

THE MODEL HEALTH SHOW

EPISODE 472

Consequences of Unnatural Food, Water Fasting, & Metabolic Healing

With Guest Dr. Alan Goldhamer

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SHAWN STEVENSON: Welcome to The Model Health Show, this is Fitness and Nutritionist Expert, Shawn Stevenson, and I'm so grateful for you tuning in with me, today. Did you know that the body's number one energy demand, the thing that siphons the most energy, is digesting food. It's the number one energy requirement by our bodies every single day, and it's incredible. It's to take that stuff from the external world, taking that food stuff and turning it into human tissue and also turning it into fuel to be able to manage and to move all of these incredible processes that the human body can do. It's an incredible process, but it requires a lot of energy. And so, in some senses, energy is going to be pulled away to handle the digestion of food rather than other processes that might be related to healing. And this is a conversation that is getting a lot more attention today as far as utilizing fasting as a tool for healing from everything, from acute injuries to debilitating chronic diseases.

And recently I've been wanting to bring on a plethora of different voices in this space, in this perspective of fasting, and also the people who have the most scientific data to back up what they're sharing. And I want to provide this information because I believe that we all have the right to know about the various tools that are available to help us to heal from conditions and our loved ones, as well as the things that we go through in our life. If we're even wanting to up-level our health, if we're already a good place of health, how do we get better? Because I always believe there's another level. But for most folks here in this country, specifically, if we're talking about the United States, we're a nation of people who are really struggling with our health overall. A recent study published in the peer review journal, Metabolic Syndrome and Related Disorders, disclosed that only 12% of American adults are metabolically healthy.

We have a problem here. Houston, we have a problem. Listen this... When we talk about issues like this, there can't be a problem without a solution. But oftentimes the solutions are multi-faceted. There's a lot of solutions. There's a lot of different paths to the goal. And what we hear about in our conventional day-to-day lives is the stuff that's getting promoted through the television, right? You can't watch Sports Center without being seduced into asking your doctor about a medication to fix everything, from your cholesterol to your johnson, alright... Or to your... If you don't know what I mean by johnson, to your wood. Or if we're talking in the emoji language, to your eggplant... Alright? You're just trying to get the update on the Celtics game... Or the Bulls, or whatever it is, the next thing you know, ask your doctor about... This is what we know, the lens of Pharmacology, which is incredibly limited, is this myopic view of health and disease where we're treating the symptoms of the illness and not removing the cause.

What's causing the hypertension? What's causing the disregulated blood sugar? What's causing the obesity. Remove the cause instead of treating symptoms. Which... What has that

gotten us? If we're talking about treating symptoms. Here in the United States last year, over \$4 trillion. We can't even fathom how much that is. \$4 trillion were spent in our healthcare system, yet everything keeps getting worse. Already 70% of United States citizens are on pharmaceutical drugs. We're on it, but it's not helping, we're not getting better. As a matter of fact, right now, we are the first generation whose lifespan is going to be shorter than the generation before us. The first time in recorded human history this is happening, despite all of our so-called medical advances, we're now sicker and more obese than we've ever been. And this is why we need to have real clinically-proven, evidence-based, not just guessing and not treating the symptom, but removing the cause of the illness and respecting the magnificent capabilities of the human body that is so far beyond our comprehension.

To act as if we understand the capacity of the human body already. If somebody's acting like they've got that all this stuff figured out, grab your bag, grab your knapsack and run. Grab your fanny pack, jet out of there. Because we know so little. What the human body is able to do. The human body and mind is beyond our scope. We do know principles. We know some principles... We know principles that allude to what constitutes a healthy sovereign human body. The things that our DNA expects us to do, that we can actually analyze today, which our ancestors have known for quite some time. We're just accessing today's science that affirms what we already know to be true. Which there's very specific things that literally enable our DNA and our genes to print out optimal copies of us... Alright? So that's what we're really talking about. And one of those tools today that we're going to, again expand on... Now we're going from the realm of our experts we've had on talking about intermittent fasting, talking about fasting in relationship to... What about being catered for different biological make-ups?

If we're talking about a male and a female, are there going to be considerations there? And we just heard on Dr. Amy Shah. And prior to that, Dr. Will Cole. And we're just going to keep continuing this conversation. And, today, we're going to talk about another dimension of fasting, that for myself, I would have thought this was crazy. I would have thought this was straight up nuts. If... I'm one of those people, guys, but I've learned to relax that muscle of being somebody who is just kind of already skeptical to being much more open-minded... So I have a healthy bit of skepticism, but I'm open-minded to the data. I'm open-minded, especially to this whole term of "Seeing is believing." And first hand in my life, the woman who is my wife today, my best friend, when we were boyfriend and girlfriend, we were in college. We heard that, "College love is cool love."

She called me crying one day because she went for her annual exam, that Pap. And she was told by her physician that they found some cancerous cells. She was upset, she was crying. I... She's telling me this, I have no idea what to do. I was a strength and conditioning coach. I had recovered from my own "incurable health condition," this arthritic condition of my spine and bones. And I was doing well, and I was helping people, but it was very rudimentary as far as

nutrition. And I was... I... Just shifted my course work back to biology, and nutritional science, and all that stuff, but still I'm getting indoctrinated with bad science, because it's coming from a conventional university where the nutrition program is funded by General Mills. So she's telling me this, and I have no idea what to do except console her and to say, "It's going to be all right." But I have no idea if it's going to be alright. I'm like, "You need to talk to your mother." Because I was seeing physicians... I was seeing all these different people coming in to talk to her mother, who's a... She's a occupational therapist, but she was just so well-versed in these different dynamics with nutrition that I just... I thought were just these rogue, strange things myself.

But people were getting well and people were constantly sending her all of these expensive gifts and these letters and trying to... And she's always just like, "No, no, no." She's just doing it out of the love. But one of the things that she employed for her was a structured fasting protocol. So this was a longer term... This isn't intermittent fasting, but more of what we're going to talk about today. And this is what really happened, and it changed my life. Twenty one days she utilized the program, the fasting program that her mother put in place for her, she went and got the checkup again... This was maybe 22 days later... And they couldn't find anything. They couldn't find any trace of these cancerous cells and precancerous cells... Alright, cervical cancer. And I didn't know that that was possible. When she told me this I didn't know it was a thing. How could you just have cancer cells there and then suddenly they're not there? That changed everything for me, because within a week, one of the clients that I was working with at the university, she had fibroid tumors, and she was about to start working with me...

I had worked with her maybe a year or so before. And she was just doing well and she let me know, "Hey, Shawn, I've kind of been too busy I haven't been taking care of myself as much. I want to get back in the gym." But she was like, "I'm going to have to have surgery though, and if... In a couple of months." I think she said in about a month and a half. And I was like, "Why, what's going on"? And she said that, "I have fibroid tumors that they need to remove that is causing me a lot of discomfort, and heavy bleeding." And I was like... First of all, I'm just like, "Why would I want to... We start working together and then you're going to have the surgery that is going to interrupt and this kind of thing." I was like, "Why don't we try and do something that can potentially get you better?" And so she employed the same thing that my wife did. And I couldn't have somebody do something in good consciousness if I didn't do it myself, so I did it, 21 days, 21 days.

This is a true story. And it was one of the most incredible and also challenging experiences. There were moments of challenge. And I didn't even know that my body can do some of the things that it did, but long story short with my client Kathy, 18 days into it, she was laying on the floor at the gym, I was just... We were just doing some light... Little stuff here and there, and I walked away, I went over to my desk to get something, and I heard her screaming, some

weird like, Oh my God, kind of scream. Like, "Yo!" And I come back and she's moving her fingers around her waist, and she was trying to find the fibroids, whereas before they were so noticeable. They were like the size of two oranges. And now she found them and they were tiny. They were like the size of some grapes at that point. This happened, regardless of any clinical studies, which this is what I do today. I need the data. But I saw it first-hand and it changed everything for me.

I didn't know that was possible. Needless to say, she didn't need to get the hysterectomy that was being advised for her to get, because that was the only solution. We'll just cut that out. You don't need it. You don't need any of those female reproductive organs. You don't need 'em. You don't need 'em. What happens when you do that? That's all we have to at least encourage people to be more empowered to ask their physician, what about my estrogen production, and progesterone, my testosterone. All these different things. What's going to happen with my brain? What's going to happen with my gastrointestinal tract and how it associates with these hormones? What's going to happen to my bone density? Everything is affected when we just start going and chopping body parts out haphazardly because it's a standard of care. This is why today I want to provide another way, another solution, just something to add to your superhero utility belt for yourself, people you care about, backed by clinical evidence, and to keep an open mind.

Because for me, it was difficult. If I didn't see it myself I wouldn't have believed it. I didn't even know that was possible. But that was the moment... And I don't share this very often. That was the moment that shifted everything for me. That's why I'm here with you today. That moment is why I have a International best-selling book, I have an USA Today National Best-selling Book. I've guest lectured everywhere from freaking NYU to International... Yo, shout out to everybody in Nova Scotia and Dalhousie. I'm brought in. I'm speaking to medical students, speaking at conferences for physicians. All of this, everything that's happened thus far, the number one health podcast in United States many, many times over, coming from what is not considered to be a glamorous side of health and wellness, St. Louis, Missouri, the heartland, alright, because of that moment. That's when I shifted my attention, my full attention to nutrition.

