, that falls right into the trap of the chronic disease.

Oh, you're headed towards type two diabetes. Not much you can actually do unless you really take some radical changes to your lifestyle. But listen, that's the moment where you could actually get off that highway to disaster. Take the exit ramp and head back to where you started before you got into danger zone. Don't just keep barreling forward, but that's one of the things, metabolic syndrome that leads to, you know, it's sort of a, the ripple effect of lead

getting. Once you get to a metabolic syndrome, all the dominoes to get locked down, all the ripple effect, the tsunami that occurs is all disease. And one disease makes the other diseases more and more disastrous. Okay, which then creates suffering and then ultimately will cut you, cut short your life. All right, so that's one really, really clear cut thing and you know metabolic syndrome probably affects about 70 percent of our country.

SHAWN STEVENSON: At least.

DR. WILLIAM LI: You know, that's a huge amount.

SHAWN STEVENSON: Being that metabolic syndrome is the number one thing and it was no particular order, but that's robbing our longevity. What is the big culprit or the big contributor with metabolic syndrome. What is that thing that's in our culture that's led to skyrocketing rates of metabolic syndrome? What is it?

DR. WILLIAM LI: I think it's really the unconscious habit of eating ultra processed foods that have a lot of added sugar and other additives that wreck our system. And by the way, these are the things that we all grew up with. We live in modern society and since the 1950s, 60s, 70s, 80s, 90s, you know, the big revolution The industrial revolution hit the food system to make foods cheaper, more widely available, more shelf stable, you know, it was beneficial. Well intentioned. Okay. And tastes really great. And so, you know, engineers went there to figure out, well, what chemicals can we add?

What, you know, to make it really tasty. So, I mean, look, even for those of us who are very, very health conscious and can speak authoritatively about like the evidence of what a good healthy diet should be more like. The reality is, is that, you know, when you're a kid and I was a kid, we loved product X, Y, and Z that we saw on television. That we got in Halloween, our Halloween pumpkins went trick or treating, you know, that we look forward to, you know, when our moms took us to the store at the checkout counter, we wanted to grab some of the, can I have one? Like, I mean, look, we're all the same. This is not about like big food conspiracy.

This is really about that was a time when this explosion that was considered innovation came about. Long shelf life, cheap, widely available, tasted really great. I mean, it was pretty cool at the time. Now it's not so cool and I think this is really where the social barometer is beginning to reset itself to say, you know, we need to be having a conversation about this now. And to ask, are we doing more damage to ourselves by not acting to be more progressive, to align what we know about health with our food system? And that's one of the reasons I'm really glad about some of the conversations that are going on.

SHAWN STEVENSON: Yeah, yeah, me too. Thank you for sharing that. I immediately conjured up ideas, you know, when I was a kid of loving these instant pizzas, you know the frozen pizzas, totino's.

DR. WILLIAM LI: Oh yeah.

SHAWN STEVENSON: You know about that. The Totino's pizza roll, but the Totino's pizza. It was a really bad pizza experience, but you develop a taste and a knack for it I ate so many tombstone pizzas, which is a terrible brand name, by the way. Tombstone, Red Baron, but we always had frozen pizzas, you know, and again, being a kid, like, that's awesome. But today we know that that's not so awesome.

DR. WILLIAM LI: But you know, speaking about that, the fact is that maybe this is why people in our generation need to be stepping up even harder. Not only on our own behalf, but on behalf of children. Because if you think about it, like, you know, we didn't know better at the time, but now we know better. And so why should we be subjecting the young people of today to maybe a fate? We can't, you know, we got to deal with the backpack that we were handed a long time ago. All right. And I think we can, I think it's reversible like we're all hardwired for health. We're all hardwired for healing. You know, it's never too late to change to try to get back to basics. But I think for kids, you know, we owe it to them to give them a clean start.

SHAWN STEVENSON: I love that. We're talking about an issue of informed consent on our part with food as well. So number one, metabolic syndrome. Number two thing that's robbing us of our longevity.

DR. WILLIAM LI: Cancer. Cancer is I'm a cancer researcher. If you look at the statistics, one in two men are going to develop cancer in their lifetime. One in three women are going to develop cancer in her lifetime. So think about it. You go into, with those stats. You go into an elevator with a bunch of people, you know, on your way to a holiday party or whatever, wherever you're going to go. I mean, you look around and you like, my gosh, this is a terrible statistic, right? But actually a lot of cancers are preventable. And you can dodge colon cancer and breast cancer and a lot of other cancers. If we only had a better immune system, better control over circulation, so we're not feeding cancer with our blood, with a new blood supply. If we were able to have diets that killed off cancer stem cells, if we had more antioxidant opportunities to neutralize those. free radicals that would cause oxidative stress to trigger mutations in our DNA.

