THE MODEL HEALTH SHOW

EPISODE 903

How Your Microbiome Controls Your Lifespan

With Guests: Dr. William Li, Dr. Steven Gundry & Dr. Tim Spector

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SHAWN STEVENSON: Today you're going to discover how one of the most powerful keys to your longevity could be found in your gut. That's right. We've got trillions of bacteria that live in and on our bodies. We have this remarkable gut microbiome that there's so much data coming out about this incredible aspect of human health. But today you're gonna be hearing from a leading cancer researcher, you're gonna be hearing from a leading cardiologist, and you're also going to be hearing from a leading geneticist. Three different brilliant researchers and physicians in their own respective fields, all talking about how our microbiome is a major controller of our longevity.

And first up, you're gonna be hearing from my good friend and colleague out of Harvard University and the founder of the Angiogenesis Society focused on cancer treatment and prevention through science backed lifestyle interventions, specifically around nutrition. I'm talking about the one and only Dr. William Li. In this segment, he's gonna be talking about how your microbiome can impact the ability your body has to heal. Even things like physical wounds. He's also gonna be sharing the similarities in the microbiome of Super agers. So this is people who live over a hundred years versus everyone else. So again, we're just kicking things off. This is gonna be absolutely mind blowing stuff. We're gonna kick things off with the one and only Dr. William Li.

DR. WILLIAM LI: 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, as we know lower inflammation, they release short chain fatty acids. They talk to our immune system, 70% 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, 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, I, 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 gonna 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 ages, 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 gonna 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've 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 the 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 ages. Okay. That's the, that's like a 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 ages. 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. Wanna 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. Alright. And this is the exciting part, like being a scientist and a researcher. I mean, you 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 odoribacter. O-D-O-R-I Bacter. Second one is called Oob Backer, like oscillation, bacter. Another one is Kristin Illensis.

Okay, and then the fourth one is Akkermansia. These four bacteria are standouts more of these bacteria in these super ages 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 Akkermansia boosts your immune system, lowers your inflammation. We know that it helps to regulate blood glucose. We also know that akkermansia, we actually think that Akkermansia might actually interfere with the development of dementia, somehow regulating brain health. And then the latest piece of discovery about akkermansia. 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 Akkermansia. I dunno if you heard about this. Have you heard of P nine? Okay. P as in Peter number nine is a newly discovered particle on the shell surrounding Akkermansia. And you know, what they found out is that if you take a live akkermansia bacteria and blow it up into a million pieces, you kill it, like, like pulverize it. The P nine will still have a beneficial biological effect if it's floating around. So it's like a piece of shrapnel from Akkermansia 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 blown. Right? So now you know this is the bacteria that's doing a lot of things and it, 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 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 hundreds, like, all right, that's a. That, that's like a good Pique 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. 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 gotta be feeding 'em every day. Gotta take feed 'em high, higher quality food if you want 'em 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, we now realize that we've gotta take care of, you know, like. The pregnant mom's saying like, I'm, I'm eating for two. We're actually eating for 39 trillion bacteria.

SHAWN STEVENSON: Alright, I hope that you enjoyed that first segment and we are just getting warmed up again. We're taking a deep dive into the microbiome and the connection between our microbiome, this phenomenal bacteria cascade and our lifespan. And it decided to bring together three powerful perspectives from three leading researchers and physicians to help to enlighten us on this particular subject matter. Now, before we get to our next expert, if you're wondering what are some of the foods and even beverages that are affirmed

through peer-reviewed studies to be truly beneficial for helping to support the health of our microbiome. Well, one of my favorite things was affirmed in a recent study published in their peer-reviewed journal, nature Communications.

And it uncovered that there's a unique compound called Thea Brownin that's found in a traditional fermented tea called Pu erh that has some remarkable benefits on our microbiome. The researchers found that Thea Brownin positively alters our gut microbiota and directly reduces excessive liver cholesterol and reduces lipogenesis the creation of more fat. Another study published in the Journal of Agriculture and Food Chemistry found that Pu erh may be able to reverse gut dysbiosis by dramatically reducing ratios of potentially harmful bacteria and increasing ratios of beneficial bacteria. This tea is obviously incredible, but as with everything, the quality and sourcing matters a lot.