To understanding that our bodies are literally made of the food that we eat and that interaction, that touch point and lack thereof. The right stuff coming in and also when we remove that touch point, what does the body do then? Well, there's going to be up ticks and things like insulin sensitivity, leptin insensitivity, brain-derived neuro trophic factor, autophagy. The list goes on and on and more things that we're going to talk about today. Really cool stuff starts happening when we give our bodies the right conditions to do the thing that it is designed to do... So again, really excited about this conversation. And I think you're going to get a lot out of it. And of course, obviously, our knowledge of nutrition has advanced so

much. Just me being in this space for about 20 years now and seeing all of the different things coming to fold as far as clinical evidence. But these are things oftentimes that have been around for centuries, for thousands of years, in some instances, and now we're just using our modern day testing capacities to affirm what people before us already knew.

So again, to reiterate everything that we touched on thus far, we now have clinical evidence to affirm, for example, scientists at the Longevity Institute, the School of Gerontology and the Department of Biological Sciences at the University of Southern California demonstrated that utilizing structured fasting decreased the biomarkers and risk factors for cancer, both in animal studies and human studies. This isn't just some airy fairy made up thing. People on the ground, scientists on the ground are studying this at a rapid pace right now because they're saying wow, there's some really unexplainable, seemingly unexplainable things happening by utilizing this tool, this practice that humans have been utilizing literally since the beginning of humanity. And also the same thing, our knowledge of nutrition has continued to grow in recent years, affirming things have been used for thousands of years that today we're using modern signs to just affirm that they're effective.

For example, one of those things for our cognitive performance. For neurogenesis, the creation of new brain cells, which just a couple of decades ago. Going to a fancy university, paying a ton of money, you're going to be told by your professor that the human brain cannot grow new brain cells like what you got is what you got. Once you reach adulthood, it's all downhill from there. It's not true. We know today, specifically, several parts of the brain, but specifically we know a ton now about the hippocampus, the memory center of the brain and stimulating neurogenesis there. But also we know about things that are neuro-protective that prevent our brain cells from decaying and dying, an untimely death. One of those things is a Lion's Mane medicinal mushroom. Lion's Mane, researchers at the University of Malaya demonstrate that Lion's Mane has neuroprotective effects and even stimulates the growth of new brain cells. It has this growth factor, and it's not just the fact... Again, it's been utilized for thousands of years. Now we have access to these things in a way that it's even better in some instances, by utilizing a dual extraction of the Lion's Mane mushroom, which is a hot water extract and an alcohol extract.

This does not mean there's alcohol in it. It's just the extraction method enabling us to actually pull the hormonal compounds out and pull the antioxidant compounds out and get all of the incredible things that are contained in these medicinal mushrooms that have been utilized again for centuries, sometimes thousands of years. Huge fan of Lion's Mane also Lion's Mane coffee. There's a lion's mane blend of organic coffee with Lion's Mane with Chaga. Only at Four Sigmatic. Go to foursigmatic.com/model. That's F-O-U-R-S-I-G-M-A-T-I-C.com/model. You're going to get 10 to 15% off depending on how much of the mushies you get, the mushrooms that you get. They also have the Lion's Mane ELIXIR, and also the Lion's Mane coffee as well, so

both of those are two of my favorite things. Pop over there. Check them out, it's foursigmatic.com/model. Again, it's F-O-U-R-S-I-G M-A-T-I-C.com/model. And now let's get to the Apple Podcast review of the week.

ITUNES REVIEW: Another five star review titled “brilliant” by Satfella. “Not only is Shawn's content critical for this moment, but he explains everything so clearly that It's easy to keep in our mind throughout the day. I especially appreciate his extensive show notes, which many podcasters don't bother to do. Lots of extra work, but make it so much easier to find all the valuable information and references in the show. Thanks, Shawn, you're invaluable. By the way, love Eat Smarter.”

SHAWN STEVENSON: Thank you so much and thank you for that acknowledgement, it means so much. And if you've yet to do so, please pop over to Apple Podcast and leave a review for the show, I really do appreciate it. And on that note, let's get to our special guest and topic of the day. Our guest today is Dr. Alan Goldhamer. And he's one of the world's leading experts on medically supervised fasting. In 1984, Dr. Goldhamer founded and became the director of TrueNorth Health Center in Santa Rosa, California. And since then, he supervised the fasting and care of more than the 20,000 patients. And TrueNorth Health is a multi-discipline practice that includes medical doctors, osteopathic physicians, chiropractors, naturopathic physicians, and psychologists. And the center is the largest facility in the world specializing in medically supervised fasting. Dr. Goldhamer is also the author of the best-selling books, The Health-promoting Cookbook, and co-author of the Pleasure Trap, mastering the hidden force that undermines health and happiness. And now he's here today on the Model Health Show to share his wisdom and experience, so let's jump into this conversation with Dr. Alan Goldhamer.

Dr. Alan Goldhamer, thank you so much for joining us in the show today.

DR. ALAN GOLDHAMER: It's my pleasure.

SHAWN STEVENSON: Well, I've been diving into your world recently, and the first thing that I want to know and talk to you about is your super hero origin story. You know you've got a superhero name by the way, what got you interested in the field of health and wellness in the first place, and what inspired you to make a focal point of your practice fasting and all the benefits that that entails?

DR. ALAN GOLDHAMER: You know I got started really young. I was a 16-year-old frustrated basketball player getting beaten by my best friend Doug Wild. You know I'd practice, but I couldn't kind of get ahead of him, so I thought maybe if I got healthier, you know that might give me an edge and I could crush him. And so I started reading books and I came across some stuff by Herbert Shelton and others that said that health was the result of healthful living, and

that diet and lifestyle factors play an important role. So I adopted a whole plant food SOS-free diet, and unfortunately it failed because my friend Doug did the same thing, and to this day, I'm 62 years old playing basketball and still getting crushed, 'cause he's just a lot better than I am, so it didn't help me beat him. But it did get me interested in healthy living and I was also inspired by my uncle who was a physician, and he said that... I remember I was about 16 and I decided I was going to pursue this kind of career. And he said, No, absolutely not. Nobody in this family goes to these alternative type doctors, and nobody certainly becomes one of these alternative doctors, and he said it would be better if I became a communist spy.

SHAWN STEVENSON: Wow.

DR. ALAN GOLDHAMER: And he was absolutely irate. I remember him screaming and yelling, I thought I was going to witness my first stroke right then and there and... But anyway he left and my dad, who was a pretty serious guy, took me aside and said, "Son, I don't know about this alternative medicine business", he says, "but anything that makes him that angry and mad, well it can't be bad, so you stick to your guns." And he encouraged me and I went to a chiropractic college in Oregon, and an osteopathic college in Australia and I got a chance to do some work with a guy named Alec Burton, who had decades of experience using medically supervised water only fasting and helping people get well. And it blew my mind 'cause I watched these people coming in with conditions that I was trained, nothing you can do except give them drugs, they'll be sick forever, that's just how it is; high blood pressure, diabetes, auto-immune diseases, lymphoma. And they got well. And you know, I kept... Oh man, if this one gets well I'll really be convinced, I said it like 50 times to myself.

And so as I started seeing people get well, I realized that things were a little different than I had been trained and that I had believed, and that the difference seemed to be the people willing to do really dangerous and radical things like, you know, eat well and exercise, and go to bed on time and use fasting, were actually able to heal themselves from these conditions.

They got off their blood pressure meds, they got off their diabetes meds, their blood sugar and blood pressure normalized. I remember calling my uncle and saying, "You know uncle, I've seen these patients with blood pressure consistently getting well.", And he says, "No, they're not." I said, "I'm watching... I'm taking their blood pressure. They're getting well... He says, "You don't know how to take blood pressure." I said, "No, I know how to take blood pressure.". And so when I came back to the United States after training in Australia my wife, Dr. Morano and I decided we were going to do this. And so we opened up TrueNorth Health Center, this was 1986. And since then we've had over 20,000 people undergo fasting here. We've had a chance to see a wide variety of conditions get well, and we're publishing those results in peer-reviewed journals, so we're able to demonstrate that fasting can be done safely, it can be efficacious as long as a reasonable protocol is followed and you do it with the appropriate patients.

SHAWN STEVENSON: That's powerful. Your family sounds like it would be a wonderful sitcom, by the way. But you stated something in your work, you stated that, and this can seem a little unusual, you stated that essentially, when you go to see a conventional physician, they often don't expect you to get better and that's kind of what you were alluding to.

