

EPISODE 336

The Surprising Connection Between Your Microbiome and Your Lifespan – With Guest Dr. Steven Gundry

Shawn Stevenson: Welcome to *The Model Health Show*. This is fitness and nutrition expert, Shawn Stevenson, and I'm so grateful for you tuning in with me today.

I've got a question for you. How long do you choose to live? This is a question I've been pondering for a little while now, and I had a client of mine a couple of years back, and he's also a mentor, and he's taught me so much over the years.

It's one of those situations where I'm supposed to be teaching him things, but he ends up teaching me so much.

And this guy - and shout-out to Ken Balk - he had 100-year plan. He had his life mapped out for him to live 100 years down to his nutrition, his finances, his relationships, and I thought, "Okay, that's a little neurotic," but it was also fascinating.

And right now he's thriving, he's about ninety years old at this point, and again he's just a true inspiration for me.

And just being in this head space, I realized that I'm still a pretty young buck, and having the conversation about longevity isn't something that is necessarily appropriate for me, but it's something that I'm definitely fascinated with.

And I decided today to bring on the very best person in this subject.

There's all this talk about these blue zones, right? These places around the world where folks tend to live over 100 years, right? It has the greatest amount of centenarians.

And this doctor, who we have on the show today, he's a return guest first of all, but he actually lived and practiced in one of these blue zones.

He has a different level of authority, and I just read his brand new book, and oh my goodness. I'm telling you right now, this is going to be one of the biggest books of 2019.

It's one of the best books I've ever read period, just nugget after nugget, layered with intelligence and wisdom and insight, but also it's a little bit funny too. Alright? He dropped some jokes in there.

But it's truly a great read, and I think you're going to absolutely love it. You need to get your book ASAP, because I'm telling you again, it's going to be one of the biggest books of the year.

Before we get to him, I want to give a quick shout-out to one of my favorite companies on the planet who's making it affordable to get organic, non-GMO, wild caught, whatever label, whatever moniker you're looking for.

Paleo, gluten-free, vegetarian, whatever label at the most incredible prices that you can find out there on the Interwebs; Thrive Market.

Now I love Thrive Market, I've been using them for several years. They literally save us- and they'll show you your savings each year. Right now we're on par to save about \$900 this year.

I don't know about you, I've got two sons, alright? It's basically feeding a small army, just feeding these two boys, and I'm not too shabby myself.

And paying these kind of prices at Whole Foods- which I love Whole Foods. They've made organic healthier foods much more available.

But the prices, sometimes they call it the nickname 'Whole Paycheck.' And you can save a lot of money by grabbing a lot of the same products you'd find at Whole Foods at Thrive Market, and you're going to save on average about 25% to 50% off the retail price.

Alright? It's like a no-brainer to do this. And right now you can also get access, off your first purchase from Thrive Market- and I go there, I get my coconut oil, nut butters, if you want to get - as Dr. Gundry will let you know - you probably want to get sprouted quinoa if you're into that.

You know, you've got to be careful about the little saponins, these soap-like sugar molecules, and different things.

But you can get personal care products as well, you can get your home cleaning products. You'll find out today there's probably some issues with those things too you want to be aware of that can mess with your hormones, alright?

So all of these things are available at www.ThriveMarket.com/modelhealth, and you're also going to get- in addition to the 25% to 50% off, you're going to save 25% off your entire cart for your first purchase. Alright? In addition.

So head over there, check them out, www.ThriveMarket.com/modelhealth. You're going to get that additional 25% off your first purchase and free shipping.

I don't know about you, but I've literally abandoned cart because of shipping. Alright? I'll just go to the store, alright?

So you're going to get the free shipping as well off your first purchase. Alright? So pop over there, check them out, www.ThriveMarket.com/modelhealth. And now let's get to the Apple Podcasts review of the week.

iTunes Review: Another five-star review titled, 'Dr. Perlmutter Interview,' by BlueGray. "Love, love, love this show. The science combined with your compassion is dynamite.

Learned so much from your interview with Dr. Perlmutter. Never thought about how the foods we consume have an impact on our relationships. #MindBlown.

Thank you for all that you do. So grateful for the information. The information truly excites me."

Shawn Stevenson: Thank you so much for leaving me that review over on Apple Podcasts. I appreciate it so much, and if you've yet to leave a review, please pop over and do so. Alright?

It really makes my day. I appreciate it so very much. And on that note, let's get to our special guest and topic of the day.

Our guest today is the incredible Dr. Steven Gundry, and he's a renowned heart surgeon, New York Times bestselling author, and medical researcher.

He's the author of the mega-hit book, 'The Plant Paradox,' and by the way again, we'll put his episode - the first appearance on *The Model Health Show*, which was huge - in the show notes for you, if you happened to miss it.

He's also the author of the brand new book that's just blowing my mind, alright? Blew my mind right out of my head. I had to grab it, alright? I had to hold my mind in my brain as I was reading this book. It was so good.

It's called, 'The Longevity Paradox: How to Die Young at a Ripe Old Age.' And this book provides an innovative look at getting younger as we age, complete with an action plan to prevent and reverse disease, and simple hacks to help anyone look and feel younger than their age.

And Dr. Gundry is known as the leading expert on the Lectin-Free diet, as a key to reversing disease and boosting longevity.

Dr. Gundry believes that we have the ability to heal ourselves through nutrition when certain dietary obstacles are removed. And Dr. Gundry is also the Director of the International Heart and Lung Institute in Palm Springs, California, and the Founder/Director of the Center for Restorative Medicine in Palm Springs and Santa Barbara.

And I'd like to welcome back to *The Model Health Show*, my man, Dr. Steven Gundry. How are you doing today?

Dr. Steven Gundry: Thanks for having me again, Shawn. Good to see you.

Shawn Stevenson: Totally my pleasure, and I'm just raving about your book obviously. I think it is definitely going to be a huge hit.

And I would love to start by talking about your patient, right? Michelle. She was affectionately known as Michelle, but she walked into your office one day and it kind of changed the course of things for you. Can you talk about that?

Dr. Steven Gundry: Yeah, she really did. Her real name is Edith Morrey, and when I first moved my practice to Palm Springs from Loma Linda, California, where I'd been a professor for many years, she walked into my office and I looked at this lady, and I thought she was quite frankly about sixty-five years old.

Beautiful head of hair, dressed to the nines, three inch heels. And I looked at the chart, and she was in her early nineties, and I'm doing a double take.

I'm going, "This is impossible." I said, "What are you doing here?" And she said, "Well, I heard you talk at a little community event, and you're the first guy who's ever talked like the nutritionist who changed my life, and his name was Gayelord Hauser."

And I had actually never heard of Gayelord Hauser, and I said, "What do you mean he changed your life?" She said, "Well, I went to his seminar when I was twenty years old, in the Depression, and he told me to go home, throw all white food out of my pantry, and never eat a white food again."

And she believed him, and she did. She actually buried two husbands, including a doctor- a physician who told her her way of eating was crazy.

And here was this woman in her early nineties looking literally sixty-five. And I go, "Oh my gosh. This is what I always believed was possible, and here she is in front of me."