Pu erh is actually the tea that I drink most often, and there's only one source. For the Pu erh that I've been utilizing for many years, and this is the Pu erh from Pique teas. The Pique tea from P Air is wild harvested and they utilize a patented cold extraction technology. So we actually get all these bioactive compounds that we're truly looking for, and it's triple toxin screened for one of the highest levels of purity. It's tested for all the common things that are found in most conventional teas out there on store shelves. It's tested for pesticides, heavy metals, toxic molds that are all common in teas today. So again, where you source your tea truly does matter. Head over right now to Pique life.com/model and you're gonna receive up to 20% off of their phenomenal Pu erh plus access to over 20 award-winning teas and some limited time free bonuses like an electric frother to mix your favorite beverages.

Go to Pique life.com/model. That's P-I-Q-U-E-L-I-F e.com/model. Right now to take advantage, and by the way, you get to try Pique tea's risk-free with a 30 day money back guarantee. You either love it or you'll receive a full refund. All right, so this is again, one of my favorite microbiome supportive beverages. But to move on and to build on this conversation next up we have New York Times bestselling author and renowned cardiologist, the one and only Dr. Steven Gundry. In this segment, he's gonna be sharing more on the connection between our microbiome and longevity. Plus he's gonna talk about what's demolishing the average person's microbiome. He's gonna share the truth about prebiotics, probiotics, and postbiotics

and which foods for us to eat to restore and protect the health of our microbiome. Let's dive into this segment with the amazing Dr. Steven Gundry.

DR. STEVEN GUNDRY: If you look at super old people, late nineties, actually 105 and above. And you look at their microbiome. And the microbiome should be a hundred trillion organisms in our gut. And to give you an idea of how big that is it was recently discovered there was a count. There are 8 trillion trees on planet Earth, 8 trillion. There are 92 trillion more bacteria in each of our guts than there are trees on planet Earth. That's a big number. Yeah. So this is a tropical rainforest that we didn't even know existed until the Human Microbiome Project started in 2006. We didn't know these guys were there. We had no idea of how important they were, what they did. And because of that project, we now know there are at least 10,000 different species of bacteria in our gut, and we can categorize 'em as good guys and bad guys.

And a lot of companies are trying to convince you that the bad guys are really bad and all we want is good guys. But one of the foundations of Gut Check is, believe it or not, and I hate to use the expression, it takes a village that you've got, have bad guys and good guys in your gut, and they actually play important roles. The other thing that's important is that we used to think, well, you gotta eat fiber and fiber's really important and soluble fiber is the key to health, and there's a lot of truth to that. But one of the revelations of gut check is you could eat all the fiber you want. You could take inulin or inositol, and you will never improve your gut, gut diversity, and you will never improve your inflammatory markers.

And this was done by the husband, Weiss Sonenberg team in Stanford. But if you give that fiber soluble fiber to volunteers along with fermented foods, things like yogurt, kefi, vinegars. Then and only then will the gut become more diverse, different species, and will inflammatory markers go down. So what's up? Well, as the book says, you've got a whole assembly line, a car assembly line of pieces to make the final product, and the final product in a lot of cases is a short chain fatty acid called butyrate. And butyrate is one of the most important things all of us need for you name it, you need butyrate.

There are butyrate producing bacteria. The problem is most of 'em have to have some. Products from other bacteria to make butyrate. So you could give these guys all the soluble fiber you want, but if they don't have precursors for making butyrate. It'll be never be made. So this gut diversity is huge. Alright, so now let's go back and look at these 105 year old people who are thriving. Number one, one of the hallmarks is that they have an incredibly diverse gut microbiome, much like actually a 30-year-old would. The second thing that's really cool, which is really probably. Most important is that these microbiome love to eat xenobiotics.

Now, what are heck is xenobiotics. I've heard probiotics, prebiotics, postbiotics, xenobiotics are all these xenoestrogens, artificial plastics that are in our environment, fragrances that are toxic, as most of us are beginning to find out. This set of bacteria is really good at eating all of these toxins. In fact, I was just on one of the big mold shows and if molds were the problem that everybody seems to think they are, then everyone in New Orleans should be dead. Right, and they're not. What's happened? Well, bacteria, believe it or not, compete with fungus and mold. They actually don't like each other very much. They're after the same stuff.