DR. ALAN GOLDHAMER: Well not only that, they guarantee you, they guarantee you. If you go into a conventional doctor say with high blood pressure, they will say number one you will need to take these medications. It might be one, two, three, four, or five different medications, depending on how many drugs it takes to bring your pressure down and they will guarantee you if you do exactly what you're told, you'll never get well. They'll tell you, "You'll be on these drugs, not for a week, not for a month, but for the rest of your life", because they know these drugs will not get you healthy, but they will try to bring your pressure down and to reduce your risk of stroke. It never even dawns on them about getting well, it's not part of the paradigm. At the TrueNorth Health Center, we are a residency training site, and so for example, students will come in as part of their training and spend a month rotation at the clinic, and the most common comment from the medical interns is, "Wow, I've never seen somebody with blood pressure get well before. Or I've never seen somebody with diabetes get well before.

This is the first... 'cause it's not part of the paradigm. The paradigm is you manage these symptoms with drugs, you pay the price; the chronic cough, fatigue, the impotence, the premature death, and that's just accepted as a consequence because nobody gets well. This is an alternative approach. This is considered very radical, and radical comes from the word radicas or root or cause, because you're dealing with the root or cause and reason why people got high blood pressure. And it's largely because of what people put in their mouth. So when you change the cause, you get rid of the problem. Now, granted, there's a downside, you have to keep eating a healthy diet and you have to keep exercising, you have to keep getting enough sleep, you have to avoid the things that caused the problem. But that's more than what most people want to take on, most people want to keep doing the things that caused the problem, but take a pill, potion or powder and then pretend like that's going to get them healthier.

SHAWN STEVENSON: These are all things that you just listed. These are things that our genes expect us to do, our DNA expects us to provide these environmental inputs, and what you are just sharing is that a lot of these drugs are not really treating the underlying condition. They're treating the consequences of not doing those things, is that right?

DR. ALAN GOLDHAMER: Right. It's like we spend billions and billions of dollars treating the leading cause of death in the United States. Heart disease, cancer and stroke. What we don't do is spend a lot of money treating the actual causes of death. The reason people get heart disease, cancer and stroke. We give them a greasy, fatty, processed food diet, they get obese,

they develop metabolic syndrome, then they have increased risk of dying from heart disease, cancer, stroke, and even infectious diseases like COVID-19. If you look today like who's vulnerable to dying from infectious diseases? And one of the major risk factors is metabolic syndrome, increased blood pressure, blood sugar levels, blood lipid levels etcetera. So, the idea being that the same diet that makes you vulnerable to dying from heart disease is the same diet that makes you vulnerable from dying from some forms of cancer and autoimmune diseases and even infectious diseases.

SHAWN STEVENSON: It's so true.

DR. ALAN GOLDHAMER: So unless we're prepared to make those dietary and lifestyle changes, get rid of the drinking of the alcohol, the use of the tobacco, and the use of the chemicals that are added to food that make us fat, sick and miserable, the salt, the sugar, the oil. Then we're not going to be able to get rid of the actual causes of disease and we'll be stuck treating the leading causes of death.

SHAWN STEVENSON: Yeah. It's unbelievable. From my knowledge, I'm the first person that I'm aware of to really just go and actually stay on top of the CDC site because it's right there on the site itself. The most updated data, and this is just from a couple of weeks ago, found that 94% of the folks who lost their lives in association with COVID-19 had an average of 3.8, and we'll put the link for everybody in the show notes, 3.8 pre-existing chronic diseases and or co-morbidities. It's insane, it's just how are we even walking around, so sick in the first place? Wow.

DR. ALAN GOLDHAMER: Yeah. It's very frustrating because the paradigm is often so that means behavioral changes are difficult to induce. People aren't thinking about getting well, they're thinking about how do you get your symptoms to go away, and even with weight loss, most programs fail miserably at reducing all causes of mortality. Even procedures like surgical procedures, gastric bypass, where they may be able to average of 50 pound weight reduction, it still doesn't reduce all causes of mortality, substantially because you're still not dealing with the reason why people are overweight and developing the disease of dietary excess. They used to call us these diseases of kings. 'cause it was only the wealthy elite kings that could develop the cardio-artery disease and the diabetes or the gout. These were conditions that were rare, now they're ubiquitous 'cause even people who have limited means in modern society are eating highly processed foods that in the past would have only been available to the wealthier league.

SHAWN STEVENSON: Yeah, we're all royalty now, in a sense, and maybe the joker, maybe the jester. So, I want to talk to you really, this is why I'm so excited, and I mentioned this in my clinical practice as well as just from some of the great teachers that I've had the opportunity

to work with over the years, utilizing this tool of fasting and we've done different episodes, talking with some of the experts, especially in the vein of intermittent fasting, but today I want to talk about and provide this tool because this could be transformative, even life-saving for folks who really do need it, and you're somebody who is really... Arguably, the top person in the world, and we're talking about medically supervised water fasting, so can you talk about, exactly, what does that mean? What does that constitute?

DR. ALAN GOLDHAMER: Sure.

SHAWN STEVENSON: And why it's so effective?

DR. ALAN GOLDHAMER: So, definition of fasting is the complete absence of all substances except pure water in an environment of complete rest. And this resting business, as we can discuss is really important, 'cause one of the goals of fasting is to give the body a chance to mobilize and eliminate those accumulated intermediary products that have build up inside the cells and inside the body, that were thought to contribute to compromising health, and so there's actually two kinds of fasting that people do that are common right now, one is intermittent fasting, which you mentioned, which is essentially... For example, limiting of the feeding window. What we do at our clinic and with our patients, is we feed them in an eight hour feeding window where they're eating and they have a 16 hour period of fasting, so that means they're not eating three or four hours before they go to bed. We might delay breakfast a little bit from what's traditional, and so that means they eat within that eight hours or you'd have people who are perhaps need a higher caloric intake, maybe they're feeding in a 12 hour window. But the idea is even that 12 to 16 hours of fasting, just that brief amount of time is accumulatively thought to induce changes in the body that are associated with healing. Increase in autophagy, reducing insulin resistance, etcetera.

So that little bit of fasting every day that almost everybody can do safely, 'cause it doesn't require withdrawal medications, it doesn't require radical supervision, maybe a good long term benefit, and there's lots of research by Valter Longo and others, both in animal studies and now in human studies showing that there's some benefit to limiting the feeding window and using intermittent fasting. He also recommends periods of time, during the month where maybe you would limit your calorie intake to 750-800 calories or maybe using whether it's his products or whether it's food restriction. But the idea is to facilitate weight loss, and reverse some of these dietary excess issues. What we do that's unique is long term water only fasting, actual fasting, not fasting-mimicking programs, but actual fasting. And those periods of time will range anywhere from five to 40 days. So when they're undergoing fasting at the TrueNorth Health Center...

First of all, let's be clear, it's people that have been medically screened, we've reviewed their medical history, done a physical exam and established based on laboratory data, so we know they're good candidates for fasting. And then they're in an inpatient setting, in our case, the TrueNorth Health Center, where they're being seen twice a day by staff doctors, and they're being evaluated both blood, urine and physical examination by doctors experienced in long term fasting, and they're on water only, literally distilled water only for anywhere from five up to 40 consecutive days.

And during that time, some really profound changes occur in the body. And as a 501c3 non-profit research-based organization we're in the position to actually research, document, and publish in peer-reviewed journals the results of what we're seeing, which really, as you mentioned, is rather spectacular. We mentioned blood pressure. We did a study on high blood pressure, where we took 174 consecutive patients with high blood pressure. And of those 174 patients, 174 people were able to lower their pressure enough to eliminate the need for medication. And for those that are willing to stick to a health-promoting diet, they can sustain those results indefinitely. We have the largest effects that have ever been shown in treating high blood pressure with an average effects size of 60 points in stage three hypertension, people with systolic blood pressures that start at 180 or higher. So these people are able to normalize their blood pressure, and if they adopt the whole plant food SOS-free diet, they can sustain those blood pressures, eliminate the drugs that cause the chronic cough, fatigue, impotence and premature death and overcome that problem, a problem that usually is considered to be irreversible, but manageable with drugs.

SHAWN STEVENSON: That's incredible. I really hope that everybody's ears are perking up because again, you just mentioned high blood pressure, hypertension is one of those things, just considered you got it. It's in your genes. It's the end of the story.

DR. ALAN GOLDHAMER: We see the same thing with Type two diabetes, another condition of dietary excess where they're making enough insulin, but the insulin's not working 'cause of insulin resistance to where they're having to use medications to try to force the glucose into the cells. When glucose can't get from the bloodstream into the cells where it needs to be burned as fuel, blood sugar levels goes up. That's what Diabetes mellitus is, is inability of the insulin to do its job. Well, fasting reduces insulin resistance, and so it allows most Type two diabetics to achieve normal blood sugar levels without the need for the insulin or the metformin or the other medications. And that's huge, and we'll see hemoglobin a1cs where they're 14 and 16 and with diet and lifestyle change and fasting, end up five and sustainable. Again, they got to do the diet, the sleep, the exercise 'cause you have to maintain healthful living in order to maintain the problem. So fasting's not like a magic cure. It's just a way to create an environment to give the body a chance to do what it does best and that's heal itself if you get out of the way.

SHAWN STEVENSON: What is the underlying mechanism that enables fasting to be so effective? Is it because food requires so much energy? Does that have to play a part?

