

EPISODE 332

# Your Body's Hidden Fat Loss System & The Metabolism Reset Diet – With Guest Dr. Alan Christianson

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

Right now I'm at my home studio away from my home studio in Los Angeles, and hanging out with some friends, getting some work done, and I thought I would be coming to sunny skies, but it's been raining.

I thought the song said it doesn't rain here. As a matter of fact, play a little bit of that. So I thought it said it doesn't rain, but it's all good. You know? The rain brings forth life, right?

It's one of those things, and it's part of the natural cycle, and we need a little bit here in Cali. And again, I'm on the road right now hanging out.

Brought my wife and my youngest son along and we've been having a good time, and getting to connect with some great people, like my guest today.

Now listen, a couple years ago I did a master class episode on this overlooked and undervalued fat burning powerhouse organ that we have in our bodies, and the name that we give it is our liver. Alright?

It's a master class on the function and the roles that it plays in fat loss and weight loss, and so we'll put that in the show notes. And as I was going through all of this research, and I was just coming across these things that were just blowing my mind, and I was just like, "Why is this not put into a popular context? Why is it not in a major book?"

And it was as if Aladdin popped out of the lamp, alright? Full on Will Smith. By the way, I don't know if you know this, he's playing the Genie in the live action version of Aladdin, so keep an eye out for that.

But it's like Aladdin popped out, blue and all like, "Shawn, your wish is my command, here's that book." And so we have the author of this book that is talking about this incredible connection between our weight and our liver function on the show today.

He's a return guest, and I think it's really going to blow your mind, so be ready to take some good notes for yourself, for the people you care about, for your clients.

And by the way, if you do have a passion for health and wellness, and you want to start helping people to achieve their health and wellness goals, or you want to better monetize if you're already in the health and wellness space whether you're a physician, whether you're already a health coach, whether you are just somebody who's aspiring to get into the field. We've got something really special coming up.

I'm doing a webinar and I'm sharing a six-step health coaching blueprint to live the life of your dreams right now with a full client list and an even fuller heart.

Because what's the point of doing this? You know, a lot of us are chasing this dollar, but we're not really feeling fulfilled and we're not doing work that we're really passionate about.

So I've had the great opportunity over the years to number one, saying yes to my vision, and then setting forth to sit across from other people in my clinical practice, and to wholeheartedly do my best to help them to achieve their goals.

And the beauty that I've had the opportunity to be a part of has just been something that I can't even put words to. And I can't do this by myself.

That's the thing that really got me. That's why I started the show, that's why I started writing books, this was why I started speaking, was to ignite a mission, and to help create this transformation generation as we do this together as a wellness army and really working to transform the world.

But I've got to make sure that you are able to make a living doing what you're really passionate about. So that's what this webinar is all about.

Some of the things we're going to share are some of the secrets for creating a successful business that lets you live a life of freedom and fun, even if you've never built a business before. Alright?

You don't have to be somebody who's experienced in this. And again, a lot of folks- I went to a traditional university. I was not taught how to create a sustainable business through my practice as a nutritionist, or as a strength and conditioning coach, or as an author, or any of the things that I'm doing today. Alright?

Also, how to build a brand that inspires and motivates others, and has them tripping over themselves to work with you? Alright? Plus several other things. I think it's just going to blow your mind.

Again, it's a free webinar, you can join us. It's coming up very soon, just go to [www.TransformationalNutrition.com/fullheart](http://www.TransformationalNutrition.com/fullheart) together as one word, 'fullheart.' Again,

that's [www.TransformationalNutrition.com/fullheart](http://www.TransformationalNutrition.com/fullheart), and you can get signed up for this free webinar and join me live, along with my partner at ITN - Institute of Transformational Nutrition - Cynthia Garcia.

And this is coming up here- when this is released, you've got a couple of days to get signed up. So this is going to go down February 13th at 2:00 Eastern, 1:00 PM Central.

People leave Central out a lot, alright? 1:00 PM Central, and 11:00 AM Pacific Standard Time. Alright? Coming up, again, February 13th, so go right now and sign up for this free webinar to hang out with us.

And on that note again, listen, I've got somebody who's a faculty member. He's a faculty member at ITN. He's one of the people that you learn from, and he's one of the very best people in the world in his field.

This is the kind of caliber of people that you have access to. Why learn from somebody who's just trying to figure it out when you could learn from the very best person in the field? And that's what we really work to do at ITN, alright?

So on that note, listen, when I'm traveling, when I'm on the road, I want to make sure that my nutrition is up to par, my immune system is doing what it needs to do, because we're changing time zones, we're exposed to a lot of different conditions.

One of the things that I do, I bring my Organifi Go-Packs with me when I travel. And so these are green superfood blend that is low-temperature processed to actually retain the nutrition that you're looking for in all of these incredible superfoods.

So we've got spirulina in here, we've got chlorella. Listen, chlorella contains lutein and zeaxanthin. These are two compounds that are critical to protecting your vision, and clinically proven to lower your risk of macular degeneration.

As a matter of fact, a study on lutein published in the Journal of Oleo Science found that test subjects who consumed chlorella did in fact have measurable increases in this antioxidant lutein in their system.

So you might hear something about a supplement or a superfood, but does it actually show up in your body when we talk about this conversion and it being available? And in fact, chlorella is one of those things that does.

Another really important thing to understand about chlorella is it's one of the things that's been found to help your body to assist your cells in removing waste, and removing what we call these 'toxins.'

And this is going to be something that's highlighted today on this episode because we're talking about the organ responsible for a lot of your body's dealing with toxins and toxicants in our environment, alright?

So chlorella is one of those incredible foods that supports our body in doing something that it's designed to do, but it's a little bit more heavily burdened today with the conditions that we live in.

And here's the thing I love about Organifi, which- truth. Truth be told, I've literally tried dozens of different green powders over the years.

I've been in this field for about seventeen years now, and I'm telling you, I've tried them all. And Organifi is the best-tasting green blend. So it's not just the best formula with the green superfoods that it has in it, but it also tastes good as well.

So pop over there, check them out, add this to your superhero repertoire. Go to [www.Organifi.com/model](http://www.Organifi.com/model). That's [www.Organifi.com/model](http://www.Organifi.com/model) and you get 20% off all of the Organifi products, including this green juice formula.

Alright? So pop over there, check them out, [www.Organifi.com/model](http://www.Organifi.com/model). And now, let's get to the Apple Podcasts review of the week.

**iTunes Review:** Another five-star review titled, 'Best Health Related Podcast Ever,' by GnarlyCarly.

"I'm not usually a fan of health and fitness podcasts. There are too many with biased opinions telling you what they think you should or shouldn't do based on the opinions or the latest trends.

Shawn and his guests present factual info, teach you what they know, and let you absorb it as you please. It's so refreshing just listening and learning, and not feeling like the host is jumping down your throat."

**Shawn Stevenson:** Alright, thank you so much for leaving me that review over on Apple Podcasts, I appreciate it so very much. And if you've yet to do so, please pop over to Apple Podcasts and leave a review for the show, and again, it just means so much to me. I appreciate it very, very much.

And on that note, let's get to our special guest and topic of the day.

Our guest today is the incredible Dr. Alan Christianson, and he's the author of the New York Times bestselling book, 'The Adrenal Reset Diet.'

He's a naturopathic medical doctor who specializes in natural endocrinology with a focus on thyroid disorders, and he's also the founder of Integrative Health - a

physician's group dedicated to helping people with thyroid disease and weight loss resistance to regain their health.

And he's been named a top doctor in Phoenix Magazine, and has appeared on national television shows including *The Doctors*, *CNN*, and *The Today Show*, and numerous print media.

Dr. Christianson lives in Phoenix with his wife and son. You can visit him at [www.DrChristianson.com](http://www.DrChristianson.com), and I'd like to welcome back for the second time, my friend, Dr. Alan Christianson.