We can fix our DNA as well. If there's ways that we could actually lower inflammation, which is the gasoline to cancer. You know, you might have a tiny incipient cancer. You have inflammation on top of that. Okay. Now you're basically pouring gasoline onto the embers of a fire. It's going to roar. And then it's immunity our immune system. I read about this in my first book eat to beat disease We are hardwired for health. We've got five health defense systems if we could actually Keep those shields up and fortify them and tend to them like we would with the gate to our house or the locks on our window or a lock on your door.

You know, we'd actually get a lot further away. We'd probably dodge a lot of cancers and there are foods that can do it as well. Diet and lifestyle. It's not just the food, but food. Actually, we now know there are certain foods that can actually have a pretty profound effect. And so this, this is another example, like metabolic syndrome, like this Steeler. Okay, this, this robber baron of longevity is cancer, which seemed to be so nefarious, you know, did you ever see the, the latest Denzel Washington movie called equalizer?

SHAWN STEVENSON: Yeah.

DR. WILLIAM LI: Equalizer three.

SHAWN STEVENSON: Yeah.

DR. WILLIAM LI: So there's this Italian guy who basically said, Oh, this organized crime, you know, locally is like cancer. There's no cure. You know what? Yeah. Yeah. Yeah. I, I, I, there was a great line in the movie, but in fact, there is a cure to cancer and we know it now. I mean, I, I, as a cancer researcher, I'm seeing it in motion. We're not quite there yet, but if with immunotherapy. I got to tell you, if you want to see an amazing story that's based on science, go check out the Instagram account of a person that goes by the handle, the brainy blonde. Okay. She is blonde, very smart. All right. There's like a triple entendre, but she had brain cancer, glioblastoma, death sentence. Nobody survives more than one or two years with that things. She's going on almost seven years, cancer free. And you know what she did? She took a pill. peptide vaccine that boosted her own immune system. All right. And that was able to get her through. So in the future, this is what we're going to be able to do to conquer the scourge. That's still treatment much better to prevent it in the first place. So you don't have to go through that pain and suffering.

SHAWN STEVENSON: Yeah. Awesome. All right. We've got one and two checked off. What's the third thing robbing us of our longevity?

DR. WILLIAM LI: I think cardiovascular disease, you know, and like when people don't understand card, I'm a vascular guy, study blood vessels. So I'm, this is like right in my wheelhouse. You know, you got 60,000 miles with the blood vessels in our body. These are the highways and byways that bring the oxygen that we breathe and the nutrients that we eat to every single organ, every single cell in our body. So if your blood vessels, are healthy, you got a chance to be healthy in the rest of your body, but if you got sick blood vessels, ain't no way. You're going to be able to optimize your health because your delivery channels for oxygen and nutrients aren't actually going to be able to fulfill what your body actually needs for optimal health.

And so cardiovascular disease is not just heart disease. Not just stroke, but really a compromise of the circulation anywhere along the way. That's a long journey, 60,000 miles. If you pulled out 60,000 miles worth of blood vessels out of your body and lined them up end to end, that would form a thread that would encircle the Earth twice. You could orbit the Earth twice with that thread of blood vessels. That's in a single human adult body. All right, so this is why I think cardiovascular disease, which robs us of good circulation, is so diabolical in terms of stealing it. So what are some of the consequences where we know it steals us?

Well, if you get blockages in your heart, you're gonna actually have not as strong a pump of your heart. Not just a heart attack, but you actually compromised the muscle contraction of your heart. It's like your bicep that can't lift quite as much. All right. It's called ejection fraction. Your heart just can't inject as much blood. That leads to heart failure. So what you really want to be able to do is to preserve the pump, the muscle function of the heart as much as possible. We can measure that with a sonogram of the heart. We call it a cardiac ultrasound. You can measure that. You can see that we do that every day in the cardiology office.