DR. ALAN GOLDHAMER: Well actually we know there's a number of mechanisms by which fasting works, and one of them certainly is weight loss. I mean, anything you do that facilitates healthful weight loss may be potentially beneficial. Obviously, nothing works better than fasting. I mean if you fast, you lose an average of a pound a day. People who do a lot of fasts lose a lot of weight. That's certainly at least part of the beneficial effect. There's also a natriuretic effect that occurs where the body selectively eliminates sodium and flushes it out. And most people are eating these high-salt diets that allow them to hold lots of extra fluid in order to protect yourself from that toxic effect of excess sodium. And so that excess fluid volume increases your blood pressure. And so when you natriurese or diurese what happens is the body gets rid of the excess fluid, the blood volume goes down, the blood pressure starts to drop, the non-healing wounds start to heal, the congestive heart failure starts to reverse, and we also see primary detoxification in fasting. That was kind of the traditional justification for fasting.

This idea that the body had toxins in it. And in fact, we know now if you take a fat biopsy of just about anybody in society, you'll find hundreds of different chemicals, Dioxin, PCB, pesticide residues, heavy metals, all kinds of exogenous toxins. There's also endogenous materials, not necessarily toxins, but things like cholesterol and lipofuscin and creole, all kinds of things that are maybe normal products, but when they're in abnormal quantity, they may interfere with cellular function. And the body in fasting rapidly mobilizes and eliminates these toxins. In fact, some people argue it does it so rapidly, it might be dangerous unless you take their proprietary products. And of course, I guess it's perfectly safe. There's also the idea that fasting, much like exercise, induces enzymatic changes. When a competitive athlete works out every day, they get better and better at mobilizing glycogen in their glycogen stores and storing more glycogen. And so that glycogenolysis process is driven by enzymes, and so when you exercise and you force glycogenolysis, you get better at it.

You canalize these pathways. Well, fasting does the same thing. When you go on a fast, you canalize glycogen mobilization and after 48 hours you've used up your glycogen. Then you canalize lipolyses fat-mobilizing enzyme pathways and gluconeogenesis protein mobilizing pathways. And when you induce these pathways, it turns out that persists. So it's not just while you're fasting that you detoxify and mobilize macronutrients more efficiently, but even after fasting, those enzyme pathways persist much like exercise and athletics, those enzyme systems persist. And so you're inducing macro-nutrient mobilizing enzyme pathways, which are also mobilizing detoxifying pathways. And so that process of detoxifying gets more and more efficient, maybe a little bit with intermittent fasting and certainly a whole lot with long-

term fasting. And so the idea is that the body not just gets rid of the fat, but also a lot of the materials that are stored in that fat lower the total body load.

We also see problems with gut leakage in people where the intestine mucosa fine filter membranes can become inflamed when exposed to free radicals and leak materials that in genetically vulnerable people simulate the immune system to attack those particles, but also their own tissues. That's what autoimmune disease is where your immune system is attacking your own body. So ulcerative colitis where your immune system is actually responsible for the inflammation in your colon. One of the theories is that gut leakage, the constant exposure to these aberrant proteins or bacteria, etcetera, can lead to this autoimmune response. Fasting allows the inflammatory process to profoundly reduce. We know that because if you look at acute vasoactive proteins or other measures of inflammation in the body, it progressively comes down with fasting.

We're showing that in the research that we're doing right now. And we see it clinically 'cause these issues heal up, the joint pain goes down, you're getting them off the prednisone, off the Methotrexate, out of pain, and then if you feed a whole plant food SOS-free diet, you can actually sustain those results. And so we know that this process of healing the gut leakage appears in fasting. Some of the metabolic products that show up there, out there in the urine go away after fasting, which is a sign that that micro mesh membrane, the intestinal mucosa is actually healing. And of course you've gotta get rid of the free radicals that cause it to get, that's why you can't drink, because drinking alcohol bathes the body in free radicals, that's why you get cirrhosis of the liver, which is essentially scar tissue including from wine, even if it's organic. Alcohol itself is a nasty toxic substance that from our viewpoint needs to be eliminated. Same thing with heated fats, particularly heated animal fats at high temperature, lots of free radicals. The best example is actually smoking, think about people that smoke, they get smoker's face.

They get that premature aging, that's wrinkles or cross-linked collagen tissues that come from the free radicals from bathing the body with smoking. So you first get rid of the free radicals, but then you've got to heal up the gut, and one way to heal up the gut is to do, well nothing. Fasting. It does it on its own, it does it automatically, and it does it more efficiently, we found that it does with the pills, portions and powders and all the stuff that everybody's trying to sell everybody. This is a very ancient practice that gives the body a chance to very rapidly both detoxify, normalize some of these factors. There's even... You know think about Psychospiritual issues, almost every religion with the Jews, the Janes, the Hindus, the Muslims, the Christians, everybody, they might kill each other in the street over disagreements, but they have one thing they all agree on, and that's that fasting is a very important process both for mental and psychological and spiritual purposes. Fasting changes the way people feel about themselves and the people around them. It happens automatically, you can't help it.

And so that may be where all these major religions have a respect for fasting and all we've done is take this ancient practice and begin to investigate it scientifically to understand how it is it has such a profound effect on people. Fasting stimulates the immune system, a process called the autophagy, and in fact, in 2016, the Nobel Prize for Medicine was given to a gentleman from Japan, that did some fabulous research showing how autophagy is, how the body kills cancer cells and reverses these toxicity issues. And fasting accentuates this process of autophagy, and I think one of the biggest things in fasting that we've identified is changes in taste adaptation. We did a study where we detected minimum threshold to salt, sugar, and we showed that after fasting the actual taste perceptions change in people, to where the foods they used to crave, aren't even that appealing anymore, it's too salty, it's too sweet, they don't need that artificial stimulation that comes from the chemicals that we're adding to food. And the hedonic response, the liking of the various types of food changes with fasting. So now people will like the taste of fresh fruit and vegetables that maybe they didn't like before, but now post fasting they find actually they're very enjoyable.

The same process happens over time with careful feeding, if you eat well for a month your neuroadapt to low salt diet, but to get people to eat well for a month, it's hard when the food is tasteless, disgusting, swell to them 'cause they're addicted to the pleasure trap. So helping escape the pleasure trap, may be one of the most powerful tools of fasting 'cause it gives the body a chance. It's like taking a computer that's got a corrupted hard drive and you reboot it, and now all of a sudden you don't know why, but it works well, it's working again. And we find the same thing is true with fasting and we're trying to figure out the why with the research, we're doing at TrueNorth Health.

SHAWN STEVENSON: I love this. So I haven't shared this with you, but what you're describing is exactly what happened to me. I didn't eat a salad in my entire life until I was 25 years old. It's the first time I ate a salad. I have no idea how I made it that far, but already I'd made some changes, I was eating less processed food, all this kind of stuff, but just my ability, my palette, I remember a couple of months prior, my mother-in-law who's just one of my greatest teachers, she made this wonderful salad, she made this dressing from scratch it's called... We call it Asante Sana dressing, which means Thank you in Swahili but it was made from almond butter, just wonderful. And I took a bite and I immediately went to the trash can because I was like heaving, you know. And I implemented a fast, it was a couple of weeks, and I went to get a salad, it was the first meal after which we're going to talk about progressing back to eating food again...

DR. ALAN GOLDHAMER: Yeah very important.

SHAWN STEVENSON: And I went and sat down at Whole Foods and had a salad by myself off in a corner somewhere, and I took the first bite. I was scared, I was just like, I'm definitely going to throw up, and I took a bite, and I was... My brain was like, "This is so good." And I was still scared. I took the next bite, I was like, "Nuh, it's just a fluke." I took the next bite, I was like, and "This is so good". I ate that salad, and I walked out of there and somebody's walking by and I was just like, "I just ate a salad", and they looked at me like I was from another planet like okay, you know. So literally, just today, I was looking at some of this data from University of Buffalo, and they're trying to kind of pinpoint what's making this palate change to take place and it's apparently there's a, our bodies are so amazing, but one of those things is a change in the proteins that we are producing in combination, in correlation with the foods that we're eating. It's just changing the association our body has with these things, so powerful.

DR. ALAN GOLDHAMER: You also have, you know... Think about the effect on the microbiome. You have five pounds of bacteria living in your intestinal track right now. And those creatures are living creatures that are eating and drinking, and actually defecating inside you right now. You have five pounds of trillion creatures pooing in your intestinal tract right now. And what they poo in you could be really nasty toxic waste like TMA, which becomes trimethylamine, and maybe why meat eaters get so much more colon cancer and die from heart disease at a faster rate than plant based eaters do, because meat eaters have a different microflora than plant eaters do. So they have different poo. What your bacteria poops inside you depends on what you feed them. If you feed them meat, you get a certain by-product, if you feed them soluble fibers, you get a completely different... You get vitamin K and fertilizers. So one of the goals we do is to try to feed people in a way that promotes a healthy microbiome, and that means not taking antibiotics and doing things that kind of wipe out the flora and then feeding them to create environment in the intestinal tract, that favors healthy bacteria and that's one of the things fasting does profound rebooting of this microbiome. In fact, we've done a study with Washington University that...