So she started telling me all about Gayelord Hauser. He actually wrote twelve books, he ran the health spas for the Elizabeth Arden cosmetic company.

Shawn Stevenson: Interesting.

Dr. Steven Gundry: And he had fat farms all around the country. And he cured himself of tuberculosis of the hip, and we may talk about your spine another time.

So I learned so much from her, and she- as I was writing 'The Longevity Paradox,' she moved onward two weeks before her 106th birthday.

And the picture that starts the book is her at 105 and a half in my office with 'The Plant Paradox' book. She was a huge fan, and amazing woman.

Shawn Stevenson: Yeah, unbelievable. And you could even see the vitality in her eyes in that photo. I thought that this was a photo from like a little while back until I saw she was holding the newer book.

Dr. Steven Gundry: Yeah.

Shawn Stevenson: So, that's amazing.

Dr. Steven Gundry: Yeah, so it's proof. You know? She was 105 and a half when that photo was taken, and that's her hair on the photo, which is just absolutely shocking.

Shawn Stevenson: And this is what you were talking about, because- and I've been saying this quite a bit lately, is that we're not necessarily living longer, we're dying longer. Right?

Dr. Steven Gundry: Correct.

Shawn Stevenson: We've seen this progression of human lifespan the past few decades, but now for the first time, as you talk about in the book, we're seeing a decline. I believe it's the last three years. Is that right?

Dr. Steven Gundry: Yeah, the last three years actually our longevity- our death rate- we are now getting shorter and shorter lives for the first time in recorded history.

We've always gotten older each progressive year, but for three years in a row now, that's declined. And in fact, my generation's kids - I'm the Baby Boomers - but my kids are Gen-Xers .

If things aren't changed, they will be the first generation that will not outlive their parents.

Shawn Stevenson: That is nuts.

Dr. Steven Gundry: Which is really scary.

Shawn Stevenson: Yeah, and of course as I mentioned, we're seeing this increase in lifespan the past couple of decades, but the quality of life isn't there, and it's not something that you would see in your patient.

And you're being somebody from one of these blue zones. So can you talk about that? Because you've got a different perspective than everybody else.

Dr. Steven Gundry: Well yeah, I had the pleasure of living in Loma Linda in California for many years, and Loma Linda is the only blue zone in America. So that's pretty unique.

Most of the other blue zones are elsewhere, a number of them in the Mediterranean. We'll probably get to that.

The Adventist religion is- Loma Linda University Medical School is the medical school of the Adventist religion. I'm not Adventist, but I was actually one of the few full professors who wasn't Adventist.

But they have always thought that food was a major component of health, and they actually teach their medical students more about food than they might teach them about say anatomy, because they think - and I totally agree with them - that almost everything in health comes from the food you eat.

And Hippocrates said this 2,500 years ago, 'Let food be thy medicine.' And so I was able to take away a lot from Loma Linda.

I also took away some problems from Loma Linda. When I arrived at Loma Linda, I weighed 148 pounds, and I'm about 5'10". And when I hit my peak weight, I was 228 pounds after about seven years of living at Loma Linda.

And I went, "What the heck? Because I'm eating a healthy, primarily vegetarian diet, and I'm running thirty miles a week, and I'm going to the gym one hour a day."

My wife would actually throw me out of the gym at 4:00 in the morning. I'm eating this healthy diet, and I had high blood pressure, pre-diabetes, arthritis.

I did baby heart transplants with migraine headaches. I don't recommend it. And I'm going, "Geez, I'm living in a blue zone, and what's going on?"

So it wasn't until I met Big Ed, the lightbulbs went on in my head, turned my life around, just like you had an opportunity to turn your health around.

But getting back to blue zones, one of the interesting things about blue zones, a number of my - I'll call them critics. Critics are really good for you.

Shawn Stevenson: Absolutely.

Dr. Steven Gundry: Because they really make you, "Are you sure about what you're saying? Can you back up what you're saying?"

A lot of my critics say, "Look at all the blue zones, and they all eat beans and grains, and that's the secret to healthy living in a blue zone. They all do."

And I go, "Well that's funny, that's certainly not my study of the blue zones, and I visited a number of them, and I lived in one."

And one of the things that was fascinating about the Adventists, that I do talk about in the book, is the Adventists have what we jokingly call 'mystery meat.'

And it's- they're vegetarians, a lot of them are vegans, and so their meat substitute is TVP; texturized vegetable protein.

And TVP is made from defatted soybeans that are then extruded under high pressure and high heat into whatever kind of funny looking meat you could name.

We even had a 'Wam sandwich,' which was TVP made to look like Spam. And in fact, I'll tell you a funny story here. Your listeners will love this.

My good friend and colleague, Dr. Leonard Bailey who was the baby famous doctor, did the pig-to-baboon heart transplant. Sorry, the baboon-to-human heart transplant.

He is an Adventist, and a practicing Adventist, and we would have our Christmas party every year, and we would have primarily vegetarian and vegan foods.

And so we had it at a hotel one year, and he and his wife were sitting next to my wife and I, and he came back with a plate of shrimp.

And he starts eating his shrimp, he says, "You know, it really is amazing to me how they can make this TVP taste like shrimp." And his wife said, "You idiot, that is a shrimp."

He says, "Oh, well since I took it," so he went ahead and ate the shrimp.

Shawn Stevenson: It is, that's so true because we've got soy dogs, soy burgers, I think it's like jackfruit for shredded meals, shredded barbeque or whatever. It's crazy.

Dr. Steven Gundry: So whenever people- my critics say, "Well, the Adventists eat a lot of soy." Believe it or not, they eat pressurized and high-heat treated soy, which I talk about in all my books, is the way to get lectin content down.

And the interesting thing about the Adventists- and it's a point I make in 'The Plant Paradox,' but also in 'The Longevity Paradox.'

One of my good friends, Gary Frasier who's a cardiologist, whose life's work at Loma Linda has been tracing the longevity of the Adventists.

And it's interesting. The vegan Adventists live the longest of all the very long-lived Adventists. And next comes the vegetarians who don't eat eggs and cheese.

Next come the vegetarians that eat eggs and cheese. And then come the Adventists who cheat, and there's a number of cheating Adventists, and they eat fish or chicken.

And so he's revealed this through multiple studies. I think it's now six published studies, and the vegan Adventists have the best longevity, which is fascinating.

And I think there's a reason behind that, and I talk a lot about that in 'The Longevity Paradox.'

Shawn Stevenson: Yeah. Yeah, you sure do, and you also cover some of the other blue zones, and talk about how their diets look very different.

Dr. Steven Gundry: Yeah.

Shawn Stevenson: On the other side, some of them are not vegans at all. And so there are these small minute things that are consistent.

And when I was saying how good your book is, I was not just blowing smoke, and I want to start with kind of diving in and looking at some of these consistent things.

And one of those things you start with is these non-human ancient genes being one of the kind of root sources of longevity and where we need to really be looking. So can you talk about what that is?