And of course you get other problems of circulation in the heart. You can have heart rhythm problems. People always think about cardiovascular disease, like heart attack. Actually, more commonly you have an arrhythmia, meaning the rhythm, the, the, the beat of the heart, you know. Listen, whether you like rap or Beethoven, you're listening to a rhythm. The fact that if the rhythm has a pattern and you're digging that pattern, that's what's important for music. Also equally important for the heart. And when you actually have vascular problems, you can affect the rhythm of the heart. When the heart starts to quiver or fibrillate is what we call it. That can lead to sudden death. Boom. You drop. Bye bye.

All right. That's why you use a defibrillator in the mall or in an airplane or an airport. Okay. That can be lifesaving because you're putting the rhythm back, but you got to have a good cardiovascular system. You need good blood vessels to be able to flow. And of course, blockages to the heart. You block that blood flow. You know, that's like putting a roadblock up on a busy traffic lane. A highway that's flowing suddenly you got rush hour now traffic slows to a halt. All right. And now you got a parking lot. When you got a parking lot on blood flow in

your heart, game over. You start killing heart cells muscle downstream and then, you know, like you're really compromising your quality of life and that ultimately will lead to other problems as well. Same thing I told you about the heart, can happen in the brain. So cardiovascular if you think about your heart you think about your brain. Listen, these are the three things that we talked about metabolic syndrome, cancer, and cardiovascular disease that are so obvious that they rob us prematurely, okay of the life the longer life that we should be having.

And because they are all so tied to diet and lifestyle And that's the one thing that in medicine your medical doctor who went to training in medical school. We are not taught i'm telling you, you know, as a card carrying doctor I received like a week's worth of nutrition. All right, when I was in medical school and nothing in lifestyle, you know, hopefully that will change but this is why, you know, podcasts like this programs like this YouTube programming like this. This is what we are trying to do is to educate people that the solution to health lies first in our own hands.

SHAWN STEVENSON: Boom. All right. So we've got these three things that are robbing us of our longevity. And we've got some pretty good data at this point on the causative agents. And again, it's not a smoking gun situation. Even if we're talking about cancer.

DR. WILLIAM LI: But smoking is a gun.

SHAWN STEVENSON: Boom. Come on now. But adding that in that carcinogen along with carcinogens in our diet, in our environment, lack of movement, the list goes on and on. We start to create an environment where cancer can thrive, right? So, with this last piece, with cardiovascular health, I want to ask you about this because a fascinating study came out recently in the New England Journal of Medicine and it tracked the cardiovascular health of over 250 patients. They found that there were plastics, microplastics, detected in the carotid artery plaques of 150 of these patients.

The conclusion of the study stated quote "patients with carotid artery plaque in which micro and nanoplastics were detected had a higher risk of composite myocardial infarction, stroke

or death from any cause, after 34 months of follow up than those in whom micro and nanoplastics were not detected." what do you have to say about these microplastics?

DR. WILLIAM LI: Alright, so look, we are surrounded in a plastic world. It's really impossible to avoid plastic. It's, you know, one of the big industrial revolutions to produce plastic. It's everything in our toothpaste to toothbrush, to our car seats, to our carpets and our clothing. It's everywhere. It's in our dish washing soap, it's in your sha, hair shampoo, alright? It's everywhere. And most people are becoming aware of how much it gets into our body. So we typically, and this is coming from a study that looked at this as well calculated. The typical American ingests about a credit card's worth of plastic every week. Every week.

All right. And you're like, I don't want to be in a credit card every week. All right. Now you are focusing your attention on what you can do to cut down your exposure to plastics. Now these plastics are everywhere, but they're in some obvious places that we can get into our body. How many people eat with a plastic silverware at a picnic or a plastic plate or a cup, a plastic cup, right? I mean, you go to a ball game, go to a rock concert, you know, you're going to get something to drink. They hand it to you in a plastic cup. All right, besides tossing that cup out and going into the environment, you know, not being good for the planet Some of these microplastics shed right into our food. We eat or drink it and it gets right into our body.

In fact, now we know it's not just in the plaque of the artery of the carotid artery. I want to explain that study in a second, but I'll tell you, we can detect plastics in the blood. So let's define a microplastic. A microplastic is a particle plastic that is about five millimeters or less. Okay. That's about the size of a, like a little bit, like smaller than a grain of rice. A nanoplastic is smaller than one micrometer. So it's like thousand times smaller. All right. You can't see those. All right. But we can detect these. And we never used to detect them, but now we know that it's possible to detect them in regular blood. The study you just cited. And the New England Journal came from Italy from cardiovascular people that were looking at patients who had blockages in their carotid arteries.