**Dr. Alan Christianson:** Hey dude, glad to be with you here.

**Shawn Stevenson:** I'm glad you're here, thanks for coming to see me.

**Dr. Alan Christianson:** Yeah.

**Shawn Stevenson:** You made this trip up here, we were expecting sunny California, but it's all good.

**Dr. Alan Christianson:** It's a fun change.

**Shawn Stevenson:** Yeah, I mean the rain is needed as well. You know, it cleans and clears things out, like our livers. So you know, I did a show a while back, just like a master class on the liver, and I was wondering why on Earth isn't there a book that has all this information?

And then my wish was granted, and this incredible book came out. And I've got to share this line really quickly because I want to ask you about this.

You said in the opening, 'Naturally thin people are not superior. They don't try harder, nor do they possess superhuman willpower. They don't have better genes, and most don't eat fewer calories. They simply have one thing working in their favor - they have a better metabolism.'

So I want to start by talking about what the heck is metabolism? What does that even mean?

**Dr. Alan Christianson:** Yeah. You know, in most contexts, people think about it as being fast or slow. Like you burn a lot or you burn little. And what it really is, is your body's ability to manage things in the moment.

So right now, we're talking, we're using our brains, but we're not eating, but we're using fuel. So that's metabolism. You tap into what's stored, and when it's healthy, you're getting more food than you need the moment when you do eat, and you hold onto that, and you do it in a way to where it's not stuck.

And then later on, when there's a point where you need that, you can draw it out and not have to have an energy crash or get a lot of weird cravings.

**Shawn Stevenson:** And so one of the points that was really strongly communicated I feel- because there's a controversy about metabolism, like fast metabolism, slow metabolism.

But you do state pretty clearly that our metabolism- the rate at which we're burning this fuel can change. Is that right?

**Dr. Alan Christianson:** It can, yeah, and that's the role of the liver behind that. It's got a couple of ways that it stores that, and when it works well, it's got room to soak up the excess, and then give back when we need extra.

And if it's not working well, a little bit extra means the body is making toxic fat that clogs the liver. And when it gets too full, it starts to leak, and so leaky liver is the new emerging concept.

**Shawn Stevenson:** Wow, leaky- because we've got leaky gut, leaky brain, now leaky liver.

**Dr. Alan Christianson:** Well, the funny thing is leaky gut and leaky brain are more so concepts that are tossed about. There are still a lot of conventional circles that don't regard those, but leaky liver has come from the conventional world of studying diabetes.

So diabetes, for example, when someone wakes up with high blood sugar, they didn't just have a meal. You know? That's their liver leaking that out.

And now we've seen even further is that if you test someone after a meal, and some people have higher blood sugar than others.

And we used to think that people had too much food or food that absorbed too fast, well now we can differentiate your glucose from what you made versus from what came from the plate.

And it turns out that for most people with high blood sugar, about 80% of it is what they made after the meal. It has nothing to do with what was on the plate.

**Shawn Stevenson:** Holy moly, this is already blowing my mind. Alright, so I want to talk about- let's take an overview first in how our livers do play into this equation with our weight, with fat gain, for example.

Let's just kind of give an overview of how does our liver kind of play into that whole equation?

**Dr. Alan Christianson:** So Shawn, I've got a Walter Mitty fantasy about taking about a year off and fixing all these various issues and problems we have in the world.

And they're not like the serious ones, but they're- like language is the first one. So the word 'fat' means like eighty different things that are completely different.

**Shawn Stevenson:** So true.

**Dr. Alan Christianson:** So dietary fat, body fat, stored fat. So we hold onto fat in three compartments. So the first one is we've got fat below our skin, that's subcutaneous fat. We're the only mammals on the land that have subcutaneous fat.

Dolphins, whales- but you think about like a dog. You know, they can get big, but their bones are right below their skin. Yeah, we're the only land mammals with subcutaneous fat.

**Shawn Stevenson:** Fascinating.

**Dr. Alan Christianson:** That's a fun thing we could go off on, but we won't. Maybe we were mermaids at one point.

**Shawn Stevenson:** Merman.

**Dr. Alan Christianson:** Yeah, yeah. So then there's the visceral fat. And we've all heard about that, the belly fat, it's dangerous. But what we've not heard about is that there's organ fat, and that builds up in the liver, the pancreas, and in the muscle tissue, and that's the worst.

So that one, the mass of like a couple grams - like a paperclip's worth of that - is the difference between being healthy and being diabetic.

So yeah, how the body stores fat. Some places you put it, if you've got a healthy liver, your liver puts away fuel in glycogen, which you can make only out of carbs, or triglycerides, which you can make out of carbs, fats, ketones, or alcohol. You can make anything into triglycerides.

And if you've got some of both, and the liver is not leaky, you can then burn those triglycerides, and then burn stored body fat wherever else it is.

But when you can't tap into those, the rest of it is all stuck.

**Shawn Stevenson:** Man, it's such a complex and beautiful thing, the system. And a lot of ancient cultures felt like the liver was kind of like the seed of the soul of health, in many ways.

You know, you mentioned that a little bit in the book.

**Dr. Alan Christianson:** Totally.

**Shawn Stevenson:** So what did they have to say about the liver?

**Dr. Alan Christianson:** You know, the word 'liver' - live. You can't live without your liver.

**Shawn Stevenson:** Kind of important.

**Dr. Alan Christianson:** We think about our brain, or like the heart is the seed of emotion, we've talked about that poetically. And yeah, exactly right, a lot of cultures, that was all about the liver. They thought that's where your awareness would dwell, and where the light went after it entered your eyes, was thought to be the liver.

**Shawn Stevenson:** You know, the reason I really love the fact that you wrote this book- and you talked about this on your first appearance as well in some of your story, is that you've got the experience of having an unhealthy liver and the results of that.

And you mentioned in the book, you were an overweight kid in the seventies when it was three times more rare than today, which is not a good thing necessarily, but you really stood out.

And of course, there's a lot of movies that come from- that are seventies or sixties based, and there's like the one fat kid.

**Dr. Alan Christianson:** Right. Right.

**Shawn Stevenson:** And it's kind of like this iconic character, and you were kind of that character.

**Dr. Alan Christianson:** That was me.

**Shawn Stevenson:** Can you talk a little bit about your experience in how you kind of made this leap from- because people see you today, you're one of the most fit docs walking around, and your lifestyle is just incredible, the things you're able to do at an age when a lot of folks are on the decline.

And so for you, why is this such a personal experience in writing this particular book?

**Dr. Alan Christianson:** You know, the whole arc of my life was shaped by being shamed as an adolescent, and by social ostracism. My big love was science-based, astrophysics.

I was a happy enough nerdy kid, but then when adolescence came along, and I started getting the importance about peers, and clicks, and groups, and girls, and paying attention to stuff, and having it just not work.

And just totally through desperation, I picked up some books, and found some things, and some things didn't work as well, but some with a lot of perspiration and a little bit of inspiration, it changed my life.

I realized that how your body works, good or bad, is like one of the base determinants of the quality of your experience in this life.

**Shawn Stevenson:** Yeah, absolutely. And we've got a mutual friend who just- we were talking about the fact of you coming on the show today, and she was just singing your praises so much, like a lot of people do, just as you being one of the smartest people that she's ever met.

I'm talking about Cynthia Garcia.

And I'm interested to know, because you are just one of the smartest people that we know, why did you take the track that you did in your training and medicine?

**Dr. Alan Christianson:** Yeah, it was a funny thing. The arc there was that I was planning on conventional medicine. So I realized that how much my life was impacted by these decisions, and medicine was just like a given that's what I would do, and I didn't know of anything besides being a conventional doctor.

And also, I knew what a big factor that my exercise habits, my diet were upon my health, and so I knew they had to be a big part of what I did.