SHAWN STEVENSON: The socias and the greasers.

DR. STEVEN GUNDRY: Exactly. So they each will eat the harmful compounds that each produce to as a defensive mechanism. And we used to have a great set of microbiome that would eat all these fungal toxins and yum, yum, yum. We got you. They're all gone. They've been wiped off the face of our earth. And so you look at these super old guys, they've got a diverse microbiome. They've got a microbiome that's really interested in protecting their home, which is us. And another exciting thing is that you need a bunch of different bugs to produce something like butyrate, something like urolithin A. And we can get into that if you want, but you gotta have a set of bugs to do this. It, it can't. You gotta have a village to do it.

SHAWN STEVENSON: Ah, I love this. Listen, we need to stop with this very simplistic, good or bad?

DR. STEVEN GUNDRY: Yep.

SHAWN STEVENSON: Especially when it comes to human health, right? Bad cholesterol, bad bacteria. I think sometimes more appropriate labels can be. Potentially pathogenic can be opportunistic, but to call any of these bacteria even e coli, you know?

DR. STEVEN GUNDRY: Yeah.

SHAWN STEVENSON: We, we, there's a certain amount that we actually need.

DR. STEVEN GUNDRY: Absolutely.

SHAWN STEVENSON: So with this being said, what we're looking for is diversity as a hallmark and being able to have a good balance of these things. And now we've gotta talk about what is disrupting. This balance in our modern society. And with that being said, I also want to ask you about the current state of affairs of our gut health here in particular in the United States. How's our diversity looking when it comes to our microbiome?

DR. STEVEN GUNDRY: Oh, it's a disaster. I mean, this was supposed to be inside of us, a tropical rainforest, and it's been burned down to the ground. We have, we've done two things simultaneously. We've, we've napalmed our tropical rainforest with broad spectrum antibiotics. Now, broad spectrum antibiotics have only existed for 50 years. I was actually in medical school back in the dark ages when these were introduced, and they were miraculous because you could just literally cluster bomb any infection. You wouldn't have to figure out who, who was causing it, what was doing it, what antibiotic would work, what one wouldn't.

You just wham! You dropped an a nuclear bomb and that was great. It was miraculous. What we didn't know, 'cause we didn't know those guys were there, is we were killing all the villagers while we were after the enemy. And we see that playing out right now. We didn't know that these broad spectrum antibiotics killed our microbiome, just wiped it out. And so many of, and, and now we still use them willy-nilly for anybody who's got a cough, a runny nose, a scratchy throat, these things are dispensed like candy. Still any woman has a urinary tract infection. Bam! Antibiotics and what I talk about in gut check these antibiotics. Depending on which ones and how often they're used can wipe out our gut microbiome for

up to two years can leave you with maybe one or two single species instead of 10,000 different species.

And just like we know in California, forest fire. Burns down a forest, we can go plant some little seedlings, but it's gonna be 20, 30 years before that becomes a functioning forest again, and this is number one. And those antibiotics are fed to our animals that we eat. 70% of all the antibiotics produc in the United States are given to animals, not humans, and they are a conduit directly into us, and we are talking off camera. They're given to animals to make them grow fatter and faster. And believe it or not, it's really good to make us grow fatter and faster. So we're inadvertently eating this every day now. So that's number one. We're, we're killing them. Number two, we're starving them to death. And that's part two.

So these guys, our great, great grandparents lived around the world, lived on fermentable starches, root vegetables, things that would keep through winter. And all of these are collectively resistant starches. They're called resistant 'cause we don't adjust them very well. We don't absorb those sugar molecules very well and a lot is left over as it leaves the small intestine where most everything's absorbed, and it goes to the colon where the vast majority of our microbiome is living. And they're down there going, okay, here it comes, here comes dinner. And so there's all this delicious, soluble fiber that these guys are used to getting. So every time we would eat our gut microbiome would go, okay, you know, two or three hours from now, dinner's gonna arrive. It's gonna be fine.

So now all of our foods, our processed foods, our ultra processed foods have been devoid of fiber, and they're now super concentrated and easily absorb absorbable sugars and easily absorbable proteins. We've actually broken down all the proteins into individual amino acids and peptides, so that, bam. Everything is instantly absorbed and there's now nothing left for our gut microbiome. And one of the interesting theories, which I like a lot about where hunger comes from is your gut microbiome is actually what drives your hunger.