Dr. Steven Gundry: Yeah, interestingly enough, eleven years ago I wrote my first book called 'Dr. Gundry's Diet Evolution,' and the subtitle was, 'Turn Off the Genes That Are Killing You.'

And back in those days, we didn't know really anything about the microbiome, the bugs that live in us and on us. And I thought that it was actually our human genes that were controlling our fate.

Fast-forward for this book- and the reason that book was called 'Dr. Gundry's Diet Evolution' is because my thoughts have evolved, and quite frankly, if you're spouting the same thing you said ten years ago, I probably don't want to listen to you.

Shawn Stevenson: Right, it's probably broken.

Dr. Steven Gundry: Yeah, guess what? Time marches on and research marches on.

So the fascinating thing is that our genes really have very little to do with what's going to happen to us. Huge NIH study recently published, that you're aware of, showed that of everything that's going to happen to us in longevity and diseases, our genes have only about 8% effect on what's going to happen to you or me.

So that means 92% of the genes that are going to have an effect on you aren't yours or mine, they're actually our microbiome.

So we have trillions and trillions and trillions and trillions of bacteria, viruses, worms, protozoa in us and on us. And even though they have fewer genes per little bacteria than you and me, because there are so many of them, the microbiome actually has well over 260 times more genetic material than you and me.

And what's really cool, I learned this from a professor of microbiology in Paris a few years ago, and he thought - and I actually subscribe to his theory - that because what this huge resource of, if you will, computing power of genetic material that lives in our microbiome that reproduces constantly.

He believed, and I back him up, that we uploaded most of our information processing, just like we upload our information processing to the Cloud. We uploaded or downloaded to our bacterial Cloud, because they've got more computing power.

And it sounds kind of far out there, but I think he's right because we now know that the bacteria within us actually control our fate.

And it's really hard for a smart person to say, "Oh come on now, these little one-cell organisms are going to control me?"

But in fact, it's actually true because this is their home, and I like to tell people and get people to understand that we're basically a condominium for bugs.

And this is their home, and they're actually living in us at our request, and if we keep their home good, they'll keep us well.

Because quite frankly if we're doing well, they'll have a great home the rest of their lives. And we'll probably get into this, but the amazing thing is you can take people who are 105 years old, very much like Edith Morrey, and who are doing well, and look at their microbiome, which has been done, and compare that to the microbiome of thirty-year-olds.

And the thirty-year-olds who are doing well will have the same microbiome as the 105-year-olds that are doing well. And it turns out most people, if they get to that age, have to have a youthful microbiome, or they're never going to get there.

Shawn Stevenson: So fascinating, and you talk about some of the studies that found that as folks are progressing nowadays, the average person, some of these species of bacteria and viruses, they're going extinct or becoming endangered in their microbiome.

You don't see the same kind of cascade that you would see in somebody who's actually living a long time.

Dr. Steven Gundry: Yeah, that's exactly right. So it's this- normally we have this incredible rainforest and ecology in our gut, and this rainforest- in a rainforest maybe there's 10,000 different species of plants, and critters, and bugs, and every one of them is dependent on the other.

Shawn Stevenson: Right.

Dr. Steven Gundry: So we have an intense rainforest of bugs in our gut, and it turns out that that diversity, the same thing that makes a rainforest, has to exist in our gut, and without that diversity, we're not going to make it very long.

And what's happened, as you know, is that we've pretty much thrown napalm on our rainforest almost every day by the things we eat, the way our animals have been fed, the use of antibiotics, we could go on and on- glyphosate Roundup.

And so it's no wonder that we may be living chronologically older, but in fact as you started the show, our health span is actually decreasing dramatically.

The number of good years we have is going down and down and down. In fact, my generation - the Baby Boomers - are sicker, on far more medications, than our parents were at the same time period.

And that's actually scary because Baby Boomers, we figured we're going to live forever, and we're sicker than our supposed very sick parents.

Shawn Stevenson: Yeah. Man, this is so fascinating. And I want to talk more about some of the things that our microbiome does for us that we really don't think about.

But first, I just want to drive in this point, because I remember reading about this almost two decades ago, and the Human Genome Project, and we had this idea like, 'Corn has like 30,000 genes. These fruit flies have like 20,000. For sure, humans, we have like 100,000 genes at least, or something. We're so complex and dynamic.'

And then the research is done, and we have like maybe 25,000 genes collectively.

Dr. Steven Gundry: 20,000. Yeah, 20,000.

Shawn Stevenson: Right? Insane. First of all, we know that about two thirds of those genes, we can influence like right off the bat with our lifestyle. Right? Those epigenetic influences.

Dr. Steven Gundry: Correct.

Shawn Stevenson: But my question is what makes us so different? What makes us so diverse versus corn, which you would think doesn't have as much genetic information as we do?

Dr. Steven Gundry: Yeah, I mean corn literally has far more genes than human beings. They have about 30,000 genes, and even the water flea, daphnia, has more genes than humans.

So we actually are really fairly poorly equipped with genes. But what's fascinating is we've- again, we've traded our lack of genes in exchange for huge amounts of genes in our microbiome.

And there's even one paper that I cite, which is fascinating. You can actually trace now from stool samples, DNA of bacteria, the immediate time when humans split off from the lines of great apes that became chimps and gorillas.

And it was actually the change in the microbiome that actually determined that you and I are humans and not other great apes.

And you could actually now- because the DNA is still intact in stools that have been fossilized, you can actually now detect that we're different because our microbiome changed, and that is what made us unique.

Shawn Stevenson: Incredible.

Dr. Steven Gundry: Yeah, it's like, "What?"

Shawn Stevenson: Yeah, it's so, so fascinating. So cool. And one of the things you talk about, and lovingly- affectionately calling these microbes our gut buddies.

And so I want to talk about some of the roles that they play for us, because one of the things, for example, which I had no idea about for many years, they make vitamins and minerals in us for us.

And there's other kind of symbiotic things they do, so let's talk some about that.

Dr. Steven Gundry: Yeah, that's true. Without really your microbiome, a lot of the vitamins that we take for granted would never be absorbed or even manufactured in the first place.

But what's really fascinating is we knew for many years that the gut was the source of a lot of important hormones that affect our brain, our mood, serotonin for instance, melatonin for instance.

And we thought for years that this was produced by cells lining the gut, but we're now beginning to realize that these actual hormones are produced by our gut microbiome.

And you've got to have the right mixture of bugs to actually transform basic building blocks into, for instance, serotonin which is the feel good hormone.

So if you've got bad bugs, or gang members, living there, they have no interest or ability to make these hormones. So it's no wonder that if you've got a bunch of gang members in your gut rather than what I call gut buddies, that you're angry, that you're moody, that you're anxious.

Because that's actually a reflection of this really bad neighborhood that's living in you.

And the other amazing thing is that they can actually control your food appetite. They can control what foods you seek out, and the gang members actually tell you to want simple sugars and saturated fats. That's what they live on.

They actually can't live on complex carbohydrates, on resistant starches. The gut buddies love those, but the gang members can't live.

So the amazing thing is even obese people don't realize that I talk about in the book that the type of gut bacteria that you have determines whether you're going to be fat or thin, no matter how many calories you actually eat.