And the closer I got to that goal, the more time I was spending with doctors, and someone pulled me aside and said, "Look kid, if you put a lot of your effort into all that natural stuff, that's violating standards of practice. We've essentially got cookbooks that we have to follow from our boards, from the insurance companies, and you can help people and they can rave about that, but if you're not following the right recipe, you lose your license. You get in trouble."

So I had a little while to where I was just directionless and like, "Well, then what?" And I had known about chiropractic, and I thought about that, I applied to one school.

I didn't want to focus- I wanted to do more so internal medicine type things, and more so lifestyle. In my head, it was only about chiropractic being back. I know it's more than that now.

But it wasn't quite the right road, but it was the closest thing I knew of, and I was working in a food cooperative in northern Minnesota, and I was the guy who would tell you which supplements to buy, or which herbs to get.

And I saw an article in a magazine talking about the naturopathic profession, and it's a cool thing. So we're part of a 200-year lineage.

There's the medical staff, the caduceus- the stick and the snakes, you know? So there was two snakes back when. There was Panacea and Hygeia.

If you look now, there's one snake, and that's Panacea, and that's about medicine as intervention. But Hygeia was hygiene, and that was medicine as preventing things before they happened, and that's where the naturopathic profession really came from, was the idea of integrating intervention with hygiene and lifestyle.

So we've beared that torch for a couple hundred years, and I learned about the profession and realized that I could be a physician, I could do the elements of that, that were important to me, but I could have a community of peers that supported my beliefs, and help me grow in those directions.

**Shawn Stevenson:** I love it. Love it. Such a great story. So I want to talk about- knowing that our livers can essentially just start- it can be like a copy machine, just printing out fat, and this process of lipogenesis.

**Dr. Alan Christianson:** Yeah, I know.

**Shawn Stevenson:** Your book is really dedicated to helping us to heal this critically important organ, but my question immediately is just like, "How long does this take?"

And it gets into the conversation of just how resilient and regenerative the liver is. So can you just talk about that before we get into anything else?

**Dr. Alan Christianson:** You know, it's crazy exciting. I think about our bodies- we think about ourselves like a static entity, but there is some old saying about how you could never cross the same river twice because the water is- it's new water next time. And we're kind of like that.

Last time we sat together was, what, a couple years ago?

**Shawn Stevenson:** Yeah.

**Dr. Alan Christianson:** And you and I carried no atoms now than we had then. Or maybe a few fractions of a percent. You know, what you and I are, there's nothing that was there then physically.

So we completely regenerate, and to be really precise, there's a few things in bone marrow or old nerves that might take five years. So maybe a few of those are still around, but not much. It's just like a fraction of a percent.

And the liver is way up on that list as far as resiliency and regenerative capacity. You know, liver donors commonly will give up half or two thirds of their liver, and the rest just fills right back in again. No problem.

So the beautiful thing is that as important as this is, it's also- I guess if you had to pick one part that was important that was broken, that's one you would pick because it can fix really well.

**Shawn Stevenson:** That is crazy that we have that kind of regenerative potential within us, man. Freaking mermen, it's the Aquaman time of life, man.

So let's talk about now what does our liver actually do for us? Because it's such a wide array, it's so fascinating, and I can see why our ancestors really valued and praised this organ.

It's kind of like- again, the heart (ironically) of our health. So let's go through some of those things, let's do some bullet points on what our liver is responsible for.

**Dr. Alan Christianson:** You know, so imagine that we could flip some cards back really fast, and these cards are pictures. So there's a picture of you, there's a picture of your dad, grandpa, great-grandpa, and let's do about 200,000 greats, and let's do about a million greats, and let's do another million greats.

So now we've got single cell organisms, and we've got things that are living in the sea, and they would get the right environment by moving to it, or moving away from the bad environment.

They couldn't control their chemistry. They had permeable cells, and they had to go to where the water was warm enough, to where there was things they could consume, to where it was the right concentration of things, enough sunlight, or they would drift to the right places luckily.

So when we left the sea, this is just like the filter for an aquarium. You know? We kept our liver, and that's how we manage our blood chemistry to be pretty much akin to what sea water is.

And every moment, our blood has to have the right balance of just countless amino acids, and electrolytes, protein derivatives, and carbohydrate byproducts, neurotransmitters, and that's all managed by the liver. So it's all kept in right because of that.

**Shawn Stevenson:** So let's talk more about the blood. So our blood is passing through our liver, correct?

**Dr. Alan Christianson:** Yeah.

**Shawn Stevenson:** How much- what's the rate that it's doing that at?

**Dr. Alan Christianson:** It's fast. So it's a matter of like liters every few seconds. It's just pouring through.

**Shawn Stevenson:** And getting cleaned essentially.

**Dr. Alan Christianson:** And getting cleaned.

**Shawn Stevenson:** Wow, so interesting. So interesting. And also, you mentioned something earlier about its ability to store. So it's not just triglycerides, which I want to talk more about, but nutrients.

**Dr. Alan Christianson:** Yeah.

**Shawn Stevenson:** You said in your book that your liver is like a twenty-four hour grocery / pharmacy. Right? So let's talk about that.

**Dr. Alan Christianson:** You know, I've heard about manufacturing, like the best factories to where they have no inventory. You know? They're putting together a car, and a shipment of tires arrives when they're due for more tires for this car.

And they take them from the FedEx truck - probably not - but right onto the frame.

So our bodies are not like that because we're consuming these building blocks, there's a small number of things that we need from our diet, we have to get the macro and the micronutrients, there's tons of things that we make those things into- that we fabricate those into other byproducts.

But we're only getting a supply every- quite infrequent relative to our constant need. We're using this stuff every second of the day, but the truck only shows up however many times a day. Three, five, whatever the number is, it's not constantly.

**Shawn Stevenson:** It's not always the same thing.

**Dr. Alan Christianson:** It's not always the same thing, that's right. You're not getting what you need in the moment ever, so the liver is the place that stores everything, and directing the things you need in their active state, but also many things that we've got to fabricate.

So it'll build what we need in the moment - the non-essential amino acids, or the neurotransmitters - it's making this stuff up on the fly just constantly.

**Shawn Stevenson:** Wow, so it's our liver that's making these amino acids for us.

**Dr. Alan Christianson:** The non-essentials, it's converting them by and large, yeah.

**Shawn Stevenson:** Wow, so, so cool. It's not just the conversion with amino acids, but also hormones.

**Dr. Alan Christianson:** That's the funny thing. So hormones are so crazy powerful, they're regulated in a lot of ways, and I think about it as regulation by above and below.

So above, your brain has the hypothalamus, the pituitary. My physiology professor said the proper pronunciation is hypothalamus.

**Shawn Stevenson:** We're not worthy.

**Dr. Alan Christianson:** Yeah, so the hypothalamus, the pituitary; they're controlling from above what the glands release. But after the glands release their hormones, they always put out way more than we need when they're working reasonably well.

And also they're making not enough forms that we need. So the thyroid makes a lot of T4 and some T3, but we need lots of T3 and T2. So there's a whole lot of stuff-

**Shawn Stevenson:** Which are the active forms.

**Dr. Alan Christianson:** Exactly. So there's tons of stuff that's in circulation that the liver then takes and activates. That's true for stress hormones, you know? Our adrenals make cortisol and cortisone, and cortisone is almost completely ineffective.

But based upon the tissue needs, our liver can swap cortisol into cortisone and vice versa.

**Shawn Stevenson:** Wow.

**Dr. Alan Christianson:** And that's true for estrogens, and the androgens, and the progestines; they're all really fine-tuned by liver function.

**Shawn Stevenson:** So this is something - and I know you've seen this in hearing stories from patients, working with other people - when they have thyroid issues, they're just focused on the thyroid.

It's something with the thyroid. What about the liver that's doing this conversion? Oh my goodness.