And if you aren't giving them anything to eat, they're constantly sending literal text messages to your brain going, what the heck? You know, where is it? Go. Go find some more. And we keep eating to feed that hunger signal. There was a beautiful study done in China a few years

ago to actually prove the point. It's called the Gut Centric Theory of Hunger. I took some volunteers, put 'em on a two week water fast. All they got was water. One group was given a hundred calories of prebiotic fiber, soluble fiber. Now we can't adjust it. We can absorb it, but it's bug food. So those guys who got those a hundred calories had absolutely no hunger for two weeks.

The other guys were really hungry for a while. What happened? Well, the gut buddies said, Hey, thanks a lot. Got dinner, we're good. You don't have to go looking for anything else. Thank you. You fed us. Have a nice day. And you start looking around and looking Americans. And then look at people who still feed their good gut buddies. And the difference is striking. We're the balloon people for a reason.

SHAWN STEVENSON: Makes me think of the Michelin man. State puff marshmallow, man. Shout out to Ghostbusters.

DR. STEVEN GUNDRY: Yeah.

SHAWN STEVENSON: What about the environment itself? All right. You know, there's a lot of interesting things that we're exposed to today and also things that we're not exposed to because we're constantly kind of creating these in "indoor habitats" for ourselves as if we're not a part of nature. Does that play into this microbiome equation?

DR. STEVEN GUNDRY: Yeah, absolutely. You know, we know now that people who have dogs have a much healthier, more diverse gut microbiome. People who have outdoor cats have a much more diverse microbiome. There's been a lot of talk about forest bathing and..

SHAWN STEVENSON: Srin yoku.

DR. STEVEN GUNDRY: The interesting thing about that is there's now a newspaper that forest basing benefit is actually because you're actually acquiring microbes from the air. You know, that you kick up with your feet and you've reeded your gut with important microbes from the soil. And so, you know, like I tell everybody, number one, get a dog. Number two, let the dog lick your face anytime you can get an opportunity.

And yeah, and so that's one thing. But yeah, forest bathing and you're right, we've, we've gotten these sterile enclosures that. When even my kids were growing up, we had what was called a victory garden named after World War ii, and I mean, we'd pull carrot out of the soil and brush it off and eat it. It wouldn't even occur to us, well, let's take it inside and wash it. Don't, it's, you know, it's get full of germs and dirt and now, oh my gosh, that would be the last thing we'd want to do. So, you know, eat dirt.

SHAWN STEVENSON: To consolidate it, eat dirt. Alright, so we've already kind of looked at some of the insults that our microbiome has been faced with. Now let's shift gears a little bit and talk about some of the things that we can do proactively, because we don't wanna wait 30 years for those seedlings to start to grow.

DR. STEVEN GUNDRY: True.

SHAWN STEVENSON: And the good thing is that we can make a notable difference. But we need to be intelligent. We need to be proactive in this, and in the book you share some specific Yes foods that support the health of our microbiome. So let's talk about some foods first.

DR. STEVEN GUNDRY: Yeah. So again, we've been starving these guys to death. So the more you can introduce prebiotic fibers in the, in the form of tubers, artichoke hearts, for instance, or a great source. I'm a huge fan of the chicory family of vegetables, radicchio. Some people call it that Italian red lettuce that now you've seen most grocery stores, Belgian endive, Frieza. One of the things that strikes me as not odd, but when I first was visiting the South of France and Italy, almost every salad came mixed with radicchio and chicory and frieza. And you go, gee, you know, that's funny.

Why? Why is everybody eating this stuff? Well, it's one of the best prebiotic containing fiber foods there is. And all these guys were eating it. The other thing that I think is, is missing. Is that you can eat these things, but you've gotta, you've gotta prep the microbiome. And I have a chapter that says, dead men tell no tales, but dead bacteria do. And what the heck does that mean? Well, we've been told that probiotics are really good for us, friendly bacteria and

that fermented foods are really good for us like. Like yogurts or keefer or kimchi or kombucha. But most of those foods do not have living bacteria. They're all dead. Even if they were living, they can't make it past gastric acid for the most part.

