OZEMPIC: How GLP-1 Agonists Are Changing Obesity Care with Dr. Spencer Nadolsky

These medicines basically go zoo hit these receptors in your brain and you go you know what Not only did I eat a a smaller portion that I usually do I could take it or leave that dessert And it's what the patients describe They all say the same thing we've had I've had thousands of of patients We have tens of thousands of patients Uh they all say the same thing like they still like it They can eat it if they want to but they can take it or leave it They just don't want it anymore They don't have the strong desire that strong itch that they have to scratch they don't have it anymore They can just take it or leave And what they say is that is this what it finally feels like to feel normal What it feels like to be someone who lives in a smaller body of a body that doesn't have to fight tooth and nail white knuckle every single day to to not eat those types of foods It's remarkable GLP one agonists medications have been a popular topic of discussion recently All this class of drugs has been prescribed for the treatment of type two diabetes and has recently been approved for the treatment of obesity G LP one agonists like Ozempic have made their way into Hollywood and quickly became popular among the stars which led a lot of people to question their safety as well as their long term use Are G LP one agony a quick fix for weight loss or a lifetime prescription What happens to a person's weight after they come off this medication Who should be prescribed this medicine And what are the possible side effects Hi I'm Ashley Reaver And in this episode of Longevity by design Doctor Blender and I sit down with Doctor Spencer Nadolski an obesity and lipid specialist physician We have a fascinating conversation about G LP on agony He explains how the medications cause weight loss how they interact with brain chemistry and answers questions about their safety Doctor Nadolski also discusses who should take this medicine how different individuals require different treatment protocols as well as their long term implications Spencer has many patients who have successfully used G LP One Agonist drugs and he is very knowledgeable about their current use as well as their future potential In addition to our conversation about G LP one agonist this episode talks about various aspects of metabolism Gives his opinion on the question is obesity a choice describes how our environment impacts our food choices Additionally we talk about a ob insulin resistance and much more we also cover the importance of weight lifting and why he prescribes this to his

patients Lastly he is a great follow on Instagram This episode was packed and I hope that you enjoy it to support longevity by design Please rate and review the podcast Welcome to Longevity by design a podcast designed to give individuals access to the leading scientific information in the field of longevity The ability to add years to your life and life to your years needs no opinion Join us as we ask science to take the wheel in each episode Dr Gil B Lander joins a co-host and an industry expert in the field of longevity shining a light and getting the answers to the key question How can we live a longer healthier life Ok Ready Hello I'm Ashley Reer and I'm joined by Doctor Gail Blander Welcome to Longevity by Design How to live a long longer healthier life Sorry I'm gonna start over I've said that 75,000 times Hello I'm Ashley River and I'm joined by Doctor Gail B Lander Welcome to Longevity by Design How to live a longer healthier life or produced by inside tracker Your science based guide to optimizing your body from the inside out Our guest today is Doctor Spencer Nadolski Doctor Nadolski is an obesity and lipid specialist physician with a passion for improving patient outcomes through innovative solutions as the medical director for Sequence and online Comprehensive Obesity Management program owned by Weight Watchers He is committed to developing cutting edge programs that transform the way health care is delivered with a background in telemedicine and fitness coaching Spencer brings a unique perspective to the digital health care space Welcome Thanks for having me So er welcome Spencer We are very excited to host a physician that uh deal with obesity and other weight related issues which which are a big issue in America And we always like to start by asking our guests question about what made them decided to become a scientist or we know a example to be become a a physician Yeah So I was always into sports I grew up in an academically and athletically minded family Dad was a biology teacher and wrestling coach My mom was an elementary school teacher older brother smart guy He's an endocrinologist actually very good athletics as well But I was his younger brother and we I just growing up I was like you know what I really want to be good at sports I can't rely on my genetics You gotta actually work hard But I also wanted to use science to get better using nutrition and exercise science So I actually did really well Uh not at first but throughout high school got really good at wrestling and football ended up um uh wrestling at UN C Chapel Hill as their heavyweight did pretty well there I went to medical school and everybody thought you should be an orthopedic doctor You're the big strong guy kind of like a stereotypical thing And I was like no no no that doesn't