**Dr. Alan Christianson:** Well, and then there's its role upon the immune response. So we've had a lot of good awareness about the gut and the microbiome - it's awesome, it's real stuff - but here's a funny concept. So your gut is not inside your body.

Now imagine that if I had a big tube in my mouth and my butt, like that big around, and I drop my keys there, they'd blow right through, and they would have no interaction with my body.

So your gut is just longer and narrower, but it's the same thing. What's in your gut is not in your body.

**Shawn Stevenson:** It's a tube.

**Dr. Alan Christianson:** It's a tube. When you assimilate what's in your gut, then it's in your body, but the port of entry is your liver, and all things come from the vasculature of your intestinal tract to your liver before it goes anywhere else.

And there are specialized cells called Kupffer cells that are only in the liver, and they're the immune cells that say, "Hey, is it safe outside, or not? What have we got coming in? Do we need to risk an autoimmune response? Do we have to put out more inflammatory chemicals?"

That's all up to the Kupffer cells signaling the rest of the immune system.

**Shawn Stevenson:** And so you mention in the book, specifically in talking about this conversion with hormones, that your liver can literally slow your metabolism by hundreds of calories per day if it's unwell.

And a lot of that, I guess, is a result of its interaction with thyroid and also with cortisol.

**Dr. Alan Christianson:** Yeah.

**Shawn Stevenson:** So that's so fascinating.

**Dr. Alan Christianson:** Well so that's just slowing metabolism, but also how it changes cortisol changes where fuel goes. You know? Whether fuel goes to muscles, or whether more goes to the visceral fat. So yeah, it can change the tracks on the railroad as well.

**Shawn Stevenson:** Right, and the more visceral fat that we develop, the more that changes what our metabolism is actually doing.

**Dr. Alan Christianson:** Exactly.

**Shawn Stevenson:** Oh my goodness. Another thing that- I'm not sure if you mention this in the book, but I had come across in my research a while back, is its relationship with insulin. Right?

So I want to talk about that because I think- not only does it have a front kind of interaction with it, but in the backside, it's responsible for insulin breakdown. So let's talk a little bit about that.

**Dr. Alan Christianson:** Well this is funny. There's a lot of talk now in diabetes research, about diabetes being first and foremost a disease of the liver.

So there's insulin and glucagon, and insulin in the pancreas does a lot of things there before it's used outside the body. And in the pancreas, is what's called an endocrine and an exocrine hormone, meaning it has roles to play in the gland and outside the gland.

And in the pancreas, when it works well, insulin shuts off glucagon production, and glucagon causes the liver to release glucose.

They've shown now that you could take mice that have similar metabolism to humans about blood sugar, and you can have them have no insulin whatsoever.

But if their livers do not respond to glucagon in an exaggerated way, they don't have elevated blood sugar. There's no rise of blood sugar unless you get an over-response to glucagon.

So what insulin should do is get a good spike and then shut off glucagon production, and then the liver should respond to it mildly. But what happens is the liver over-responds to glucagon, and then we see all this glucose that the liver is releasing.

**Shawn Stevenson:** Man, it's nuts. There are so many other things that go in alignment with that, this whole relationship with insulin, and storing or using fat.

But I want to talk a little bit about something that's kind of weird with the liver, which is when we take medication, supplements, all this different stuff that can potentially do some good for us, but there's- chances are, especially with synthetic drugs, some downside.

And I would tell people that it's not necessarily the drug that's doing something, it's how it's really interacting with your liver, and what it's allowing the drug to do.

Because our livers are responsible for drug metabolism in a sense. So let's talk about how our livers are kind of interacting with these random things we're putting in our bodies.

**Dr. Alan Christianson:** You know, that's all spot on. Medications affect it strongly. The other thing is that things affect it in combination in ways that are completely unpredictable, and that can be medication, that can also be supplements.

So supplements that are innocuous, but now there's like six different things, that's all for your liver to process, and I've had many people to where we've seen liver stress, high liver enzymes, and I just had them stop taking so many supplements, and no one of their supplements was thought to be harmful to the liver.

None of them were like just bad ideas, but the collective load was creating inflammation. So yeah, pills completely affect it.

**Shawn Stevenson:** Toxins. Like this is a big catch word today, but we've got- we don't need to be in as much fear as we are. I mean, things are different, and there is some freaky stuff going on, but our livers are so resilient at protecting us from a lot of the toxic exposure.

So let's talk about that role that the liver plays.

**Dr. Alan Christianson:** Yeah, so funny thing. I've got this stuck in my head now from an editor who told me about this, but a toxin is a poison from an animal or a plant.

So mercury is not a toxin, believe it or not. Nor is DDT, nor is perchlorate, nor is [Inaudible 00:31:36]. They're not toxins.

**Shawn Stevenson:** What are they then?

**Dr. Alan Christianson:** Well, I guess toxicants or xenobiotics, but toxicants. It's a funny little distinction. Yeah, so all relevant, and collectively we're exposed to quite a bit. No secret there.

But with exposure- this is bizarre. They know this in toxicology that the rate of symptoms, the rate of harm is never uniform in a population. You know?

**Shawn Stevenson:** That's so true.

**Dr. Alan Christianson:** Yeah, you've got fifty people, they're all in a room, and say there's asbestos that's been off-gassing. They don't all get mesothelioma. You know?

So what we see is that there's exposure, and then there's how much accumulates from one person to the next.

Then there's how that accumulation interacts with the formation of the body's own antioxidants. Totally different from person to person.

And then even after that, there's differences in how it plays out with the mitochondria. So for sure, if we can remove any low-hanging fruit for our toxic burden, that's great.

You know, we can't get to perfect. You can take a sample from half a mile deep in the ice in Antarctica and find DDT in that.

**Shawn Stevenson:** Crazy.

**Dr. Alan Christianson:** So we can't be perfect. So the thing is really, like you said, how do we help our resilience? How do we help our bodies be more resourceful against what we will be exposed to?

**Shawn Stevenson:** Yeah, that's so true. I'm just thinking about people getting exposed to, like you said, some kind of strange gas, and like one person is like shooting projectile vomit out of both ends, and like somebody is just their eyes are watering.

**Dr. Alan Christianson:** Right.

**Shawn Stevenson:** You know? It's just how their body is.

**Dr. Alan Christianson:** And then someone else is like, "What? I don't smell anything." You know?

**Shawn Stevenson:** That is so nuts. Alright, so we've been talking about some of the roles of the liver, and I would love to shift gears a little bit and talk about how our livers can actually get 'clogged.'

So obviously it's probably the burden of all of those things coming together, but I just want to hear from you on it.

**Dr. Alan Christianson:** You know, just that much. So too much to process and it forms a lot of extra fuel. And I mentioned about how there's the two types - the glycogen and triglyceride.

Now they're both important, we need some of both of those. Glycogen is not very concentrated, it's got a lot of water wrapped up in it, and it takes up quite a bit of space.

Just like oil being more dense in terms of its chloric load. So same thing, triglycerides are more dense. However, they require glycogen to burn.

So you can literally have triglyceride crowd out of its space and take away the room to store glycogen effectively, and that's what it means to get it clogged.

There's a lot of extra triglyceride, but there's too little glycogen to burn that triglyceride. Almost like lighter fluid and coals or something.

You need a quick burning thing to get the slow burning thing going.

**Shawn Stevenson:** That's fascinating. So removing these clogs is a big part of the metabolism reset, and with that, there are- before we even get to that, before we get to the kind of how-to, some of the steps to take, I want to talk about fatty liver. Right?

Specifically- so when I think about it, I think about something related to alcohol.

**Dr. Alan Christianson:** Right.

**Shawn Stevenson:** And so you've shared that there is another way that we can get this kind of fatty liver, which is becoming an epidemic that people aren't really talking about.