Where we looked at a stool before and after fasting follow up and they're analyzing that data right now. You know, there's interesting people I mentioned Valter Longo, who is kind of one of my heroes, who's done some fabulous research and published in major impact journals like the journal of metabolism in 2015. And they showed tremendous things that go down, and tremendous things that go up when people do fasting, even short-term fasting. And of course, these factors are profoundly enhanced with long-term fasting. So, the benefits that we're seeing with short-term fasting are very exciting. And it may be even more profound when you get people to go for weeks, or sometimes even several weeks on water only. It's obviously some things like glucose and insulin are profoundly affected.

Why do we care about that? Well, not only correcting diabetes, but also the cravings people get, and the binge eating they do. And the problems they have regulating weight is in part,

because we know a lot of refined carbohydrates, which drive your insulin up, which then drives sugar down and the brain thinks that they're starving, and so they're creating more food, and so that it's very difficult to get stable epistatic mechanisms working when people's blood sugar and insulin levels are bouncing all over the place. Well, in fasting, you normalize glucose and insulin levels, it's a huge difference. That's why over 80% of our Type II diabetics are able to achieve normal blood sugar levels without medications.

And they've got things like insulin Growth Factor One, and the lower your IGF one is lower your death rate is, essentially and so lowering IGF happens with two things we know about, one is exercise, and the other is fasting, and you're going to hear this theme over and over again because the same things that get benefited by exercise also get benefited by fasting. And that's not intuitively obvious, because you see, well, why would exercise where you're vigorously active? In fasteners, we say you have to rest, induce the same metabolic changes in the body, the same neurochemical changes? Well, it's because I believe that fasting and exercise both have one thing in common, they're undoing the consequence of dietary excess, And so the benefits we see with exercise, we've taken a look at those biomarkers, and you look at them and fasting and lo and behold, time and time again, you see, the same things happen with both types of intervention.

Leptin levels, leptin levels go down with fasting and lower leptin levels are associated with lower inflammation. There's nothing I've seen that's more powerful at reducing systemic inflammation than water-only fasting. And that's why the diseases associated with inflammation seem to respond high blood pressure, cardiovascular disease, diabetes, autoimmune diseases, some forms of cancer, all seem to have an inflammation association. And that may be one of the mechanisms by which fasting is helping, something we already mentioned blood pressure, heart rate, even things like mTOR. They've identified mammalian target of rapamycin that the lower the mTOR levels are associated with increased autophagy and fasting and exercise apparently can lower mTOR levels.

We know that inflammatory markers, the IL-6, the TNF-alpha, all these sophisticated biomarkers, they all go down with fasting during this fasting process. In fact, that's why a lot of the drug companies are interested in fasting. You know fasting used to be considered criminal quackery, outrageous behavior. At one point I had to have a criminal defense attorney to represent me because that fasting was considered so outrageous. Now, we've gone from being criminal quacks to cutting edge researchers because major research centers are looking at fasting in part because we know now that fasting can augment the effect even of things like chemotherapy. Longo has done some studies showing, that you take rats with cancer, and you give them enough chemotherapy to kill all their cancer cells and the rats all die. But if you take the same rats with the same cancer, but use intermittent fasting the rats survive, dramatically enhancing cancer-free survival. And once pharmaceutical companies realize that fasting may

augment traditional treatments, then all of a sudden there was an interest. That's now... Because what they're trying to do is come up with what are called fasting-mimicking drugs.

SHAWN STEVENSON: Right.

DR. ALAN GOLDHAMER: So drugs that will induce the changes that fasting does in the body, but without that nasty fasting, without having to give up your greasy, fatty, slimy processed foods. You just take the pill, and then you get all these biochemical changes that I've been mentioning. Today, there is no drug that does that, by the way. The only thing that we know that does it is diet, exercise, and fasting.

SHAWN STEVENSON: And on that note of processed foods... By the way, I'd love for you to make this distinction because, we got listeners who are doing lots of different types of whole food diets, whether it's paleo diet to a vegan diet to raw food diet and everything in between, and making the distinction because a lot of people talk about... Not eating as much processed foods.

DR. ALAN GOLDHAMER: Yes.

SHAWN STEVENSON: But processed meats as well versus whole meat.

DR. ALAN GOLDHAMER: Right, well, there's clearly... If you're going to be using animal products, you don't want to use highly processed animal food products, you don't want the little nuggets, and you don't want the dairy products that are full of oil, and salt, and sugar, and what I call coagulant Calpis in the form of cheese, and these products, highly detrimental, highly allergenic. Not foods that we use in feeding our patients before, during, or after fasting. In the case of plant-based foods, vegan foods, for example, may not have animal foods, but they could be highly health-compromising, particularly if you're using the chemicals that are added to food that make people fat, sick, and miserable. And that's why we talk about an SOS-free diet. SOS is the International symbol of danger, but it also stands for the chemicals added to food, salt, oil, and sugar. Salt, oil, and sugar are not foods, they're highly processed food byproducts. They are added back to food to stimulate dopamine in the brain. That's what leads to the overeating and the obesity. If you take the salt, oil, and sugar out of food, you get rid of most of the foods that make people fat, sick, and miserable. For example.

People say well, oil, okay at nine calories per gram, highly concentrated, yet when it's fractionated oil, even olive oil or oils that are somewhat less bad than other oils, they're still lend themselves to dietary excess in terms of obesity. McDougall says the fat you eat is the fat you wear. If you do a fat biopsy, you can actually tell what kind of fat people have been eating just by how it's stored, and that's pretty well accepted. Lower fat diets may have some benefits

in terms of reversing coronary disease. Ornish has published a bunch of data that's very interesting there. The sugar, most people on both sides of the dietary arguments, whether it be plant-based or animal-based agree sugar and refined carbohydrates create a lot of problems, you shouldn't be doing a lot of that. Contributes everything from tooth decay to obesity to immune suppression changes the microbiome, etcetera.

The one thing that we get a lot of flack about is actually salt, because people realize sodium is an essential nutrient without which you die and it turns out just like you get all the fat you need from whole plant foods, you also get all the sugar or carbohydrates you'll need from whole plant foods. You also get all the salt you need and adding salt to the diet also contributes to obesity and problems. And you say how could that be, salt has no calories, it's a mineral, why would eating a lot of salt contribute to obesity? It's because salt can lead to what is called passive overeating, so when people, if you just eat your full to reach satiety say of rice, you need a certain amount of brown rice and then you'd feel full, or potatoes or whatever it is, but if you take that same person, everything else being equal, salt that up a lot, you'll eat more before you feel satisfied. And people say, well yeah 'cause it tastes better, yeah, yeah, salt might test better but you eat more. And that's exactly right.

It tastes better, what tasting better means it's more dopamine stimulation in the brain, but more isn't necessarily better when it comes to the drug-like effect of these chemicals on food and that's why people will eat more of the foods than they should be eating or would be eating in a natural setting, because they've taken basically a highly concentrated substance, that used to be so rarely, was used as money. It was a precious commodity until we learned how to process foods. So the bottom line is salt, oil and sugar, when they're added to food result in systematic overeating that result in obesity. They alter the gut microbiome... Suppress the immune system and if you eliminate those, you get rid of a lot of the problems that we have today with dietary excess.

That is essentially the issue and it's true whether you're using animal food or not using animal foods, if you're eating a highly processed plant foods or highly processed animal foods, you're going to be struggling with obesity and diseases of excess. Now, can people eat animal foods? Certainly, you're designed to be able to digest both plant and animal foods. The problem today is the animal food that is available to us, may not be the same animal food that might have been available to our ancient ancestors, and the quantity that we are being exposed to may be a problem. Though, it's just like you can eat too much of anything... Too much water, I guess they call it drowning. I mean you know. Anything can be done to excess, but some foods like animal foods lend themselves to overeating easier than... Say plant foods with their high fiber content that provide more satiety.

So what we advocate for our patients before fasting, after fasting is a whole food diet, so whole plant foods, so fruits, vegetables, non-glutinous grains, beans, nuts and seeds, but not processed juice blended, taken down into a more concentrated form, but in a whole form and if you do that, the tendency to overeat is dramatically reduced. So we tend to not have as much problem with obesity, dietary excess, blood sugar dysplasias, etcetera, and the same principle would be true to animals foods. If you ate whole animal foods without salt, oil and sugar and all the processing, you have a much less tendency to overeat and you have much less consequences from dietary excess. In my viewpoint, the less, the better.

SHAWN STEVENSON: You know what the crazy thing is a lot of these things are coming together in one source, upwards of 80% of the salt people are consuming is from processed foods. So just by pulling out that piece, you automatically skyrocket, your potential and your benefits and I want to circle back because this point is in our paradigm, it can seem so counter-intuitive and there's some nuance here, but I want to talk about... You mentioned that 5 to 40 days of fasting, for example, so I want you to answer two questions. So number one, what's the longest fast that's been recorded and number two, if we're talking a couple of weeks, if we're talking 40 days, are we not getting into a place of starvation, what's the difference between fasting and starvation?