There's now really cool research that bacteria that live in the small intestine- now most people aren't aware that most of the gut microbiome research is done on colon bacteria, the stuff that lives in your large intestine.

But years ago I got focused on the small intestine as kind of the forgotten area, because most of the food nutrients that we absorb come out of the small intestine.

And now some really groundbreaking research has shown that depending on the bacteria you have in your small intestine, bacteria are capable of extracting more calories from the food you eat, and putting it into you if they're bad bugs.

If they don't exist, those calories don't go into you. So the old idea of calorie in/calorie out is so flawed because it never took into account what the bacteria were doing with those calories.

And as I talk about in 'The Plant Paradox,' and again in 'The Longevity Paradox,' you can actually do fecal transplants of fat bacteria into skinny mice.

And there's one example of a skinny woman that I talk about in 'The Plant Paradox' who got a fecal transplant from a cousin who was overweight - and she was a skinny marathoner - and this woman gained thirty pounds without changing her diet, because now all of a sudden she had bacteria that were capable of extracting more calories and putting it into her without changing her lifestyle, just changing bacteria.

Shawn Stevenson: Again, blowing my mind out of my head. It's just so crazy, you know? Like of course you know, I went to a traditional university, and this was the thing that was drilled into us.

If you want your patients to lose weight, have them to basically burn more than they're taking in, end of story. And it just simply is not like that.

So many people have suffered and struggled doing that same thing and not understanding what's at the core of this conversation?

Another piece with the microbiome and these gut buddies is they're like kind of order patrol in the first place, right? Of what is getting into your system? Can you talk more about that?

Dr. Steven Gundry: Yeah, our microbiome has evolved over millennium to, number one, get used to the foods we eat. And there's always a tension between the creatures that we eat and us.

So for instance plants, believe it or not, don't want to be eaten. They have a life, and they want themselves to survive, and they want their seeds to survive, just basic evolutionary principles.

So they have a very impressive defense system against being eaten, and that includes lectins - my favorite subject - and all sorts of saponins, for instance, and anti-nutrients.

On the other hand- so they've got a very good defensive system. On the other hand, we have our own evolution of handling these poisons.

And really one of the first things we have is mucus, and we'll talk about mucus in a little bit because mucus is incredible important for longevity.

But we have our gut microbiome, and they have evolved to eat a lot of the things that are potentially dangerous to us.

For instance, there is a gluten-eating bacteria that actually loves gluten, and it's unfortunate for so many people who think they're gluten intolerant and they stop eating gluten. Their gluten-eating bugs have nothing to eat and they basically leave.

So then by accident or on purpose, they re-expose themselves to gluten, which they would have had a defense for because of their microbiome, but now those guys left and then - wam - they go, "Oh yeah, it's absolutely true I react to gluten, because look what happened when I ate it."

It's because their microbiome left that handled the gluten. Now that's not to say gluten intolerance doesn't exist and Celiac's doesn't exist.

I take care of a huge number of people who have Celiac's disease, but the important thing that people with Celiac's disease should know, and the reason I've become I guess so popular in my clinics is the vast majority of people I see with gluten intolerance or Celiac's or autoimmune disease have already gone gluten-free.

And they're better, but they're not all the way better, and that's been proven in human trials with a gluten-free diet with intestinal biopsies. Intestinal biopsy is the gold standard for diagnosing Celiac's disease.

So you take over 200 people, put them on a gluten-free diet - supervised gluten-free diet - for sixteen months. Over 70% of those people on a gluten-free diet, at the end of sixteen months, a new intestinal biopsy still shows they have Celiac's disease.

Why? Because the vast majority of gluten-free foods are full of other lectins. For instance, corn is one of the huge mischief makers.

In my patient population, about 90% of people who are gluten intolerant cannot tolerate corn. They cross-react to the proteins in corn- the lectins in corn. Same as gluten, and yet so much of gluten-free food is corn-based.

Shawn Stevenson: Wow, and people are just not thinking about that yet. Man, so much I want to talk to you about. This is one study direct from your book. This was published in 'Nature.' The journal, 'Nature.'

"The makeup of an individual's gut bacteria was a better predictor of many health outcomes, including blood glucose level, and obesity. These things were better predictors than their genetics.

And in other words, you have a better chance of sharing the same health conditions as your roommate or your spouse than your biological parents, and that's not because of luck or coincidence, it's because you have similar gut bugs."

Dr. Steven Gundry: Yeah, that's absolutely true, and I was taught of course take a good family history because if your father had coronary artery disease, or if your mother was a diabetic, or somebody had cancer, then there was a strong prediction that you would inherit that.

No, it turns out when I take a family history, what I want to know is what were you taught to eat? What were you eating in the home?

Because we now know that people who eat together actually share the same microbiome, and people who co-mingle share the same microbiome.

And it's like the 'Nature' study shows, it's your microbiome makeup that determines whether you're going to be obese, or determines whether you're going to be a diabetic, and quite frankly, probably determines whether you're going to get cancer.

Shawn Stevenson: Wow. Please hear this, this is so fascinating and so, so true. You know? This is something that's been overlooked long enough.

Dr. Steven Gundry: And what's so empowering about this information is you are not destined by your genes to have an outcome of your parents or your grandparents.

You can change at any time into a totally different home for your microbiome, though you give them what they want, promote diversity of that microbiome by your food selection, and they'll totally change your fate, and that's what's so really cool.

You know, I changed my fate when I was fifty years old approximately, and I was following my father's footsteps, because genetically I was developing everything that had happened to him, and now I have none of those things and I'm almost twenty years older than that now.

And you go, "I just changed my microbiome." And they went, "Hey, this is a pretty good place to live, and we're going to kick out the squatters, and the gang members, and spruce up the place. You've got good bones here."

Shawn Stevenson: Spruce it up.

Dr. Steven Gundry: Yeah, spruce it up.

Shawn Stevenson: I love this because again, if you think about it, dealing with- I've shared this before on the show, and I haven't shared this with you.

My mother-in-law, it would shock folks who know her today, but she used to walk with a cane because her arthritis was so bad. Now she's at the gym, probably right now, doing some lunges, and dancing, and just she changed those genetic cards in a sense by changing her microbiome.

She's done a lot of things very similar to the Loma Linda blue zones, like that was her thing, and she just transitioned to some other things.

But she's from Kenya, and so there's a lineage of how her ancestors were eating that changes as there's more domestication taking place. Right?

Dr. Steven Gundry: Yes.

Shawn Stevenson: And so she started to have those diseases of affluence take place. And so to see you sitting here, and you're somebody who can talk about longevity. You know, you're handsome AF.

And coming from the place that you came from, where you were almost 100 pounds heavier.

Dr. Steven Gundry: Seventy pounds heavier.

Shawn Stevenson: Arthritic, and just struggling like that, and to see where you're at today, and it's just so inspiring for me. And I want to talk about now- this is something that I don't want to miss this.

One of the evolutions that have taken place in symbiosis with our human cells is our mitochondria. So let's talk about that.

Dr. Steven Gundry: Okay. So this is another one of those- you hear the *Twilight Zone* playing every time you talk about this.