**Dr. Alan Christianson:** Totally. Huge. So they call that NAFLD, or non-alcoholic fatty liver disease, or syndrome based on how bad it is, and the outlook is just like alcoholic liver disease, but it's someone who like just doesn't drink all that much.

And I mentioned before briefly about how alcohol can also be treated as a fuel. Carbs, fats, ketones, alcohol; to your liver, they all have the same byproduct of oxaloacetate. They're all the same thing at a chemical level.

So what happens with fatty liver is that there's so much triglyceride, it physically makes the liver have a harder time draining blood through it.

And most people have a sense about body fat on a person. Like what? 10% is lean for a guy, and probably too lean for a woman. So for your liver, 5% is too much. Above that, it's fatty liver.

And in medicine, we've got two different ways of looking at things. We can rule things in or rule things out, and ruling- seeing things are easier.

On the way over here, I saw a sign about the mountain lion- kind of celebrating the mountain lion in the area. And I'm sure that they don't see them that much.

Once you see one out on a trail, you know they're around. Right? But if you don't see them, you can't be sure they're not around.

**Shawn Stevenson:** Right.

**Dr. Alan Christianson:** And that's how a lot of diseases are. So what's the rule out? And diseases that aren't easily ruled out fly below the radar.

So in the case of fatty liver, the only definitive rule out, like to burn down the woods for the mountain I guess, is a biopsy. And you never screen healthy people with biopsies, you know?

But the one exception is liver donors. So if someone wants to donate liver tissue, they've ultimately got to do a biopsy to be completely sure they've got healthy liver tissue to give.

But before that, they've already shown that they have no inflammation, no high liver enzymes, they've had an ultrasound, they got a normal liver ultrasound, they're not diabetic, they're a healthy bodyweight.

And after all those hoops, when you take potential liver donors and you give them a biopsy, 40.2% are unable to share tissue because they've got advanced fatty liver disease.

**Shawn Stevenson:** Wow.

**Dr. Alan Christianson:** So in the healthiest populations. And then the other big wrinkle is that- it's on a continuum. Fatty liver disease is on a continuum. You know with diabetes, if you're 127 for your morning fasting glucose, you're diabetic.

So the guy who's 126 isn't all that radically much better, right?

**Shawn Stevenson:** Right.

**Dr. Alan Christianson:** So same thing, this is on a continuum, and everyone who's had blood tests, they get liver enzymes done. That's like every blood panel has that.

And most labs say you're normal up to about mid-forties to low-sixties. But the data is completely conclusive that if you're a woman and you're above nineteen, there's something's wrong.

And of course it could be a lot of things - medications, hidden hepatitis - but barring the less common causes, it's early fatty liver. So any listeners that can look back at a last blood test and just look at their chemistry panel, there's a thing called an ALT, and that's specific to liver function.

And for a woman, if that's above nineteen, or for a man, if that's above thirty, there's a problem. And that's smack dab in the center of the normal range.

**Shawn Stevenson:** And this can be leading to issues with weight, this can be leading to issues with inflammation, and autoimmunity, and the list goes on and on.

**Dr. Alan Christianson:** Yeah.

**Shawn Stevenson:** Wow. Let's talk more about these different fuels, because now we're kind of getting into some of the how-to. Like what does the liver really require and run well on? And what can kind of over-burden it faster?

So one of the things you talk about- because there's been a lot of diets that they're so hyper focused on carbs or fats, and they're not talking about proteins as much, and you talk about the importance of protein for the liver.

**Dr. Alan Christianson:** You know, that's the big pitfall, is that it's no magic trick to drop a few pounds. Anytime you really lower your food intake, you drop a few pounds. If you cut out a big food category, you drop a few pounds.

But it's really about your body composition, and about your lean body mass. You know, it's funny, your liver and your muscles have a lot of things in common, and this is one of them.

So your liver needs to have essential amino acids to get rid of the junk that's stored inside of it. It has one group of pathways called phase one, and that's a group that a lot of things trigger it easily.

That's how you take toxins and you move them out of your storage, or you chemically change them to make them more volatile. So you get them ready to get out.

But then phase two, you package them out and you ship them out. And the problem is we get too much phase one and too little phase two, and we make things more harmful, and don't get them out.

So if we just lower our food intake, and our protein goes down with it, we may drop some pounds but we're losing muscle mass. We've got to use the muscles to get those proteins to the liver, and then liver may not recover or get healthy from that.

So the trick is how do you collectively lower that burden of extra fuel - the carbs and the fats - but still maintain a healthy amount of protein so the liver can heal itself and start functioning better again?

**Shawn Stevenson:** Yes. Yes, so we've got proteins, what about fats? How does that interact with the liver?

**Dr. Alan Christianson:** Yeah, so they're a version of fuel, and we need to have triglycerides and glycogen. Now triglycerides are the most easy to produce. You can make extra carbs, fats, ketones, or alcohol into triglycerides. Everything can spill over to triglycerides if there's too much.

Glycogen you can only make some carbohydrate. So a pitfall about say being ketogenic, for example. Funny thing, people think about being ketogenic because it's burning fat.

It's the antithesis. It's when your body cannot burn fat that you go into ketosis. So your liver can't use ketones for fuel, and if there's more than it needs, it just siphons them off into triglycerides the same way it would with fructose, or sugar, or anything else.

**Shawn Stevenson:** This is controversial, I like it. I like it! So let's talk more about that, and the role with the ketones and the liver. Because you just mentioned that the liver can't use ketones as fuel.

**Dr. Alan Christianson:** Correct.

**Shawn Stevenson:** And there's a lot of processes it needs to take care of.

**Dr. Alan Christianson:** Right, it's doing everything. And so in the absence of carbohydrate, it cannot make glycogen. And so remember we talked about all the ways that fat is a deceiving term?

So there's lipolysis and there's beta oxidation. So there's breaking down stored fat, and there's actually using fat for energy. And beta oxidation is what we want to do, because that means your body is taking fat, and it's got some way to actually get rid of it.

And we can't do bet oxidation without some glycogen. And so ketosis is what happens when we're not keeping up with beta oxidation. We're taking that same fat and not burning it, but making it into a ketone body, and that's just rearranging the fuel type.

That's going from diesel to unleaded, but it's still not burned.

**Shawn Stevenson:** Ah, this is- listen, there are so many different interesting aspects of what the liver is doing. It's just- and this is happening all the time. You know?

As you mentioned, just being this store house. So when we're eating, all of these decisions are getting made. It's just like- it's so fascinating and interesting to me.

So we've got proteins, fats, we talked a little bit about ketones. Something you've mentioned a couple of times, which I definitely want to talk about because- and this might hit people's heart strings a little bit, but alcohol.

I think you mention in the book, it has the fastest track towards what?

**Dr. Alan Christianson:** You know, I've taken a lot of heat for this for many years, but the science has been clear that alcohol has no health benefits, and that's gotten conclusive now.

**Shawn Stevenson:** Oh, that's a strong statement. Oh my goodness.

**Dr. Alan Christianson:** Let me go deeper in that. So for a while, it looked like people that consumed some alcohol were healthier than those that consumed none, and especially in terms of cardiovascular death.

But what happened was- let me make a quick parallel. For a while we thought that people who were thin were unhealthy, because some of them died earlier.

Then they realized, "Hey wait, a lot of thin people are smokers, or they have cancer." So they skewed the results. And with alcohol, they found a similar problem.

So a lot of the people who don't drink, there's two different categories. There's those who have no medical reason not to drink, but they don't drink. And there's those who have medical reasons not to drink, and the second group has health challenges.

Perhaps they were alcoholics, or perhaps they have known liver disease, or they're on medications that are not compatible with alcohol, or any other number of problems.

But those who medically cannot drink, they do have more mortality than healthy light drinkers. But healthy non-drinkers have less mortality than healthy light drinkers. It's just straight shot, all the way down, with less mortality.