DR. ALAN GOLDHAMER: That's a very, very important question. And fasting is when you have labile reserves that you still have that you can mobilize. Starvation is the moment you've depleted your labile reserves and you break down, you begin to break down vital tissues. Now, fasting results in improved health, starvation results in death. So we don't do starvation at TrueNorth Health Center 'cause obviously it will damage our outcome data tremendously. We're really proud of our safety data, we've had 20,000 people walk in, and 20,000 people walk out. And we're trying to keep it that way. And the way you do that is avoiding starvation. And the way we do that is we establish baselines, monitor people twice a day, lots of signs and symptoms that we can monitor to measure that from electrolyte levels to looking at basic things like BMI. So the average 70 kilogram male, just a healthy male, has enough reserves in their body to fast about 70 days.

So we're not even getting close to starvation in our patient population. Now a very, very thin person wouldn't necessarily be able to fast 40 days, they may not have the reserves to be able to safely do that. Also, I might mention that weight loss in fasting is very rapid at first in overweight patients but in thinner people weight loss is much slower the body's conservation mechanisms kick in and so weight loss can be as low as two pounds a week deep into the fast, so it's different than early in fasting where people are diuresing and losing fluid and all that. Now, one thing I want to point out though is we have... Are the first place I know that has done this, but we have a DEXA scanner with a new software that does whole body composition and so we've actually been able to go through and do a study where we are able to show exactly

what happens to the fat, the protein and specifically visceral fat during water only passing, and what we found is that not only is fat preferentially mobilized during fasting and protein conserved if you are resting, but that visceral fat is preferentially mobilized. So you might lose 20% of...

A person might lose 20% of their adipose tissue, but they may lose 50% of their visceral fat and only a small percentage of their lean tissue. And then after fasting, so what happens in fasting is you lose a bunch of weight. After fasting you regain weight, but the weight you regain after fasting is water, fiber, glycogen and protein, not fat. The fat keeps going down, and so what happens is you've lost a bunch of fat, you keep losing fat and you regain your muscle, your fluid, your fiber, and your glycogen, and it used to be, they thought, well, you lose weight you gain it back, not a good thing. Now we know, if rest is introduced in fasting, it minimizes protein mobilization and minimizes gluconeogenesis. If you're too active when you're fasting, what you end up doing is burning protein, and that's why we insist on rest. See, now we let them stretch and do yoga and avoid the pathology of bed rest, but that's not a time to be trying to maximize weight loss. You're trying to maximize fat loss, and so the mistake a lot of people do on their own when they're trying to do weight loss regimes, is they're doing vigorous exercise in conjunction fasting and yeah, they're losing weight, but they're also depleting protein stores unnecessarily.

And so that's a really important issue and that's... We have a paper coming out. A few people that are interested in that, we have a fasting website, called fasting.org, which is a fasting companion website where it brings the world's literature on fasting together, and then you go on there and as the papers are published, we release them onto that site. And they'll be able to see this, but it's really exciting 'cause we got really excited... And we've also got a follow-up data now, 'cause we've taken these people before, during and after fasting and then during refeeding, but then we follow them back in six weeks, and they're be able to show not only did they lose fat and continue to lose fat, but they can sustain that in a free living environment and that's been a big criticism. Well yeah, they can do it at TrueNorth Health Center where everything is done for them, but what happens when they go back to the real world? And we're able to show that people are able to sustain this, particularly appropriately motivated people.

And the best motivation for people I find is pain, debility, and fear of death. So people that are sick are usually willing to do dangerous and radical things like eat well and exercise and go to bed on time. And also really on health-conscious people that are being smart about it, trying to do health promotion, they also do really well. For the people that are looking for magic, this isn't so good. If they want to just keep indulging in short-term pleasure-seeking, self-indulged behavior, they don't want exercise, they don't want to get enough rest, this isn't for them. This is for highly motivated people that really above all else, want to avoid the last 20 years of

debility that will face most people because they don't live healthfully during their younger years.

SHAWN STEVENSON: Alright, there's a lot there. So much good stuff. Listen, one of the big takeaways that I got, which is incredibly surprising, I love that you actually looked at this piece and studied it, where is the fat being mobilized from that the body is breaking down? So it's predominantly coming from our visceral fat, which is well noted to be our most dangerous type of fat associated with cardiovascular disease, diabetes, the list goes on and on, Alzheimer's, but also a lesser ratio of the subcutaneous fat and also there's a muscle sparing capacity, but the key here is while you're doing the protocol, you're not exercising your face off.

DR. ALAN GOLDHAMER: That's unfortunately not where you can exercise. When you think about weight loss, you have a couple of pounds of glycogen, in your muscles, so you know you've lost two pounds of glycogen, and that will come back as you start re-feeding. And you know you have fiber in your intestinal tract, that's going to go way down. Obviously, fasting, you're not going to have active bowel movements, once the material that's in the colon is cleared. You're going to start getting... Have normal fiber back, you're going to be a little bit dehydrated 'cause there's a physiological dehydration that occurs with fasting, as part of the conservation mechanism, so you're get your fluid levels back as you come off the fast. So you know there's several pounds of weight gain, that is nothing to do with fat, the fat on a whole plant food diet after fasting continues to go down, and that's what's really exciting, even as the weight goes up, the percentage of body from fat and visceral fat continues to drop, and that continues as long as you keep eating a health-promoting diet.

And then of course, once you add exercise, then you pop back up the labile protein that you may have lost during fasting. You don't lose any muscle cells, but you lose a little bit of the juice out of the muscle, and that comes back after fasting. It takes people about the length of fast, re-feeding to get back to where they were before fasting, that's very important for athletes who are utilizing fasting. They have to remember they have to have a recovery tree or it will deplete, they will diminish their performance level, so they have to add adequate recovery after fasting in order to be able to compete effectively.

SHAWN STEVENSON: This is great. My big mission is providing a multi-faceted viewpoint of wellness and options for folks who often times, I mean, same people coming into my office were people who are told this is incurable, this is something you going to have to live with for the rest of your life. You'll never walk again, you've got a certain amount of time to live and all these different stories, and I want people to know that there's a variety of different voices, and the people that I bring forward for everybody are getting results for their patients, and they're not treating symptoms, they're removing the underlying cause of the disease, and there's

many different paths to the goal, but this one can be incredibly powerful. Specifically, let me ask you about this, you mentioned earlier, you mentioned colitis, and this is one of those conditions where for some folks, they have a chronic disease, but it's not as noticeable, it's not as just a visceral experience, even if somebody has high blood pressure, for example, they might not even know it, but when you have colitis, it's a constant issue, it can be just something that just keeps on interrupting your life, same thing with Crohn's. Can you just talk a little bit about any success you've seen with that.

Yeah, I mean, if you have Crohn's or colitis, you may have as much as 20 bloody bowel movements a day. It can be a really debilitating condition that limits people, where they can go, what they can do, constant pain, debilitating anemia, surgery and premature death. And what's fascinating to me is that diet is often not emphasized by conventional gastroenterologist, some of them are antagonistic that diet may not have anything to do with it. Why would you think that what you put in your mouth might have something to do with what comes out the other end, how ridiculous? And the fact is, there are some food factors, they're so profound that many of my patients have already figured it out just by trial and error before we even talked to them, one is dairy products. Dairy products are like gassing on the fire of inflammation for many colitis patients. Those proteins are just absolutely antagonistic and people can turn on and off their colitis sometimes with just how much dairy proteins they're putting in their diet. Some of them is just stopping dairies enough to actually bring the condition under better control. Another is grains, particularly...

Wheat, rye, barley these food factors for people that are sensitive to those, it can be devastating. We know in 1% of the population that have celiac disease, everybody accepts that. But they have trouble understanding, just because your immune system isn't attacking you in the way that it does with celiac doesn't mean it can't be contributing to factors downstream in the colon or with Hashimoto's thyroiditis. The gene HRLDQ gene associated with Hashimoto's thyroiditis is the same gene associated with gluten-sensitivity. If the colon isn't being attacked by the immune system, maybe the thyroid is being attacked. Lots of different mechanism by which the body can be compromised by these factors. Sugar, itself, can be often antagonistic for colitis patients as is alcohol. Alcohol's nasty, and most colitis patients recognize oh, if they hold off on the drinking and then they have better control in the bowel. If they do fasting, it's really profound, 'cause the gut will heal itself, and then with a carefully controlled diet, you can oftentimes get enough control that the need for medications eliminated.

SHAWN STEVENSON: I love this. I've got a quick break coming up. We'll be right back. When I was in high school and college, our big sports performance, game day meal was mostaccioli, mostaccioli consciousness, mostaccioli performance, and wondering why we're over on the sidelines yawning and waiting for the next play cycle back in again. Of course, you get hopped

up, you get the adrenaline going, you do your performance. But what if there was something better? Not just for a game day, but for practice days as well, because how you practice is how you perform. And so if you're dedicated to true sports performance, your nutrition really does matter. And now we have things that have clinical evidence, peer review controlled trials that show the efficacy of things that have been utilized for centuries. And a study published in Medicine and Science in Sports and Exercise tested thirty healthy athletes for six weeks to record the effects of cordyceps medicinal mushroom on their performance. The group that added cordyceps to their daily regimen had twice the oxygen uptake of the control group.