So you got two carotid arteries, left and right. They are the big channels that bring blood from the heart right to the brain. They're absolutely critical. And they can get narrowed just

like any other artery. If, you know, if you've got a lot of cholesterol, a lot of cholesterol plaque, a lot of lipids, just kind of clog it up. It's like the clog sink. All right. Now it's the clog sink that brings blood to your brain. So those patients come to attention because they wind up having mini strokes or TIAs or real strokes where they wind up dizzy and you go to the doctor and the doctor does an ultrasound and they look at, they're supposedly looking at a clear blood clot.

Carotid artery, clear tube. Oh my gosh, it's narrowed. It's narrowed down to 85%, you know, like we got to do something about it so you can pick them out. Wow, to find out that in some people you can find microplastics or nanoplastics embedded in the plaque. That is frightening. Okay. I mean, it's just like.. You ever go out to this beautiful in nature, you're taking a hike in the woods. You see this clear stream. Oh man. Well, how beautiful is mother nature is calming. And then you kind of like walk around the bend and there's like a bunch of plastic cups all piled up on the side, go, man, that's terrible. That's what's going on in our blood vessels from these microplastics. And that study, that one study was the, you know, I would say that the turning point for me anyway, to realize that this microplastic thing, which we didn't have any evidence, quote, evidence before this, that, you know, it was going to be bad.

We only thought it was going to be bad. But now we know it's not just a increased risk of fatal heart attack stroke. It's a four fold increase, 4X, okay, that's what that study actually showed, all right. Now, let me just tell you something else. Not only can we, have we detected microplastics in the bloodstream and in plaques. But other studies that have come out since that one have shown you can detect microplastics in the brain. Now, not only and so much microplastic, you could take a kitchen scale, you know, the kind of scale you'd measure like flour out to make a cake. All right. And you can measure the difference between on a kitchen scale, a brain with microplastics versus a brain that doesn't have it. That that's how much accumulates.

We've also found it in the placenta. Pregnant women the placenta is the nutrient connection between mom and baby Whoa, you're saying the moms actually have it. That means the fetus probably is affected the baby is also going to be affected. Are we saying like even before day

one? Like children are actually getting embedded with microplastics. We haven't looked yet. It's going to come out at some point once people start looking we're probably going to find it. They found microplastics and for the guys here like I'm not scared of any microplastics, you know, big tough guys. What if I told you we'd be finding it in the testicles? Okay, we're finding it urologists who are doing surgery on the penis are finding microplastics embedded in the penis.

How does it even get there? You know you speculate we don't really know but I'll tell you it's in there. Okay, they're finding microplastics in semen. How does it even get there? All right, so I'm just telling you like now that we know the totality of all this, here are some practical things you can do. All right. Number one, don't use plastic utensils. Don't drink out of a plastic cup. Don't drink water out of a plastic bottle. I mean, it wasn't so long ago when I, when a vacation was hot, you know, by the beach or someplace, and I would just get a bottle of water someplace, you know, or, and, and, and why not? You got to get, stay hydrated.

Yeah. But please, hydrate yourself without microplastics being shed into the water. Like that's not what you want to be doing. Guzzling it right down all those microplastics. Another thing you can do is don't buy food that is packaged overtly in plastics. Now a lot of food does touch plastics like in the factory. Again another strike against ultra processed foods usually packaged in plastic. It's in a box. You open the box, it's packaged in a bag, that it's a plastic bag. You're going to have particles in there and you're going to be eating them. Plastic bottles, you know, like, okay, we already know you should cut down or cut out soda, added sugar or sugar free. Not good for, you know, those non nutritive sweeteners are not good for your microbiome, but I mean, come on.

How many soft drinks or sodas are being consumed today? I mean, these are entire aisles in the middle of the grocery store with plastic bottled beverages that people are drinking on vacation, at home, at birthday parties, at holiday parties. So cut those out. And then the other thing that's really practical for me is don't buy those storage containers for your leftovers that are made out of plastic, right. So you went to all this trouble to buy fresh whole ingredients from your farmer's market and you're cooking it in your regular cast of stainless

steel pans or your cast iron pan doing all the right things. And then you've got some leftovers. You're gonna eat the next day. And what do you do?