And the earliest thing that shows up is breast cancer risk elevates. So even a small fraction of a serving for women does start to raise breast cancer risks over time.

And there's a threshold at which the risks are not astronomical, but there's never zero, and the best evidence we have is that there's just not health benefits in terms of heart health, or brain aging, or any of the other supposed benefits from it.

**Shawn Stevenson:** Okay, I opened up this Pandora's Box. You know, there are some people right now, of course they're walking, listening to the podcast- just shout-out to everybody. Shout-out to everybody listening right now, and taking me with you on your drive, or into the gym, doing laundry.

Shout-out to all the kids that are listening as well right now with their parents. I appreciate you guys, but some people are kicking back having a nice glass of red right now, and they're like, "Wait a minute. So the resveratrol is not going to keep me around for an extra fifty years?"

**Dr. Alan Christianson:** You know, like Leslie Nielsen said, we take risks every day of our life whenever we get out of bed, or whenever we stick our tongue in a fan, we're taking risks.

**Shawn Stevenson:** So true. So true. I love it.

**Dr. Alan Christianson:** No, there are things we do that are not serving our health that are probably negligible, that may be worth the enjoyment, that may give us more positive emotional things than there are negatives.

But people should know that alcohol is in that category, that it's not a health food.

**Shawn Stevenson:** Yeah, especially in the context of our liver. Like we know this already that your liver is bearing the burden, and if we're trying to get your liver healthy, this might be something to at least maybe take a dry four-week detox, like you advocate for in the book, and just get your liver back to a state of health where it can even handle this stuff a little bit better with a healthy lifestyle and having a glass or two of your favorite red here and there.

It's not going to take you out necessarily, but I just want people to understand that - you just said it - it's not a health food. So just to be more mindful of it, and that your liver is bearing this burden.

So man, so many great things to talk about, and I want to talk a little bit more about some specific nutrients that are key to our liver health, some foods that we really need to target that a lot of folks aren't talking about, and we'll do that right after this quick break. So sit tight, and we'll be right back.

Alright we're back and we're talking with New York Times bestselling author, and my friend, Dr. Alan Christianson. He's got a new book, 'The Metabolism Reset Diet.'

We've been talking about metabolism and the miraculous role that our livers plays - live - liver plays in us being alive, and healthy, and vibrant.

And before the break I mentioned that we're going to talk about some specific nutrients and foods that are essential for our liver function. So let's talk about some of these key nutrients that your liver needs to do what it has to do.

**Dr. Alan Christianson:** You know, the list is pretty much the list of essential nutrients, but some things are more commonly barriers than others. Magnesium comes up a lot, for example, and there's a lot of other cofactors we'll find.

Things like butane that we get from a big variety of foods. Also there's relevance of micronutrients like zinc. Those are a couple ones that are commonly lacking, and ones that it needs but often do end up in short supply from.

**Shawn Stevenson:** Let's talk about butane because that doesn't come up a lot.

**Dr. Alan Christianson:** Yeah, so do you know the highest source of butane in the common diet?

**Shawn Stevenson:** No idea.

**Dr. Alan Christianson:** Well, it's actually wheat.

**Shawn Stevenson:** Wheat. Wheat.

**Dr. Alan Christianson:** Not always everyone's favorite or best source, but beets always are top of mind. You know, beets are rich in that, but wheat is actually the highest dietary source typically, quite a bit more.

**Shawn Stevenson:** Because I immediately thought about beets, but I was like, "It can't be the highest."

**Dr. Alan Christianson:** It is. Well, they're not the highest, but they are a high source.

**Shawn Stevenson:** Especially in the role- especially with the data coming out about the impact on the cardiovascular system with the beets, and what it can do for our blood.

**Dr. Alan Christianson:** Yeah.

**Shawn Stevenson:** So yeah, and just again, lots of stuff to add in. There's a lot of sources that you can find some butane. But what specifically is this going to do? Why does our liver need butane?

**Dr. Alan Christianson:** Well, a lot of its reactions involve adding on a methyl group, it's called methylation, and butane is critical for many of those pathways.

This is big in terms of how the liver interacts with brain chemicals. So we don't think about this a lot, but most of what happens in our brain with neurotransmitters starts in the gut and gets set up in the liver and prepared, and then sent directly to the brain, and methylation is critical for much of that.

**Shawn Stevenson:** Wow. Methylation, this is critical for everything about us. You know? Our cells, our DNA, and butane is critical in that process.

guess Well, the most weird thing about methylation is how things help it, but also what can harm it. So methylation, imagine it like methyl groups as being a key, and a key is made to fit the right lock. Right?

So what happens when you get a key that's made that doesn't come out quite right? You know, maybe it almost fits and you can't quite turn the lock, and worst case scenario, it might break off.

**Shawn Stevenson:** Right.

**Dr. Alan Christianson:** And now you can't get the right key back in. So that's folic acid. So as important as methylation is, the antagonist of that for many people is folic acid. So it can be an out and out poison for somewhere around 40% of the population based upon their gene differences.

**Shawn Stevenson:** That's nuts.

**Dr. Alan Christianson:** Yeah.

**Shawn Stevenson:** That's nuts.

**Dr. Alan Christianson:** And that's probably a lot of the harm we see from processed foods. It may not even be the food itself, but the folic acid that is synthetically added into it.

**Shawn Stevenson:** Right, which is different from folate.

**Dr. Alan Christianson:** Correct. Yeah, folate and folic acid, and naturally occurring folate; they're different chemicals.

**Shawn Stevenson:** Yeah, and we need that quite a bit. Alright so now let's talk about foods, and as a matter of fact, let me pull this up in your book because I thought this was so fascinating.

And this is a food that has been drug through the mud a bit, and you know, there are some issues potentially with lectins, and with the preparation of these foods, but when prepared correctly these can actually add some years to your life.

So you have here, this was a study that tracked over 10,000 participants for nine years, one ounce of legumes with resistant starch each day lowered mortality rate more than any other food group.

And one ounce of beans lowered the death risk by more than 8.5 ounces of vegetables. Beans are going to keep you around longer. Holy smokes.

**Dr. Alan Christianson:** Yeah. Yeah, so well-studied. And this is a funny thing. So beans have lectins, they have phytic acid, and there's a lot of things that you can find in foods that if you would take them and purify them, they would kill cells in a test tube, or they would make a rat puke.

But how they work in foods is completely different. And the odd thing is that a lot of the same scary chemicals- we're not consistent with how we treat them.

Sometimes we like them, sometimes we're afraid of them. You know, broccoli has glucosinolates. It's way more poisonous than any lectin you could imagine. It's an insecticide. If you could purify that, it would be- you couldn't legally sell it anywhere.

It's completely poisonous, but the amounts in food just happen to be enough to freak our livers out and think, "Oh wow, there's some creepy stuff around here. I've got to beef up and get ready." You know?

So we call this hormesis, and things that are toxic but are in miniscule quantities in the context of many other chemical messengers may be helpful for us, and we often lose the bigger picture of that.

**Shawn Stevenson:** And also the people that talk about lectins, like Dr. Steven Gundry for example, he's an advocate of beans. It's just for him, it's the preparation.

You know, doing it more of kind of a traditional manner which is soaking them and/or using a pressure cooker.

**Dr. Alan Christianson:** Well, and cooking them.

**Shawn Stevenson:** Yeah, it makes it more digestible, cooking them properly.

**Dr. Alan Christianson:** The truth about the danger of lectins is that you can take a quarter cup of uncooked red kidney beans, and chew them up, and get sick from that. No debates about that.

But the way we actually cook foods and consume them, it's a real non-issue.

**Shawn Stevenson:** Yeah. Yeah, also when I think- and you mentioned earlier when you mentioned wheat, I thought about amylopectin-A, which we have enzymes that can kind of break this down relatively quickly.