This oxygen is essential in supplying nutrients to your muscles, preventing fatigue, and preventing the build-up of lactic acid. Another study done by the same group also showed a 9% increase in aerobic activity from utilizing cordyceps. For myself personally, my pre-work out go to is Shroom TECH Sport from Onnit, and it's because it was a subject of a double-blind placebo-controlled 12-week clinical trial performed by researchers at Florida State University. And they found that utilizing Shroom TECH Sport as a pre-workout showed a direct increase in bench press reps by 12%. They also found an increase in combined bench press and back squat reps by 7% for the supersets, and also were found to parallel the earlier study with a cardio performance increase by 8.8%, almost 9% that was seen in the earlier clinical trial. If you're not utilizing Shroom TECH Sport, definitely check it out. Go to Onnit.com/Model, that's O-N-N-I-T.com/Model for 10% off. It's a world class pre-workout and pre-life supplement to use. Onnit.com/Model. Now, back to the show.

So I want to re-emphasize this, especially when we're talking about going from the SAD diet, the standard American diet, or even a healthful diet and still dealing with chronic issues. I want to implore folks to reach out to your Center and get more information because we're talking about medically-supervised water fasting. And I would love if you could... This is a really important part of this. If you could just give a brief summation of what is the proper way people should be fasting? Do you just jump right into it? And also, what do you do after the fast is over? Do you just jump right back to eating food?

DR. ALAN GOLDHAMER: The most important part of fasting is appropriate re-feeding. It takes about half the length of a fast to carefully re-element and in a longer fast that's very important. It can be very serious damage or even deadly. There's processes called Re-feeding Syndrome, where a person's a very long fast and were to go into inappropriate re-feeding, they can get into really serious trouble. It's very important, if you're going to do fasting, number one, history, exam, and lab, make sure you're a good candidate for fasting, number two, proper supervision during fasting and appropriate rest, and then careful re-elementation. We usually, for example, will start with fresh fruit and vegetable juices, go to whole fruits and vegetables, steamed and starchy vegetables, and there's a progressive pattern. There's a day per week of fasting for each of these things that we do, so that it takes about half, a forty-day fast, takes

about twenty days to fully re-element. A ten-day fast takes about five days to recover in a controlled setting. So careful re-feeding, probably the most important part of fasting. Appropriate patient selection also part of not screwing people up. And remember that people cannot do water fasting on most medications safely, that there's a profound change in the body that occurs in fasting that would make even medications that they're tolerating feeding, not safe fasting.

And also that inappropriate withdrawal of medications can be a serious problem. You don't just stop steroids, for example, overnight. You can get serious problems. It's important to work with a doctor that is familiar with this process, particularly as we get into people that are on medications, have health issues, or doing longer fasting. And one of the things we offer for free to your listeners is if they're interested in finding out if any of this might be relevant to them, they can go on our website, complete the registration forms, and we offer a no-cost phone conversation with me. To talk about, is this relevant? We can refer them to a doctor that perhaps is close to them, that might be familiar with this type of work. We have a group of doctors that we've trained over the years that are out there in practice, or they can come to the TrueNorth, if it's appropriate to come to the TrueNorth Health Center or one of the other centers that specialize in fasting supervision around the country. We can help put them in contact with those.

Those resources. We also have doctors around the country that offer phone coaching that are... Through Zoom and through phones. Where they can talk to a doctor that's not an idiot, and they'll help them engage about, yes, it's possible to get well. These are things they might want to do. Or work with their local family physician, then helping them through this... One of these processes. So we do offer some services to help people implement this, 'cause we recognize not everybody has a doctor that's versed with nutrition or fasting or whatever. And some of their physicians were actually antagonistic. They don't think that you should eat a health-promoting diet, that's not... not inappropriate. Everybody's got to have milk, or whatever it is that they believe.

SHAWN STEVENSON: Right.

DR. ALAN GOLDHAMER: And the fact they're wrong doesn't make it any easier on the patients.

SHAWN STEVENSON: Can you share that website for everybody that's listening?

DR. ALAN GOLDHAMER: Yeah. Our website is truenorthhealth.com.

SHAWN STEVENSON: Okay. Perfect, perfect.

DR. ALAN GOLDHAMER: Truenorthhealth.com, click on the registration forms, it's pretty self-explanatory.

SHAWN STEVENSON: Yeah, this... I love that you said, this is something that's occurring more and more, thankfully. You know, again, I've been in this field for 20 years, but now it's starting to come up as like, don't just get a second opinion. Get a second opinion from somebody who has the same goal as you. Get an opinion from somebody who actually knows it's possible to not need lisinopril or metformin or celebrex or whatever it is that you're using to treat the symptom that's caused by your lifestyle-related behavior. So I love that so much.

DR. ALAN GOLDHAMER: There's one other thing I just would mention. If people really want to get into the weaves with this, we have a book, it's called The Pleasure Trap. And it's readily available from Amazon and all the rest of it. And The Pleasure Trap is a bit of a disturbing book 'cause it tells people what they need to know, not what they want to hear. So it's not going to give you foo-foo, blow smoke up your dress, kind of a book. But if you're really serious about understanding it, it goes through and does a good job of explaining the rationale. It talks a lot about fasting and how fasting can be used to help escape the pleasure trap. And about the diet Northstar Center recommendations that we make. So there are resources available.

SHAWN STEVENSON: Perfect. So okay, we answered the tail end of the question, now, what about the beginning? What is the proper way people should be fasting?

DR. ALAN GOLDHAMER: So everybody should be fasting, in my opinion, 12 to 16 hours every day, every day. You need to not eat to three or four hours before you go sleep at night. Don't be eating right before you go to bed, 'cause that food not only gets stored as fat, but it also tends to disrupt the sleep quality. People believe that if you do some exercise before you eat breakfast in the morning, it actually preferentially mobilizes fat reserves. That may be true. And so you have this period of fasting each and every day, 12 to 16 hours. And then we believe that occasionally appropriately-screened patients may benefit from a longer period of fasting ranging from 5 to 40 days. We recommend that be done in conjunction with their physicians, and with the help of doctors that are familiar with fasting, so they don't muck it up. Or come to a place like TrueNorth Health, we'll be happy to do everything for you. We'll, supervise you, we'll get you through the process. We can do it affordably.

SHAWN STEVENSON: Perfect, I love that. So let's go back... I want to... You kept saying this about exercise and fasting have so many similarities. And you mentioned some of the different things, you know, autophagy. But one of those things that jumped out, BDNF, for example.

DR. ALAN GOLDHAMER: Right. You know, BDNF is really exciting, brain-derived neurotrophic factor. They did stuff with rats where they put rats... Genetically-bred rats that are the same.

They put them in cages, they treat everything the same, except they give one rat a wheel where it can exercise. And they will. They will exercise. And they noticed that the rats that exercised didn't get Alzheimer's disease, dementia, rat dementia, which they test by various maze tricks and stuff. So they didn't get the brain deterioration. And so why is it that rats that exercise don't get dementia and the rats that can't exercise 'cause they're in this stupid little cage developed dementia? What is it? What's different? And they found that one difference was something called BDNF, brain-derived neurotrophic factor, which protects nerve cells from the damage of free radicals. And we believe that in humans and rats, people that have high BDNF levels have lower likelihood of getting dementia. It maybe one of the reasons why some people get dementia and some people don't. Well, exercise improves BDNF and so does fasting.

Fasting has a profound effect on BDNF as does exercise. So we want to use fasting to increase BDNF levels. And whether it's 16 hours every day, or whether it's a week, or two, or three or four, once a year or whatever it's going to be, we believe that the accumulation of those practices may have actually helped us avoid premature death and disability, increase healthy life expectancy. Not just life expectancy, how long you live, but can you avoid the 10 and 20 years of debility that many people experience at the end of their life? Can you live fully functional, where you go to sleep one night and don't wake up and the actual death? Or are you going to spend the last 10 years of your life unable to talk and move, lying in some nursing home waiting for people to come and change your diaper? We believe the difference may largely be by taking control of what you put in your mouth. So our recommendations are health results from healthful living. Healthful living involves diet, sleep and exercise, and periodic fasting, whether it's 12 to 16 hours a day or possibly longer periods of time occasionally. And that we advocate a whole plant food SOS-free diet, is what we think is the diet most likely to give you the best chance of not getting debility later in life, slow the aging process and avoid the refined foods of any kind.

SHAWN STEVENSON: I think a lot of people would love to know this. And for example, again, my mother-in-law, every year, she does a structured fast herself, even though she's incredibly healthy. What do you do? How often do you fast?

DR. ALAN GOLDHAMER: So I fast every year. I fast for a week, if I have no symptoms then I'm going to break it. Now, I personally don't like fasting 'cause you cannot play basketball, you have to rest. I find it very disruptive to my routine, which may be part of the benefit...