So mitochondria are big news that everything that is going to happen to our energy levels, and in terms of our longevity, is our mitochondria.

Now mitochondria are actually the organelles that produce energy for us. What most people are beginning to understand now is that mitochondria are actually engulfed bacteria.

Eons ago, bacteria if you will made a deal with other single celled organisms and actually crawled inside of another organism, and in exchange for protection, it produced energy for that organism.

Now the really cool thing is mitochondria has its own DNA, separate from the DNA of the cell in the nucleus from high school biology.

That DNA is inherited from the mother, and so all mitochondria in you, me, in any woman, is actually maternal mitochondrial DNA.

So she inherited all the mitochondria genes from the mother. This DNA, the mitochondria can actually reproduce anytime it wants without the cell dividing.

So you can actually make more mitochondria on demand, and the book is a lot about how to make more mitochondria.

But what's really weird is that because mitochondria are actually bacteria, they talk- they literally text message their sister bacteria that live in your gut and live in your skin.

And the really bizarre thing is all of our original bacteria that made our microbiome came from our mothers. As I told Maria Shriver, your mom took a crap on you when you were born, and actually inoculated you with her bacteria.

And she actually fed those bacteria when she breastfed you, because about 10% of the calories in milk, a human can't consume. Those calories are actually meant for the other baby - the microbiome - that she was just as important to inoculate you.

So long story short, your mother's bacteria talk literally to your mother's mitochondria, which are her bacteria in every one of your cells.

And if you've got a bunch of great gut buddies, they actually send messages to your mitochondria, "Hey, keep going here. Do your work. We're doing our part down here."

There's actually now chemicals that have been found, like for instance colonic acid, that go from the microbiome to mitochondria and tell them to rev up and turbo-charge the cell.

It's like, "Oh come on, really? This can't be real."

Shawn Stevenson: Incredible.

Dr. Steven Gundry: But in fact, we now know it is looking at these super old people and figuring out that it's these bacteria and the diversity that are making them so young at a ripe old age.

Shawn Stevenson: If you even think about it, back in biology class when they're showing you the cell, the mitochondria does look like one of those creepy crawlies.

We were taught that this is for the energy- it's kind of the energy power plant of your cells, known as ATP.

Dr. Steven Gundry: That's what it is.

Shawn Stevenson: But that was the end of the story, not talking about the cell signaling, we're not talking about the differentiation that it can help to manifest, and also interaction with stem cells. Right?

And stem cells, these can become any cell that you need potentially.

Dr. Steven Gundry: Correct. Years ago- it's a funny story. I was approached by a large Korean company who wanted to get into the stem cell market in the United States.

It's a big market, and they said, "We want you to be our spokesperson because you've got all the right cred." And I said, "So what are you proposing?"

They said, "Well you know, we're going to harvest stem cells, and we're going to grow them, and then inject them back into people."

And I go, "Well, how do the stem cells know where to go?" And they said, "Well that's the easy part. The stem cells are called to where the problem is and they'll go there," which is true.

And so I thought about this because it sounded pretty fun, and I went, "Wait a minute, those stem cells are already in that human being. You're harvesting them, they're already there.

So if they're already there, what we need is to give them the impetus to grow and divide, and go where they're needed."

So I said, "No thanks. What I'm going to do is give people the ability to call their stem cells into action."

And so in 'The Longevity Paradox,' we have tricks to literally get your stem cells motivated into action. You don't need a stem cell transplant. They're already there, you just need to tell them, "Hey, wake up! Get moving!" And there are some great tricks for that.

Shawn Stevenson: So good. So good. You mentioned earlier- it's one of the grossest things that I've heard. You said mucus is important for longevity, and that kind of baked my noodle a little bit when I read about it in your book, just like how strange and beautiful this is, and we just see it as something that's pretty nasty.

So you mentioned earlier that it's one of the most important things for longevity, so why is that?

Dr. Steven Gundry: Alright, so mucus traps lectins. Believe it or not, lectins look for sugar molecules, and mucus is mucopolysaccharides; multiple sugar molecules.

So mucus is one of the ways we trap lectins, but it's far more important than that. The lining of your gut has mucus that separates all the bacteria and all the other things like LPSs, lectins from the gut wall.

And the gut wall- people should realize that the lining of your gut is the same surface as a tennis court. And everybody looks down and they go, "There's no tennis court here." Well in fact, there is.

And in that tennis court, all these cells are only one cell thick lining your tennis court. They're all held together with what are called tight junctions, and most of us played Red Rover, Red Rover as a kid, where we all locked arms and the big kid came across.

So they're all locked together, and on top of that is a layer of mucus. The thicker the mucus the better the protection against this gut barrier being breached.

And quite frankly, if you look at old people's skin, you'll notice that it's very thin and it's very friable. Your inner gut lining is just your skin turned inside out, and so what's happening on the gut is reflected in the skin.

And one of the first things that people- when they first meet me as a patient, they go, "Let me look at your skin. You've got great skin."

And it's true, and it's because that skin is a reflection of my inner skin. So getting back to mucus, there is a particular bug, a gut buddy, called *akkermansia muciniphila*, and it turns out that it loves mucus. It loves to eat mucus, it's what it actually lives on.

And contradictory, the more it eats mucus, the more the linings of your gut make more mucus. And so the more it eats, the more mucus you make.

And it turns out when you look at these 105-year-old people who are thriving, they're loaded with - among other things - *akkermansia muciniphila* because they have got a thick gut lining.

And I like to talk about- there's basically hoards at the gate, and really cool studies in worms show that worms- these long-lived worms die because this lining in their gut - their little worm guts are exactly the same as ours - eventually gets penetrated by bacteria and the foods that these worms eat.

And the faster that gut wall gets penetrated, literally like the Roman Empire, the walls came down. That's when you're going to become frail and die.

So the thicker the mucus in the wall of your gut, the less chance that these hoards at the gate are going to get through the gate and start the process.

So I want all of your listeners and viewers to go look in the mirror, and what they see on their skin is a reflection of what's going on in their gut.

And when people see Edith Morrey for the first time - again, I thought she was sixty-five even though she was in her early nineties because her skin was fantastic. And now I know that that was a reflection of what was going on inside her gut.

Shawn Stevenson: Wow. Holy moly, what you see in the mirror is a reflection of what's going on in your gut. That's a quotable right there, that's a tweetable, that's powerful.

Dr. Steven Gundry: Alright.

Shawn Stevenson: That's powerful. So I want to talk about obviously some of the action steps that we can take, and there's so much in the book, guys, but before we get to some action steps, it's really - this is just my professional opinion as well - is removing a lot of the cause.

Right? Instead of trying to do more stuff, let's just remove the things causing the problem in the first place.

Dr. Steven Gundry: Right.

Shawn Stevenson: And so I'd love to talk about some of the things that are damaging our gut buddies, that are just rolling through doing drive-by's, this crazy stuff.

I want to talk about antibiotics really quickly, and then I want to talk about- definitely want to talk about GMOs because it's one of those things where it's not a big deal.