But it turns out that bacteria have information on their cell wall that is read by other bacteria. And I use the example of my dogs. I, we have four dogs, two rescues, three of 'em are male. And if you've ever had a male dog, all they want to do is sniff urine. And they, you're going, you know, oh, come on, give it up. You know what's so interesting? Well, there's lots of inform information in that urine. You know, oh, you know, Bowser was here and he had kibble for dinner last night, and you know, I know it's him, and he gets information from that. Well, we now know that bacteria read the information on dead bacteria and actually get information of what they're supposed to do.

There's a fascinating study. There's a, there's a keystone species of bacteria called Akkermansia Mussino filla, mucus Loving Akkermansia, and there won't be a test, I promise. So there are actually two companies that one makes Living Akkermansia, the other makes dead Akkermansia. And it turns out that in experiments they both have an important effect and actually slightly different effect. But how in the world could a dead bacteria have that effect? Well, dead bacteria tell tales. The other thing that's important is probably the most important part of fermented foods is the postbiotics that are contained in those foods. So what the heck is a post biotic? All right, so probiotics are friendly bacteria, prebiotics, or what the friendly bacteria like to eat and postbiotics are what the friendly bacteria poop is, I guess the best way to describe it.

It's the products of eating these things that have all the effect on our health, those products seal our gut wall. Those products make our brain work properly. Those products make our hormones work properly. Those products keep cancer cells from growing. Those products coat the line of our blood lining of our blood vessels. So it's these postbiotics that are critical and they're in these fermented foods. Final point. One of the exciting things is polyphenols, and I've been writing about polyphenols since I started writing, and polyphenols are these brightly colored plant compounds that it's the fall right now, and we see all these beautiful fall colors.

Those are the polyphenols in the leaves of the plants. What? What are they doing there? Well, polyphenols are used by the plant to protect the plant's, mitochondria from sun damage and from environmental hazards. And I've written about how they work, but we eat polyphenols and we don't absorb 'em very well. And everybody's, for years, been trying to figure out, well, what the heck? We know they're good for us, but we really don't absorb 'em. What's the deal? It turns out that the gut microbiome think polyphenols are the best thing they've ever eaten. I hate to use the expressions, the best thing since sliced bread.

And they love polyphenols. So they're a prebiotic for gut bacteria. And they then take those polyphenols, which really aren't readily absorbable and turn them into prebiotic compounds that are, you know, phenomenally good for us. So what's exciting in the book is the more you can have pre fermented polyphenols, you've kind of doubled your pleasure. Pre fermented, fermented polyphenols. Wine is a fermented polyphenol, apple cider vinegar is a fermented polyphenol. So anytime you can add these polyphenols that are already fermented and then our gut bugs say, Hey, half the work is done. I'm ready to go with this stuff. You're gonna double all the benefits.

SHAWN STEVENSON: Alright, I hope that you're enjoying this amazing compilation. We've got one more superstar expert for you to, again, learn more about this powerful connection with our microbiome and our longevity. But I wanna remind you of one of the most powerful things that we can do to support. Absolutely. We've got tons of data on. Its supporting our longevity, but it's also been found to support and improve the health of our microbiome and that is exercise. A study site in the journal, oxidative Medicine and Cellular Longevity, titled Exercise Modifies the Gut microbiota with Positive Health Effects is one of the latest studies to affirm this powerful connection and one of the most rewarding, most accessible forms of exercise we can do.

It's to simply go for a walk. Walking goes hand in hand, or should I say hand in foot with microbiome health and longevity. And this is a great opportunity for us to rehab our bodies from the ground up. Get out there, go for a walk. Our bodies need this. Our genes expect us to walk on a regular basis. So set a goal for yourself, whether that goal is framed in minutes or a step count. Set a goal for yourself and give your body that input that it truly needs. And

in addition to that, if you wanna uplevel your walking, the health and functionality of our feet, because again, this goes hand in foot, the health of our feet deeply impacts the joints, ligaments in tendons upstream. So many knee, back and hip issues are actually rooted in dysfunctional feet.