But amylopectin-B, which is found in beans, can make it a little bit more interesting with digestion, but it's feeding our microbiome, our gut bugs.

And this is one of the things you talk about with resistant starch. This is critical for healing our liver function. So let's talk about the resistant starch.

**Dr. Alan Christianson:** So that's exciting stuff. You know, it's a type of carbohydrate and it's also a type of fiber. It like straddles the definitions.

And it's- let me back up a little bit. So when I first learned about this, the worst condition for regulation of blood sugar is a thing called glycogen storage disease.

So some people genetically cannot make glycogen, and there's a spectrum of this. The worst versions of it, someone who has it that doesn't eat for an hour or so, can go into a coma.

I mentioned how we're not eating as we're talking. So if someone had glycogen storage disease, they can't internally control that. They can't prop their blood sugar up between meals. And yeah, they can go into a coma after a couple hours of not eating.

And that had been just the biggest enigma. So imagine if a child had that, no one in the family could sleep. You can't just go to sleep at night. That would be fatal. You've got to wake the child up and feed them every hour and a half.

And some researchers learned about these newly discovered compounds called resistant starches, and they thought about how the body breaks down glucose.

And you can take a chain of glucose apart really fast, but when there's a lot of branches, it takes longer. And they thought, "I wonder if that might give them- buy them more time because it's done in the large intestine and not absorbed in the small intestine."

And they went and got over-the-counter cornstarch and gave people spoonfuls of cornstarch because it's got a lot of amylopectin, and saw that they could get six to seven hours of stable blood sugar for the first time in recorded history.

So then they found better versions of resistant starch and they saw that you can have seven to nine hours of rock solid blood sugar by consuming that. And these results will show up even as much as a day later.

**Shawn Stevenson:** That's so cool.

**Dr. Alan Christianson:** Yeah.

**Shawn Stevenson:** So there are a ton of different sources for resistant starches, but some are better than others obviously. What do you think of tiger nuts?

**Dr. Alan Christianson:** They've got some. They're a cool food, and they're definitely one of the sources of resistant starch.

**Shawn Stevenson:** First of all, when I first heard the name I was like, "Wait a minute."

**Dr. Alan Christianson:** So no tigers are involved.

**Shawn Stevenson:** And so we've got that, but also in the book you talk about several other sources. Green bananas?

**Dr. Alan Christianson:** Yeah, yeah. Well, and the peels too. The peels have a ton of that.

**Shawn Stevenson:** Wait a minute. So keep the peel, throw it in the- let's shift gears now. I think this is a good segue.

**Dr. Alan Christianson:** Banana peels.

**Shawn Stevenson:** To talking about why you're advocating on your metabolism reset diet for folks to consume some specific smoothies. You know? Smoothies have been up and down in popularity, but for me, I always thought it was such a great bridge because we can just create so much nourishment in one go if we do it right.

There's no need to overdo it, like we can get kind of crazy with it, but just getting some of the basic stuff in there that we really need in a way that- and also it's pretty easy to make it taste good. You know?

And it's just such a good on ramp for people. So let me know some of the research that you have, just on using shakes as far as kind of managing our health and our weight.

**Dr. Alan Christianson:** Well, so one big thing is about this trick of getting the protein without being overloaded with fuel.

You know, a lot of foods have protein, but the pitfall is that many have a lot of carbs or fat built in as well. And so to get that ratio right, it's easy to use some good plant foods and then some quality proteins.

The other big thing about shakes is that there's been so much research in this concept of decision fatigue, and it looks like with dieting, diets are not harder based on how much food they have you cut out.

They're harder to do based upon their complexity. The more things you've got to figure out at each meal, the less apt you are to have adherence.

Even if you cut out more food but it's drop dead simple, it's easier to stick with. It's been shown over and over again.

So my idea is you make a giant shake in the morning, and you have half of that for your breakfast, you do another half of that for your lunch, and then here's how to make a good dinner, and that's it for your time.

And that's not your long-term way of doing it, but for a short window of time done correctly, that can reset the liver function.

**Shawn Stevenson:** Okay, alright so this sounds very similar to Slim Fast, which we talked about before the show because that was like the first thing I did.

And the marketing, it worked minus the fact that - and the decision fatigue was not an issue - but minus the fact that I wasn't really getting the nourishment that I really needed to make it sustainable.

**Dr. Alan Christianson:** It was corn syrup and corn oil

**Shawn Stevenson:** Right, and some pink Pepto Bismol I think was in there. I don't know. But so this is so different and health-affirming because of the nutrition that's going into these shakes. Right?

**Dr. Alan Christianson:** Yeah. But you're right, the simplicity of it is a big part of the success behind that. There's lots of evidence saying that shakes as meal replacement is an effective strategy.

**Shawn Stevenson:** Yeah. Yeah, I love it. And so you mentioned earlier with the resistant starch- so you mentioned one of the ways was frozen banana with the peel.

**Dr. Alan Christianson:** Yeah.

**Shawn Stevenson:** You know, going in there as a source of resistant starch. And you've got some other stuff- some other interesting tricks and tools of the trade in the book.

So is there anything else important for folks to keep in mind when they're creating their shakes? So when I hear the term green smoothie, I really think like, "It's green. Like focus on that part of it."

So is there anything else we should know?

**Dr. Alan Christianson:** You know, just- that's a great point. You can throw a lot of good things in there that have minimal impact upon taste, but lots of great impact upon nutrition.

So you want to get adequate protein for liver function. You want to have some fuel, not none. Resistant starch is really helpful.

I talked a bit about how the liver modulates what comes from the gut, and it turns out that the way liver makes bile is one of the biggest thing that determines whether or not there's leaky gut.

So we used to think that leaky gut hurt the liver. Now we're seeing is the liver is one of the biggest causes of leaky gut. And when the flora give the liver the short chain fats that it needs, that's a big part of reversing it.

**Shawn Stevenson:** So fiber?

**Dr. Alan Christianson:** Well, so this is a funny thing. So resistant starch is a category- it's a type of fiber, and then the fiber itself is a category.

So one of my projects is that I want fiber not to be a singular word anymore. It's got to be a plural word, it's a category.

**Shawn Stevenson:** Like fat.

**Dr. Alan Christianson:** Well, there's about sixteen kinds of dietary fibers, and I'd love people to really have their body get healthy, and get resilient, and be able to eat a broad range of natural food categories.

If you cover all the main food categories, you can get sixteen types of fibers. If you're cutting out a lot of food categories, you cannot get more than a handful of fiber types.

**Shawn Stevenson:** Interesting, so true. I mean, saw dust is fiber. You know?

**Dr. Alan Christianson:** Well it's cellulose. It's not digestible and not useful for our flora.

**Shawn Stevenson:** It's going to brush through there. You know? Maybe get a couple splinters. But yeah, so there's different types of fibers, resistant starch is under that umbrella?

**Dr. Alan Christianson:** It's straddled between fiber and carbohydrate. So fiber is non-caloric and not useful for fuel directly. Resistant starch is but by half. So it's half the caloric load of carbohydrate, but it feeds the flora and it comes in the bloodstream from the colon versus the small intestine. So there's no insulin signaling or no glucose regulation.

**Shawn Stevenson:** Resistant starch.

**Dr. Alan Christianson:** Yeah.

**Shawn Stevenson:** That's so fascinating. Alright, so in addition to the dietary data, which I think everybody needs to know this. Like I said, when I did this episode a couple years back, this master class on the liver, I was like, "Why is there not a book just talking about this stuff?"

It's all in here, and you also give the protocol itself, the four-week liver detox, but you have some adjuncts, you have some additional things that go hand-in-hand with the nutrition side, and you talk about the importance of sleep, micro workouts, and lowering your chemical burden.

So I want to go through those three things before we wrap up. So let's talk about sleep. Why does that matter with this?