But you articulate it in such a way that it's just like, "That's why it matters." So let's talk about antibiotics, then GMOs.

Dr. Steven Gundry: Okay, so antibiotics. Broad spectrum antibiotics came out actually in the mid-seventies, mid to late-seventies actually when I was in medical school.

These were miraculous because before we had to figure out what bacteria was causing an infection, and then select an antibiotic that would work against that bacteria. It was very time consuming and sometimes you never did figure it out.

Well, when broad spectrum antibiotics came out, it was a miracle because we didn't have to know what the bacteria was, we just gave you basically napalm and it killed everything.

Now, we were naive to think that it didn't kill everything in our gut. And so for the last almost forty years now, we give broad spectrum antibiotics just for anything, mostly for viruses.

So somebody comes in with a cold, or a cough, or bronchitis, most of these are caused by viruses that antibiotics have no effect on.

But doctors, because patients are persistent, say, "Oh, here. Here's a Cipro, here's Levaquin, your cold will be gone in a week."

Shawn Stevenson: Placebo effect.

Dr. Steven Gundry: And there's a very good placebo effect. So this stuff is given away like candy, and that is like blowing napalm on our tropical rainforest.

And some of the really scary data that's coming out of UCSF and Stanford, our gut microbiome may not recover for over two years after an initial course of antibiotics.

In some people, they've actually found only a single species in your gut two years after a course of antibiotics when there should be tens of thousands of species.

So it's just like the fires here in southern California. People go, "Well, we'll just plant some new seedlings and we'll have a forest again." No, it's going to take years and years and years to get that intense ecology of a forest.

So just swallowing probiotics is just not going to do the difference. So please, antibiotics are life-saving, but we've got to save them.

But the other thing is almost all of our animals that we eat, whether they're chickens, beef, pork, lamb, some fish, farm-raised fish, are given antibiotics.

And they were given antibiotics primarily to make them grow faster. This was discovered years ago by a veterinarian in the Midwest who was giving animals Tetracycline, and he said, "Oh my gosh, these animals grow faster and bigger on the same amount of food if I give them a little bit of Tetracycline. Wow, this is great news."

So the FDA approved antibiotics in animal feed for years and years and years, and only recently have stopped allowing that.

So it makes us grow faster, but we get a little dose of antibiotics every time we have a factory-farmed meat. And the really scary thing is even if it says all natural and no antibiotics, some raids of certain manufacturers who we won't mention show that 60% of these chickens are contaminated with antibiotics, even though they say they're antibiotic free.

Why? Because a veterinarian is still allowed by the federal government, if it thinks one bird is sick, it can dose the entire flock of 100,000 birds in a warehouse with antibiotics.

Shawn Stevenson: Wow.

Dr. Steven Gundry: And guess who pays the veterinarian? The big factory farm. So that's how this stuff still ends up in our food supply.

Shawn Stevenson: That's a loophole you can drive a truck through.

Dr. Steven Gundry: Bingo.

Shawn Stevenson: That's crazy. You know, and also what was so fascinating was the fact of - this is what we've been talking about - changing the microbiome of these animals caused them to gain weight.

Dr. Steven Gundry: Bingo.

Shawn Stevenson: So, this is so good, and again, I want to talk about GMO's impact as well, but we'll do that right after this quick break. So sit tight, and we'll be right back.

Alright, we're back and we're talking with New York Times bestselling author and real-life superhero, Dr. Steven Gundry.

And before the break we were talking about the potential impact of this strange word or acronym, GMOs, that we still have questions. Like is this really an issue?

And again, I think that you really articulate it very well why this is something to be concerned about, specifically for our microbiome. So can you talk about that?

Dr. Steven Gundry: Yeah, two areas of GMOs. Number one, GMO - genetically modified organism - GMOs started off being designed to resist a wheat killer called Roundup.

And Roundup is glyphosate primarily, a few other good ingredients in it, and glyphosate interferes with a plant pathway of reproduction called the shikimate pathway. What a wonderful word.

And Roundup- Monsanto assured us that we were perfectly safe from glyphosate because humans and mammals don't use this shikimate pathway for cell division and reproduction - just plants.

Oh, what they didn't mention was bacteria also use the shikimate pathway. So they made genetically modified plants - particularly soybeans - that were resistant to the effect of Roundup.

In other words, they could grow, but Roundup would kill all the other weeds.

Now what most people don't know is that Roundup was actually patented as an antibiotic, right? And so it is an antibiotic because it kills bacteria.

Unfortunately, no one was ever told that about Roundup, and so its patent is as an antibiotic, not as a weed killer. And that ought to raise red flags everywhere because what's happened- and we'll get back to GMOs in a second.

Roundup is now used as what's called a desiccant in conventional farming. Now a desiccant means you kill the plant and it dries out.

It's far easier to harvest a crop if the plant is already dead and dried, and you can just put your big harvester in.

Factory farm - big agriculture - these harvesters cost \$1 million apiece, and they want to be efficient. So they want this harvester at a particular field on a particular day.

So to control that, they don't want weather to control this, they want to be in control. So if we know we're going to harvest field X in two weeks, we go spray field X with glyphosate - Roundup.

The crop dies, it's all nice and desiccated, and then the harvester arrives, and piece of cake, we're done. It's now sprayed on most conventional wheat, most conventional oats, most conventional soy beans, most canola as a harvesting aid, and it doesn't have to be listed anywhere.

Here's the bad part. All of these conventionally raised crops are fed to our animals, and they go into all of our breakfast cereals, all of our crackers, all of our breads, and you don't have to say there's any Roundup in it.

There's no guy washing the Roundup off the piece of grain. Corn, same way, so it's all sprayed with Roundup.

What's really scary is we now know that Roundup kills our microbiome, and there's new research out of MIT that Roundup in and of itself causes leaky gut. And we'll probably get back to this, leaky gut is the cause of all diseases.

So the other part about GMO, which is really scary, is many GMOs have been altered by introducing a lectin into that crop to resist insects. Now that's the purpose of lectins for plants.

They don't want to be eaten by insects, so the lectins actually paralyze these insects. So for instance, Beaky corn has a snowdrop lectin in it. A tomato has a snowdrop lectin.

We are actually- a snowdrop lectin is deadly to humans, and yet it's been spliced into most of our corn and most of our tomatoes. And again, most of our corn in the United

States is GMO, and it doesn't have to be labeled anywhere. It doesn't have to appear.

Shawn Stevenson: So crazy. So crazy. And you shared some research that these glyphosates are shown to be like the majority of pregnant mothers tested, their breast milk.

Dr. Steven Gundry: Yeah, the amazing thing is that glyphosate can be tested for- about 95% of human beings test positive for glyphosate in their urine, and mothers - breastfeeding mothers - there's glyphosate in their breast milk.

Shawn Stevenson: That's nuts.

Dr. Steven Gundry: So most sadly, California wines test positive for glyphosate.

Shawn Stevenson: There are some hearts breaking right now.

Dr. Steven Gundry: Even some of the organic wines. I'll tell you an interesting story. There's a wine maker outside of Santa Barbara who I've gotten to know - Beckemen Vineyards, hello.