And the number one thing, deranging, the largely perfect feet that we're born with, is cramming our feet into narrow shoes. In turning off the innate intelligence of our feet. Your foot has 26 bones, 33 joints, 19 muscles, 107 ligaments, and each one of your feet has over 200,000 nerve endings. It's there for collecting data to determine your movement. So when you're going for a walk, this is an opportunity to also rehabilitate your feet with a phenomenal shoe, with a wide toe box. And also the opportunity for our toes to have their natural splay. And these are the shoes that I'm rocking all the time when I'm out there walking on the streets when I'm out there in them streets.

You better believe that I have on my peluvas. You're absolutely going to love peluvas. I've got many of my friends and family rocking their peluvas. And just noticing that they're moving better, they're feeling better, and they have rehabilitated their feet and rehabilitated their bodies from the ground up. Head over to peluva.com/model and use the code model at checkout for 15% off. Checkout their new styles, checkout their new styles. Let's make healthy feet go viral. Let's get our feet together. No more hammer time in our shoes. Let's heal and rehabilitate our bodies from the ground up. peluva.com/model. And now we're at our final expert in this powerful compilation dedicated to the connection between our microbiome and our longevity.

Next up, we have bestselling author and geneticists, Dr. Tim Specter. In this segment, he's gonna be sharing why the microbiome is a great marker of your mortality. Plus the fascinating impact that time restricted eating can have on your gut and your health overall. Enjoy this final segment from the amazing Dr. Tim Specter.

DR. TIM SPECTOR: So microbes and longevity is really interesting. There've been some studies in mice that you can take the gut microbes from a young mouse and put it into an old one and make it live longer. And they've done this three or four times. You know, I, I'm a bit

skeptical about mouse studies, but it shows things, things are possible and no one's effectively done this in humans. Quite hard to do. They might have done at home, but no, not in a proper journal. But the data, when you look across populations, is that the gut microbiome is a pretty good marker of your mortality and your longevity. So they've done some studies of centenarians looking at their gut health, and these are people living often in the blue zones where they, you know, get the right food, the right exercise, radiation, but they've also got the right genes.

They tend to have microbial health, similar to 40 to 50 year olds on average in those countries. So there's growing evidence that if you can maintain your gut microbiome, if you're a healthy person in your forties or fifties, you keep it at that level. You can live into your nineties or hundreds in a healthy way. And the people that drop off are these all based on diversity, so you lose some of that richness that's associated with increased frailty. And we've done studies on this and when you look at the Zoey database now, the best results are someone in 40 or 50 I. And there's a very slight decline overall, but there are huge differences between people.

So you can have an 80-year-old who's got the gut microbiome of a 50-year-old or, who really looks like, uh, you know, someone who looks like a hundred, you know, a hundred and is really frail and is losing it. So I think increasingly we're gonna see people who want to live have a healthier, health span. And I think we should be focused on health span on, nobody wants to live forever with, you know, 10 different diseases in a wheelchair in a home. That's not fun. But if you can delay all these diseases, it, it's looking like the gut microbiome is one of the best ways to do that. And it's a holistic marker really, of the rest of your body. So I always tell everyone now to get their gut checked, tested. See how they're doing 'cause you know, most people have got no clue what's going on in their gut, in their gut, and yet they measure their blood pressure.

They'd go to their doctor for blood work. But I think, you know, your, the state of your gut health, your healthy ratio, your diversity is a much better indicator of your health than getting a DNA test or, or most blood workups. And you want to then maintain this as much as you can. And the, and the nice thing is that unlike a lot of your blood workups or your

genetics, you can do something about it. You can actually, by monitoring every year, you can keep it at a really high, high level. And you know, this is what Zoe absolutely believes in. So, you know, doing everything you can to improve your gut microbes, which then help your immune system. And we think the immune system is key to longevity to the better the way your body repairs itself all the time. You know, is fixing stuff, and if your immune system's not working properly, that's when your body starts to go wrong. And you start age, age related damage starts to occur. So you need the best toolkit and the best toolkit is to have a really well-functioning gut microbiome.

SHAWN STEVENSON: So we've already shared with everybody a couple of big takeaways for improving and supporting a healthy gut microbiome. One of those, of course, is eating a diversity of foods, real foods.

DR. TIM SPECTOR: 30, 30 a week, at least.

SHAWN STEVENSON: 30 a week. We've even got a number to target.

DR. TIM SPECTOR: Yeah.