So, I did that every year, and I believe that the people that get the most benefit with fasting are those healthy people doing it, preventatively. I know my mother when she was 92 years old. She realized she had outlived all of her friends, all 52 of her friends that she had known over the years were all dead, and now many of them used to make fun of her cause of her crazy

diet and all that kind of stuff, but nonetheless, she said she felt very alone, cause at 92, it's hard to make friends with much younger people, and the people in anywhere around her age group were often debilitated, they didn't want to do the things that she wanted to do. And she said, "Alan, you need to warn your patients, if they're going to do this diet make younger friends!" So I warn people, start now make younger healthier friends so that later, you'll still have people you can socialize with.

SHAWN STEVENSON: Oh my goodness! That's words of wisdom right there. That's brilliant, that's brilliant. So I think that... I love that you just said that as something that is supportive of one who's already healthy already taking on, because I think that a lot of this has been focused on which it rightfully should be on the healing of chronic diseases, which is a big part of our population right here in the United States, we've got four... We've got right now at this very time, 242 million adults are overweight or obese, we've got about 50% to 60% of our population has some degree of heart disease, we've got 115 to 130 million folks diabetic, pre-diabetic, we've got a lot of issues that we can solve, but we can also get better! And that's what's so exciting about conversations like this is what are the things that we can add into our superhero utility belt to just make us even better?

DR. ALAN GOLDHAMER: I think one of the keys is recognize the pleasure trap, the hidden force that undermines health and happiness, if you really get the message of the pleasure trap, then you are very empowered because you can take responsibility to control your diet, your sleep, your exercise, and fasting and avoid the diseases rather than have to try to treat them later.

SHAWN STEVENSON: Yeah, I love that. Now, this is something that I touched on a little bit earlier, but this... It's weird that we're going to put this towards the end of the conversation, but I would love to know because there's so many benefits here, noted, obviously, we've got so many different peer-reviewed studies on it, you're doing research, you're seeing the success with your patients, but has this been around a long time in medicine, can you share a little bit of the history of fasting?

DR. ALAN GOLDHAMER: Fasting, Moses, David, Elijah and Jesus fasted for 40 days, as long as 40 days I, mean this use of fasting has been back to Hippocrates. This is not anything we've invented, all that we're doing is taking this ancient practice and trying to research it so we can better explain why it works. They've already known it works. It's just a question, what are the mechanisms? And so that's what we're really interested in doing right now. The research is trying to figure out non-invasive biomarker so we can better tell who should fast, how long should they fast, when are they done fasting, and what dietary patterns work the best at maintaining health, not just over the short term, but in the long term. And our particular goal is helping people increase healthy life expectancy. So they live until they die and not end up

becoming debilitated and having to rely on their kids to kind of care for them but rather remain high degree of functionality. Right till they reach their genetic potential.

SHAWN STEVENSON: So Hippocrates the "father of modern medicine", was employing fasting as a tool.

DR. ALAN GOLDHAMER: And way before that, as far back as you can go, you're going to find references to the use of fasting.

SHAWN STEVENSON: Yep, definitely. So I've got a couple of final questions for you, and one of them, you mentioned earlier, you said to make sure that you're a good candidate, right?

DR. ALAN GOLDHAMER: Yes.

SHAWN STEVENSON: And I would imagine, again, the majority of folks are a good candidate for employing some smart fasting in their life in one form or another, so who would not necessarily be a good candidate, and can we get those folks who aren't in that category to being a good candidate somehow?

DR. ALAN GOLDHAMER: Yes, so people that have a depletion deficiency syndrome, they've got cachexia, they're anorexia nervosa patients, people that have depletion issues, people that are in the end stages of metastatic disease. People that have severe kidney disease, 'cause you need a certain amount of kidney function to be able to adapt to the fast, for example, if creatinine levels were over 2.0, we're not normally using water only fast, we'll do a modified program just because we put too much load on those debilitated kidneys, people that have or on any coagulate medications, would have to be stabilized off medications first, 'cause you can't just fast on these medications, 'cause they get potentiated to create a problem if you just withdraw them, then you're a potential risk of stroke or having other problems. So it's really important that medications be appropriately managed, withdrawn and be done appropriately in order to ensure that this is effective. People that have dysrhythmia issues that requiring anticoagulant therapy, because the anticoagulant therapy contraindicates fasting would have to be managed with an alternative approach. But I might mention some of the intermittent fasting approaches where they're using limited calorie intake, can be done in conjunction with medication, so long as the physician is familiar with how to modify the drugs.

So those are some of the more common issues. Probably the biggest contraindication to fasting is fear. Fear is a very expensive emotion, so it's important for people to be educated to understand that this is an adaptive mechanism, that the body had to have in order for our species to survive. Right now though people are so afraid of fasting if they get on a plane in New York and they fly to California, they're pretty sure they'll die over Colorado if they don't

eat the peanuts, they think the pretzels will save their life because five hours would be more than what their body could adapt to. Once they've seen that fasting works from what they have experienced, they realize their body's ability to fast is a biological adaptation, all of the humans that couldn't fast died in our ancestry. They had to be able to survive, cause spring would come late. And with this big bulbous neural network we have our brain, that's our biggest burner of glucose, if you didn't have the ability to change your brain from burning sugar to burning fat, you wouldn't be able to live any longer than the chimps can, and that's why you'll always find chimps hanging out in the tropics where there is a ready supply of...

Fruit all year long 'cause their brain doesn't change to burning fat, it stays burning glucose, they can't fast like we can. Humans are really special because we had such a big brain, we had to have the ability to do this, and all the people who didn't have that ability are dead. Your ancestors, the ones that got enough to eat didn't get eaten, lived long enough to re-produce and passed on their genes. Your brain is the same genes as a human 100,000 years ago. The only thing that's really changed is our environment, we changed the environment with our innovation, and now we have access to highly processed fractionated foods and that's why we have two-thirds of our population which we said being overweight or obese. 'Cause we're exposed to these chemicals, we're addicts, we've become addicted to the pleasure traps cycle, and we got to get out of it. Some people can get out on their own, some people need help, some people need to use fasting to escape the pleasure trap.

SHAWN STEVENSON: This has been incredibly enlightening and thank you so much for sharing your brilliance. I got one final question for you, and it's just so apparent in having this conversation, what makes you so passionate about this? What's getting you up every day and working with patients and just inspiring you to do this work in the way that you're doing it?

DR. ALAN GOLDHAMER: Well, my wife says that the reason we made up the TrueNorth Health Center was so that I have a place to eat, and the reason I'm doing this work is 'cause I want to prove I'm right and everybody else is wrong. So she might be right, we've been married for 38 years so whatever she says I know the secret to a successful marriage, I know those two magic words. "Yes dear."

SHAWN STEVENSON: That's right, legendary, legendary! Well, listen, this has been fantastic and I appreciate you so much, so again, can you share where folks can get more information and also the name of your book and where they can pick it up again.

DR. ALAN GOLDHAMER: They can get The Pleasure Trap anywhere at Amazon or any bookstore, they can get to us for a free phone conversation by going to TrueNorthhealth.com and completing the registration forms, and I'll look forward to speaking with them.

SHAWN STEVENSON: Awesome, Dr. Alan Goldhamer, everybody. Everybody, thank you so much for tuning into the show today. I hope you got a lot of value out of this. I want to make sure that we provide a plethora of different resources of different physicians who are out here helping patients to transform their lives, really... It's so important today, more than ever, this idea, this topic as he mentioned, this could seem like a rogue crazy thing, but I've been wanting for years to talk more about this because utilizing some structured fasting was so transformative for my own health. And one of the things that I really saw, started to change my paradigm as far as what was possible through nutrition and what was possible through the body actually being able to heal itself, because I still had a very myopic lens. I had gotten better, I didn't know people can recover from diabetes, I didn't know people can recover from heart disease, I didn't know people can recover from fibroid tumors, the list goes on and on. And what we see now, we have so much data affirming how this can be utilized, but again, as he mentioned, there are different forms and aspects of fasting that folks can utilize.

So whether it's a structured daily form of it in the form of intermittent fasting or something especially if you are at your wits end or you have a family member who's been struggling with a health issue, this might be just what the doctor ordered, and so I encourage you to reach out to his clinic and get some more information. And the only reason that I'm really passionate about this subject is because I believe that everybody has the right to know. If something is working and helping people that heretofore hadn't seen any kind of results doing anything else or just progressively had gotten worse, as he mentioned these are often signs of people who are most motivated to do something different, to do something as rogue and crazy as eating healthy and changing their lifestyle habits, or maybe employing some medically supervised fasting to be able to help their bodies to do what it's designed to do, which is to heal itself.

So I hope you got a lot of value out of this episode, if you did make sure to share it out with your friends and family, you could tag me, I'm @ShawnModel on Instagram and on Twitter, I pop into Twitter and drop a tweet every now and I'm at The Model Health Show on Facebook, and we've got some epic shows, incredible guests coming your way very soon, so make sure to stay tuned. Take care, have an amazing day and I'll talk to you soon.

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