They do all biodynamic farming, which is beyond organic, and there's one parcel that- I was looking at the map one day with the wine maker and said, "That one isn't labeled biodynamic."

He says, "We do all that practice, we do it the exact same way, but there's vineyards on either side of our parcel that spray, and they spray with glyphosate to keep the weeds down."

And he says, "It drifts into our fields, so even though we practice the same way, we refuse to label it as organic and biodynamic because of the drift from glyphosate."

Shawn Stevenson: Man. So, so messed up. Wow.

Dr. Steven Gundry: Really messed up. Oh, want one more really bad thing?

Shawn Stevenson: Oh please, I can't wait.

Dr. Steven Gundry: More bad news. Bayer now owns Monsanto. Bayer is based in Europe, and Bayer this past year in 2018 got the European Commission to approve Roundup as legal in Europe.

So you used to be able to go to Europe and be safe, and now good luck.

Shawn Stevenson: Yeah, but this is why these conversations are so important, your book is so important. And again, I would love to talk about- because these are

some of the things that we want to be more adamant about potentially avoiding if we can.

But there are some things, and there's so much that you talk about adding to this longevity paradox; things that we can do to potentially extend our lifespan. And not just our lifespan, but our health span.

And I want to talk about at least a couple of them really quickly. I would love to talk about- you mentioned fasting as one of the tools for longevity.

And I remember back in the day in school, and not really getting the total picture of seeing these cells being basically starved of food for a little while and then reintroducing food and seeing them live ten times longer than other cells. So let's talk about that.

Dr. Steven Gundry: Yeah, so the whole principle- a lot of the principles of longevity is called hormesis, and the best description of that is Nietzsche's, 'That which doesn't kill me makes me stronger.'

And so stressing cells actually basically makes the cell realize that, "Hey, times are really rough." Makes an organism say, "Oh, hard times are here. We've got to get through this."

And we've got to look at every cell and say, "Are you pulling your weight? Do you look a little odd?" And it basically tells the cell to self-destruct or to eat itself.

And these are signals that are started, among other ways, by fasting. So if there is a period of time that it doesn't look like you're going to get the next meal, you really take stock of everything that's going on and say, "Okay, you've got to go. You're not pulling your own weight. You look really fit, you get to stay."

And it's our own mechanism of self-pruning the dead wood, if you will.

One of our big problems in our society is in the good old days, we had built-in periods of fast because there were famines, there were periods of time particularly in the winter where there wasn't much food.

And so we had a built-in circadian rhythm of a period of growth, like in the spring and summer, and then a period of what I call regression in the fall and winter, and that's when all the pruning was done.

Well now, we have 365 days a year of growth. It's endless summer. We have access to food twenty-four hours a day-

Shawn Stevenson: Twenty-five hours a day.

Dr. Steven Gundry: Yeah, that's right. And some nutritionists have given people the unfortunate advice that the way to be healthy is to eat six small meals a day, or to snack between meals, or make sure you take a snack before you go to bed.

And it's actually one of the worst things you can do. We as humans took over the world because we're actually the only fat ape. We have the ability to store fat.

You don't see a lot of fat chimps and gorillas. Now gorillas look fat because that giant gut, that's fermentation fat, but they're actually incredibly lean. Most great apes have 3% body fat. 3%.

Shawn Stevenson: How much you lift, bro? That's crazy.

Dr. Steven Gundry: Yeah, so anyhow, we need to have periods of fasting to actually stimulate stem cells to grow, and the really cool thing about fasting is you get to call your bacterial herd in your gut.

If they don't have anything to eat, particularly the bad guys actually just leave. They don't have anything to eat.

But here's the really cool thing about fasting. The guys who remain are these crazy guys, *Akkermansia muciniphila*, because they're living on the mucus. And the mucus is still there, even if you're not eating.

So they not only survive, but they become a bigger part of your gut flora, and the more you're stressed, the more they divide, the more mucus you make, and the more stem cells that you actually stimulate to grow just by fasting.

Now everybody says, "Oh geez, I have to eat. I have to eat. I can't fast." Well, my good friend Dr. Valter Longo here at USC who's the head of the Longevity Center at USC, has shown actually definitively in humans that a five-day vegan calorie restricted diet for five days, about 900 calories, done once a month will have the exact same effect as if you calorie restricted for the entire month.

And he calls it the calorie restriction mimicking diet, and it's part of my Longevity Paradox Program.

So the good news is you don't have to do a water fast for three days. If you want to, it's great, but you can act as if you were fasting and achieve the same effect.

More importantly, the longer you go in time period between meals, the better off you're going to be from a longevity standpoint, and particularly from your brain standpoint.

And can we get into brain wash days, by any chance?

Shawn Stevenson: Of course. Of course.

Dr. Steven Gundry: Alright, so here's another really important thing. Through the years, I've become quite good friends with Dr. Dale Bredesen, who wrote 'The End of Alzheimer's.'

Probably in my opinion one of the two top neurologists in this country working on brain health. The other one is David Perlmutter, who I had on my podcast - 'The Dr. Gundry Podcast' - last week.

So the deal is that we now know that the brain has to go through a wash cycle every night to get rid of toxins, debris, amyloid. Everybody knows about amyloid plaques and Alzheimer's.

And that brain wash is done with what's called the glymphatic system. The brain actually shrinks normally about 20% to allow this wash of lymphatic fluid to clean out all this debris.

Now that actually needs incredible blood flow. Now you and I are from the Midwest. When I was growing up, after you ate lunch, my mother would not allow me to go swimming for one hour after we ate because she knew that you would get cramps and die.

And there was a bit of truth to that old wives' tale. Digestion needs a lot of blood flow, and after we eat, we send huge amounts of blood flow to our intestines for digestion.

That means if I went out swimming, my muscles would not get enough blood flow, and they'd get a cramp, and I'd die.

Well it turns out the brain needs that blood flow to have a brain wash. So Dr. Bredesen has shown that you probably need three, maybe four hours after your final meal of the day before you go to sleep so that the blood isn't down in your intestines and it can go up to your brain.

Now you think about that with our lifestyle, and we're unfortunately- our biggest meal of the day is usually dinner. There's a great old, old, old saying that eat like a king at breakfast, a queen at lunch, and a pauper at dinner for longevity.

And it's probably one of the best advice ever given, but we don't do that. And then we have a snack before we go to bed, and that's the worst possible thing for a brain clean because sleep- deep sleep is when we do this cleaning.

And for most of us, and I track with an aura ring, most of us deep sleep occurs very early in our sleep cycle, and so you're not going to get your brain cleaning if you've eaten a meal right before you go to bed.

So I encourage people once a week to have a brain cleaning night, and don't eat dinner. Or if you're going to eat dinner, really eat your last bite by about 5:00 in the evening.

And do that once a week at the very least to clean your brain. Because everybody realizes we have this incredible epidemic of Alzheimer's, and it's getting worse and worse and worse. Not only Alzheimer's, but Parkinson's and dementia.

And if people just once a week take the step of having a brain cleaning night where they cut off their last meal.