SHAWN STEVENSON: Also being mindful of not overdoing it and avoiding processed sugar as much as we can. Also, getting yourself around some healthy people is gonna be a good idea as well. Some really interesting things there. But in closing, if you could, can you share a little bit about how time restricted feeding can potentially support the health of our microbiome?

DR. TIM SPECTOR: Yes. Time restrict feeding or time restrict eating is where you eat the same food, but you're compressing the time window of eating into probably what our ancestors used to do. So they would generally eat and within a 10 hour time window. And I spent some time with a hunter gatherer tribe, the hadza. And you see they don't have breakfast and they don't really eat when the fires, when it's too dark to eat. So, you know, everything is naturally compressed for them between about. You know, 10:00 AM and 7:00 PM you know, that's about that, that that's when they, they tend to eat, and that's how our ancestors, how we evolve to eat. That gives a really long time for your gut to recover. So, cut out those late night snacks, you know

Don't be tempted by the cookie and milk as you go to bed. Really bad idea. And that's because your microbes come out at night and clean up your gut lining that tidies it all up. The nighttime team is very different to the daytime team, so they're not looking for food, they're just looking for bits of your body that they can tidy up, like giving it a haircut. And the lining of your gut is full of little sugars on the mucus layer and they eat those. And having that in really good shape means that you're not getting leakage across your, your gut barrier, and for reasons we don't understand, it seems to improve your general metabolism and your efficiency.

And also we did a big study with Zoe of 140,000 people doing this. So this is one of the biggest citizen science projects ever. As you know, Shawn, the average study is about 20 people, normally students, usually male, you know, not generalizable. So we asked 140,000 people who were Zoey customers to try time restricted eating with a 10 hour eating window and a 14 hour fasting. Period. And a third of them hated the idea. They said, that's not for me. A third of 'em tried it and sort of half did it. A third of 'em tried it and loved it. And those third that did it, they're still doing it, you know, a year later. And those people reported less hunger, more energy, better mood. And that's really interesting as well.

So, I mean, it's coming back to the first point about what are the other things you can do and that possibly, you know, is triggering GLP one as well. Through ways we don't yet understand, but it's, it's clearly just in a way giving your gut microbes a really good sleep. You know, we all need, sleep is crucial for our metabolism, and these microbes also need a rest. So this constant 24 I, you know, the US idea of snacking 24 7 is like the worst thing you can do If your microbes, they're, they're like on shift work all the time, right? They can't relax. So increasingly we're seeing this data that suggests that, you know, rest is really important. You combine your eating times with your, when you're supposed to be awake and you are exercising and doing stuff, and this other time is for rest.

And it seems that the microbes also are fitting into our schedule. So yeah, time of eating is great, but it's, some people find it hard, so maybe those people, you know, don't go for 14, just go for maybe 12 hours. Most people can, can do that, and I think it's important to realize we are all very, very different. And that's, you know, the essence of understanding Zoe is all that.

This individuality and this personalization. So find what works for you. And we mustn't forget fermented foods. I'm a big fan of fermented foods and in the US we don't eat enough of those, you know?

And this plenty around, if you can find them. I mean, look for them and you, you will see them. But they're an extra boost for you as well. And they'll, they'll, they'll really help. So, yeah, that, I think we've covered most of the basis there and reduce ultra processed food. I mean, it's hard to get to zero. When you're surrounded by everything and we all like the odd treat every now and again. So my view is, you know, don't go for perfection. Go for something that you can sustain for years.

SHAWN STEVENSON: Thank you so much for tuning into this powerful compilation. I hope that you got a lot of value out of this. I absolutely love putting these compilations of these conversations together. We've had so many powerful interviews on the Model Health show some of the very best people in the world in their respective fields. And sometimes I just don't want people to miss these messages. And sometimes they're just these very powerful points in these conversations that we need to hear again, we need to learn again.

They cannot be overstated. And so putting these compilations together, it takes work, but it's something that I love to do. And to function, yes, as a powerful reminder, but also to remind you that you can get the full meal. These are just snacks. These are just little snacks from these conversations. If you wanna get the full meal, you could check out the full episodes right there in the show notes from any of these guests, Dr. Tim Specter, Dr. William Li, and of course the amazing Dr. Steven Gundry.

We've got some powerful masterclasses coming your way very, very soon, as well as some. Amazing world leading guests. 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 the model health show.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.