**Dr. Alan Christianson:** So yeah, kudos to you for doing some work on that, and for a great book on that topic. That's super important, and it turns out that's when the liver takes the time to do a lot of its fixing and repairing.

So if you're not getting adequate deep restorative sleep, this doesn't come around that much, and many have a full-on sleep debt that's built up interest.

**Shawn Stevenson:** Right. Right, they owe big time. So and you mentioned obviously- so some folks work out too much.

**Dr. Alan Christianson:** Well, so the twenty-eight days, the important point is what it takes to fix something is not always the same as what it takes to keep it from getting broken. You know?

Like Humpty Dumpty fell off the wall, right? And maybe a seatbelt would have kept him on, but he needs glue after he's broken. Right?

So the twenty-eight days are not what I say are perfect for everyday day-to-day life ad and finitum. I love exercising.

**Shawn Stevenson:** Yes.

**Dr. Alan Christianson:** But when you're training hard, your liver is working in ways to where it can't really tap into the stuck doors as effectively. So I encourage people to lower their training load so they can do better on less fuel during that brief window.

But I don't want their muscles to check out. So yeah, I threw in some micro workouts, so it's just enough to keep their muscles activated and taking up protein and taking up nourishment so that when it's all said and done, they're still around and they're still healthy.

**Shawn Stevenson:** Absolutely, and when you mentioned you're an advocate of exercise- first time I met you in person, I think you had just come from- what were you doing?

Because I thought it was hiking in my mind, it was not that crazy, but were you scaling some rocks? Was that it?

**Dr. Alan Christianson:** It could have been vertical rock. I'm a climber. I climb rock. That or it could be mountain unicycling. I might have mentioned that, I don't know.

**Shawn Stevenson:** Unicycling?

**Dr. Alan Christianson:** Yeah.

**Shawn Stevenson:** On a mountain?

**Dr. Alan Christianson:** So when you see people ride hardcore mountain bike trails, my favorite thing- my son and I go through this. We love nothing better than to cruise up next to them and say, "Oh that's cute, you've got a training wheel on there."

**Shawn Stevenson:** That's not right. That's not right. You are off the chains, I love it. So we've got micro workouts, which you detail in the book, and they're pretty simple. And you give a good schedule of course for people to follow.

But I want to finish by talking about lowering our chemical burden. Right? This is something that I think is hiding in plain sight, and something that we can do a little bit about. So let's talk about why is that included here?

**Dr. Alan Christianson:** You know, it's just really that, about giving the liver less work to do. And we hear a lot of ideas about detox, so I talk quite a bit about pretox. You know? Rather than cleaning out the dirty water, keeping the water from getting dirty in the first place.

And these are simple things. The biggest source of pollution we get exposed to by far is indoor air in terms of the quantity and the actual massive chemicals that come in our bodies.

We think a lot about our food, and it's of course important, but it's completely dwarfed by what we ingest from our day-to-day air and air backgrounds.

**Shawn Stevenson:** Oxygen is our number one nutrient, and it's a carrier now. You know? Especially- it's kind of processed. We think about processed food. Wow, that's so fascinating.

So what should we do? You know? Open a window, for example?

**Dr. Alan Christianson:** You know, honestly you could be in some of the most air polluted parts of the world, and with an open window make things better inside than they were before you opened the window. So yeah, having some ventilation is super important.

**Shawn Stevenson:** Is there anything else as far as our environment to be mindful of? Maybe some- I don't know if somebody's just like heavy on the Drakkar Noir and the Burberry? I don't know. Anything else that we should be mindful of that might be something to just kind of move to the side during this detox?

**Dr. Alan Christianson:** You know, that's relevant. Indoor cleaning compounds, especially bleach derivatives have a lot of data showing that they're quite harmful for the lungs, and the relevance there is the lungs form an internal antioxidant called glutathione, and their ability to make that has direct impacts upon the liver's formation of its glutathione.

So yeah, a lot of cleaning compounds indoors are using bleach derivatives. I think some of the powder cleansers or spray-on cleansers, and yeah, just very harsh on depleting glutathione from the body.

**Shawn Stevenson:** And it's super antioxidant. Right? It's given this label. Wow, so good. There are so many other things I want to ask you about, and I'm just so grateful for you taking the time and energy to put this together, and to answer my wish for a book on the subject.

And I just think you're incredible, and so just thank you so much for coming and hanging out with me.

**Dr. Alan Christianson:** You know, always a big fan of your work, and just always glad to spend time with you, Shawn. And cool stuff, keep it up.

**Shawn Stevenson:** Thank you, thank you, I receive that. So can you let everybody know where they can pick up the brand new book, and where they can connect with you online?

**Dr. Alan Christianson:** For sure. You know, the book is an easy thing, wherever you get books normally. For most folks these days, that's Amazon, but bookstores are nice too and they need love, so bookstores have it.

And [www.DrChristianson.com](http://www.DrChristianson.com). For those who wish, we've got a seven-day challenge going on where they can try the whole twenty-eight day thing out. We've got a real detailed version they can try out for free and see if it's going to be helpful for them.

**Shawn Stevenson:** Perfect. Alright, Alan, this has been so incredible. Final question for you. What is the model that you're here to set for other people with how you live your life personally? Alright?

So I picture you rolling past on the unicycle on the mountain, and I'm just like, "What? Is this a thing?" But you're really just setting an incredible example.

And so for you personally though, what is the model you're setting with how you live your life personally?

**Dr. Alan Christianson:** You know, my best self when I'm doing things the way I would like, which more often than not I would think, is being connected with something that matters. You know? Feeling like I'm making a difference in some way.

And for some people, they're off saving the world quite literally, and for others of us that means helping our kids have a little bit better view of themselves, or helping them have a more positive outlook about their future, or those like yourself who are reaching a larger audience, helping them see what is possible and to realize that the barriers may not really be barriers.

So I'd say it's that, it's living in omission and being connected with that.

**Shawn Stevenson:** Perfect. Dr. Alan Christianson, thank you so much.

**Dr. Alan Christianson:** Thanks for having me, Shawn.

**Shawn Stevenson:** Everybody, thank you so much for tuning into the show today. I hope you got a lot of value out of this. One of the smartest people that I know and such an incredible book.

And really that master class and so much more put into this treatise on an organ that has so much importance that's it's just really overlooked.

And again, I think that we've been barking up the wrong tree in a lot of our conventional treatment for issues over the years. You know?

We mentioned briefly about thyroid conditions, and if something's broke we tend to just look right at that area, and we don't look up or downstream at what might be causing the issue in the first place.

And this is the word 'holistic.' You know? It's kind of been given a little bit of a kind of airy-fairy context, but it really means whole, the whole person.

And we can't look at ourselves in isolation, but we do need to look at some of these things that- again are hiding in plain sight. Our liver is incredibly important and protective, and it's not something that we can easily take a peek at, but we definitely want to pay attention to supporting our liver function.

Just like with our brain, just like with our heart. This matters, you know? And this is one of the organs that is often considered a second brain in and of itself. And so I definitely recommend picking up 'The Metabolism Reset Diet.'

And right now, listen, this is just getting started. Alright? We're just getting warmed up. We've got so many incredible episodes coming your way.

But if you got a lot of value out of this episode, please share it out with the people that you care about on social media. Tag me, I'm @ShawnModel, and let me know what you thought about the episode.

And again, lots of good stuff coming your way, so be ready. Alright? Take care, have an amazing day, and I'll talk with you soon.

And for more after the show, make sure to head over to [www.TheModelHealthShow.com](http://www.TheModelHealthShow.com). That's where you can find all of the show notes, you can find transcriptions, videos for each episode, and if you've got a comment you can leave me a comment there as well.

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And take care, I promise to keep giving you more powerful, empowering, great content to help you transform your life. Thanks for tuning in.