The other thing that Dr. Bredesen would tell you, and I'll tell you, is the longer you go between your last meal of today and the next meal, the better off you're going to be.

Shawn Stevenson: So there are so many different ways to go about this, this label today 'intermittent fasting,' and it's something that I'm a big prescriber of myself.

We haven't talked about this, but the glymphatic system for a lot of the research said that it's about ten times more active doing this work during sleep, and we never really think about you're also not eating during this time period, and if we can extend that a little bit and get that extra brain wash at least once a month, as you're advocating-

Dr. Steven Gundry: Once a week.

Shawn Stevenson: Once a week, my bad. Once a week, we can get all these huge benefits. Not just the brain washing, increasing BDNF - brain-derived neurotropic factor - which is kind of like Miracle Grow for some parts of the brain. All of these great benefits.

And so this is very different from, again, what I was taught. Let's have our patients and clients consume six to seven meals a day constantly. Humans- we're not grazers, you know?

Dr. Steven Gundry: No, we're not.

Shawn Stevenson: And we have this immaculate system that's designed- and by the way, this does not mean that you have to do an intermittent fast, but it's just one of those tools, and you can stack conditions in your favor.

You give so many different tools and strategies in the book. Another one of them, which was just like an a-ha moment for me to see it in a book, because it's something that I talked about on an episode about enhancing the function of your immune system, is eating seasonally because our microbiome changes with the season.

So let's talk a little bit about that, and then we can wrap things up.

Dr. Steven Gundry: Yeah, we are a seasonal animal, that's actually our inheritance, and we ate with the seasons. And it turns out looking at hunter/gatherers, some of the last ones, their microbiome changes dramatically between the wet season and the dry season.

When they go from- their dry season is actually when the fruits and the honey that they eat are available, and their microbiome totally shifts into an unrecognizable microbiome.

And in the wet season when they're actually hunting and having animals more, their microbiome changes again.

And I think our immune system gets most of its education, most of its information from the microbiome, and that microbiome not only should be diverse, and should be happy, we ought to have gut buddies.

If you've got a bunch of kids down at the beach with a bonfire, and they're all singing camp songs and Kumbaya, or maybe they're rapping now, I don't know.

The cops see the kids on the beach and they say, "Those are good kids. We'll go have a donut." Don't go have a donut, please.

But we don't have to worry about it. We can kind of chill out. But if you have come from the mean streets for part of your life, if there's gang members on the street, then the cops are in their armed vehicles, and they've got their AK-47 ready to go because at any minute, mischief is going to happen.

So we know that gut buddies tell our immune system, "Hey, it's a wonderful day down here. Relax." But if you've got bunches of gang members, the immune system is always on guard.

So I see people with allergies- and I used to have such bad allergies, I took allergy shots as a teenager and in my twenties.

Now I have no allergies. Why? Because my gut buddies are those kids down at the beach and the cops are out having donuts and they could care less about whether a ragweed is coming into my nose. They're just going, "Yeah, it's okay. It's nice."

So changing your microbiome seasonally is actually how we evolve, and again, there's proof of this in the last remaining hunter/gatherers.

So we shouldn't be eating the same thing 365 days a year. That makes no evolutionary sense. No circadian rhythm sense, and yet that's what most people do.

Shawn Stevenson: Yeah, it's just one of those things that's so obvious, but we live in a different time now where we have, like you said, we have instant access twenty-five hours a day to food, and oftentimes it's the same food.

And so eating seasonally, paying attention to what nature is providing, specifically in your area during that time of year can help that transition.

Dr. Steven Gundry: Yeah, absolutely. What's in your area is what's seasonally. Growing up in the Midwest, the only time we ever saw a grapefruit or an orange when I was a kid was if an aunt or uncle in Florida or California sent you a box.

That was it. There weren't any oranges in Omaha or St. Louis, and so that wasn't a seasonal fruit and we shouldn't have been eating it.

It's like people say, "Well, you need to eat blueberries every day." Guess what? There are no blueberries in Omaha and St. Louis in February, except what got sent in from Chile or Argentina, and that is not what you want to be eating.

Shawn Stevenson: Yeah. Dr. Gundry, so much- and by the way everybody, this is just 1/25 maybe of what's in the book. And so many great insights, and truly a joy to read, and a joy to have you on the show today.

I think that you are really, really somebody who's just doing outstanding work, and a superhero in putting this information into a way that's digestible for-

Dr. Steven Gundry: Oh, it's digestible.

Shawn Stevenson: Digestible for folks, and I just want to say thank you for the good work that you're doing.

Dr. Steven Gundry: Well, thanks a lot. I appreciate being here.

Shawn Stevenson: It's my pleasure. So can you let everybody know where they can pick up your book, and let everybody know about your podcast as well.

Dr. Steven Gundry: Yeah, so my podcast is *The Dr. Gundry Podcast*, and it's available wherever you want to go; YouTube, iTunes, wherever you like to get your podcasts.

It's on every week and we get great guests, like yourself, to come on the show.

You can get the book- there's a really interesting thing. The book will be available March 19th, and if you go to Barnes & Noble, or www.BarnesAndNoble.com, there's a secret.

Barnes & Noble edition is going to have ten additional recipes that's not going to be available in any of the other editions. But go to Amazon, go to Barnes & Noble, go to your local bookstore please. They are an incredible resource that we must keep.

You can find me at www.DrGundry.com, you can find me at www.GundryMD.com, which is my supplement company. And join us over on the podcast. We'd love to have your listeners and viewers come on over.

Shawn Stevenson: Awesome. Again, this has just been super enlightening, and a lot of fun, and the book is just mind-blowing, so thank you so much for coming on.

Dr. Steven Gundry: Thanks a lot.

Shawn Stevenson: Everybody, thank you so much for tuning into the show today. I'm telling you, this was 1/20th or 1/25th of what's in 'The Longevity Paradox,' so make sure to pick up that book.

If you're listening to this before the launch date, pre-order it. I have a feeling it's going to sell out. Now of course, they'll get more copies in eventually, but this book is going to move fast, and on fire.

It is that good and that important. And again, I started the show by asking you, how long do you choose to live? This is something more than ever we have the ability to influence.

But again, we don't want to just necessarily have a longer lifespan without our quality of life. Right? We want to be able to do things, we want to be able to take care of ourselves, we want to be able to enjoy these years ahead, and that starts with understanding longevity.

What does it take? Because just like with anything in life, if we are passionate about it, and we want to be somebody who's versed in it, we need to make it a study. Alright? We have to make it a study, and this is a great opportunity.

Such a great book and resource to learn about longevity from somebody who is from operating in one of those blue zones, and also experiencing great health and longevity himself, alright?

And listen, we've got so many incredible episodes coming up, so many great show topics and special guests, but none more important than today.

So if you got a lot of value out of this episode, please share it out with your friends and family on social media. Tag me, @ShawnModel, and @DrStevenGundry. Alright? Tag him as well, let him know what you thought about the show.

Alright? I appreciate you so very much, and remember sharing is caring, so make sure to share this out with your friends and family.

Alright again, more great stuff is on the way, so be ready. 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 www.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.