You're going to take what's left over this delicious food that you've cooked and it's healthy as well. You can stick it in a plastic container. That's got a plastic lid. The next day, you're going to bring it to work and heat it up in a microwave to just force the plastics into the food. Come on. So please throw those away, get Pyrex or glass containers. You know, I think that the cap it's, you know, it's really hard to get a glass cap, but if you get a wooden cap or a plastic cap is probably fine for those containers, but do not heat plastic with food in the microwave. These are just some basic things that I think are important. Okay. Oh, you know, like high school athletes, you know, you see them all running around with these plastic water bottles.

Let's change them out. Swap them out. Stainless steel. Good. Glass. Also good. You know, like, I just think that this is one of these things where we didn't know better before. Now we do. So there's, there was an excuse before of what we were doing because we were ignorant. Now we have awareness of this problem. Now it's time to do something about it.

SHAWN STEVENSON: That's right. That's right. Knowing it's half the battle. It's coming up for me. Shout out to GI Joe. The other half is the doing. And so our awareness is there. You've covered so much ground for us today. You've taken us through a virtual movie here. You know, like truly like when you were sharing some of these things and talking about how magical and how interesting biology is for people like ourselves, just like I was on the edge of my chair, like, what is he going to say?

This is so exciting. And, I just appreciate you so much for leading the charge and asking powerful questions and investigating and sharing what you come up with and inviting so many other people into what you're doing as well. You've been focusing more on, and I'm grateful for this, your YouTube channel as well, and sharing some really profound information there. So people can check you out on YouTube. Look up Dr. William Li. And is there anywhere else for people to connect with you? Get more information.

DR. WILLIAM LI: Yeah. Well, check me out on social, my handles at Dr. D-R william Li, L I. Come to my website. You know, and I, I do these periodic masterclasses and by the way, my YouTube channel, I really started to double down on my YouTube in a particular way, because I pay attention to the questions that people send me, the concerns they send me. And what I've been doing is digesting what people are interested in, and then turning that into the things that I want to put on my YouTube channel, like as a way of answering the questions, you know, I wish I could answer everybody's questions one on one.

I wish I could sit across from people like you and we can have a long conversation about this, but you know, one of the beauties of, I think, the modern technological age of media with YouTube is that you don't have to be a TV star or a news reporter. I mean, look, we can, if you're responsible, And you're conscientious and you want to communicate something important to people. We can do it on youtube. So I welcome anybody to come on subscribe, hit like, all the usual things. And the same thing, by the way, your YouTube channel is phenomenal. I think people should really kind of take advantage by the way of podcasts, but also realize that the video version is a completely different way of appreciating the same conversation.

SHAWN STEVENSON: I echo that. And this is so awesome again, just to hang out with you and to catch up and I'm excited to see what you do next. I appreciate you.

DR. WILLIAM LI: Thanks very much.

SHAWN STEVENSON: Dr. William Li, everybody. Thank you so much for tuning into this episode today. I hope that you got a lot of value out of this. This conversation is so inspiring and so timely. We need to up level our thinking and not just think about mere survival, but how can we truly thrive as a species, as an individual, as a part of a community. And I truly believe that this is possible But we need to get the right education into our hands and hearts and being able to connect with individuals like dr William Li is truly, truly a gift.

This is something that again just thinking back before the smartphone paradigm and the podcast paradigm. Getting access to information like this for most people was extremely, I'm

not going to say impossible, but extremely, extremely difficult. But now today, thanks to the right use of technology, we can all get this education right there on our phones. And this speaks to what are we doing with the opportunities and the technology that we have at hand, because it can also be used for great detriment. And so moving forward, I challenge you to truly focus on taking back control of your time, utilizing technology for your betterment, and also making it a mandate moving forward to proactively, intentionally spend more time outside.

Spend more time face to face with your friends and family and the people that you care about. It is clear in the data. It is one of the most powerful, if not the most powerful thing. That determines how long we're going to live and how long we're going to live healthfully. So invest in those relationships.

We got some epic masterclasses and world class guests coming your way very very soon. So make sure to stay tuned. Take care. Have an amazing day. And I'll talk with you soon. And for more after the show, make sure to head over to TheModelHealthShow.com. That's where you can find all of the show notes, you can find transcriptions, videos for each episode. And if you've got a comment, you can leave me a comment there as well. And please make sure to head over to iTunes and leave us a rating to let everybody know that the show is awesome. And I appreciate that so much. And take care. I promise to keep giving you more powerful, empowering, great content to help you transform your life. Thanks for tuning in.