really get me going II I thought you know if I could just take a fraction of my passion for getting better at uh performance and helping people use that fraction just to prevent or even put into remission or type two diabetes Get out of pain Uh that would be fulfilling to me So instead of getting people going from like a a £300 bench press to a £400 bench press or going from a six minute mile to under a five minute mile He was like how about we get people to just walk for 10 minutes in the first place after being sedentary How about we get people to do their first push up type of thing and and that really was fulfilling So you go through a medical school and then you you gotta pick your specialty after that and go to residency And ultimately that's um it it it proved to be what I I really like to do II I didn't care about helping people that were in my same shoes I liked helping people that uh we're just gonna go from nothing to just something and really improve their life by a lot as opposed to incremental improvements in performance So that's really what got me into that And then the the telemedicine thing was a whole another story but basically understanding that our current uh health care system is a bit archaic in the way that we treated people Um I can go into that if you want but that's that's kind of that tech later in my life tech stuff And how about um as a lipid specialist Was that something that you were interested in before or something that also came later Yeah Yeah it fits into the whole cardiometabolic uh picture Um There's no cardiometabolic medicine especially right now they're talking about it But imagine like uh there's lifestyle at a at a base and then you have like obesity medicine and and lipidology You can go into cardiology but cardiologists learn pretty much like lipids and uh they also have something called electrophysiology like the electricity through the heart and how the heart beats I'm not interested in that stuff I'm more interested in the atherosclerosis and preventing that and treating that Whereas I also like endocrinology but they also go into things beyond uh let's say uh metabolic syndrome they go into thyroid cancers and pituitary disorders that like yeah they're kind of interesting but I I don't like that So cardio metabolic medicine combines like lifestyle obesity medicine lipids and the the the stuff of endocrine that I really like and the stuff of cardi alia I really like So I had to kind of niche out my own little uh a specialty I think it and I think in the future there'll be its own specialty They're talking about it But um so the lipids fit in there That's excellent And uh we we would like to um maybe switch gear and talk about the metabolic and what is metabolism and all of that So maybe if we can start by you explaining what what is what is the meaning of the word

metabolism and and describe what does it mean to be in a good metabolic state Yeah Well when you think about like metabolism and it just colloquially like if you ask a patient like what do you know about metabolism They'll they'll talk about how many calories they burn But like it really comes down to the the the little chemical processes all the little processes that are going on in her body whether it's like our osteoblasts making bones or or or our little enzymes breaking down lipoproteins all these different little things in our body that are going on our our muscles working our our organs doing their jobs So all those little metabolic processes make up our metabolism and there's different components of our our metabolism If you're thinking about how many calories we we burn there's your basal metabolic rate how how much you would burn just being alive and then there's like thermic effect of food like how much how many calories you burn while digesting and those types of components and exercise and all that stuff But like metabolism itself is just like the processes in our in our body So when you think about like what what is metabolic health Like what does that mean Well it would mean that I don't know if you wanna say optimal but like there's certain parts of our metabolism that are uh would be considered normal or if you are things are going wrong could be pathological So like for instance poor metabolic health is somebody with type two diabetes they're insulin resistant They're the the components related to their insulin of their metabolism aren't working as as they should So somebody with good metabolic health all the processes are working as uh it was intended to that's kind of the gist Yeah And by the way we like the world optimal So please continue it We strongly believe that there was a normal but there was optimal and nobody no one is Boeing So everyone should be in the optimal state Ideally 100% agree with you about that Uh And uh uh we would like uh if we are er er in in into metabolism we would like to discuss our diet impact the glucose regulation which is a very important part of uh uh metabolism and and uh why uh a metabolic function is critical for a health spa Um So I I would like er er to start by maybe if you can uh uh shed the light on the key mechanism uh by which a food intake influence the regulation of the glucose in the body Yeah So you know you learn in medical school how like you eat something some sort of food containing carbohydrate Uh it gets broken down into glucose for the most part glucose there's other sugars but turns into glucose gets into your bloodstream and the the glucose can't automatically get into your cells whether it's your fat or your muscle it can a little bit But uh it needs this what I would call like a key

and that would be insulin So your pancreas uh senses the glucose in your blood and sends out this key and the keys go to you know they're we they're glute force uh glucose transporters But like we always talk about my brother and I kind of came up with this analogy where the key of insulin goes and turns on these little sugar trucks in your cells The sugar trucks come out grab the glucose and bring them back into the cell So that's that's generally how it works when you eat some sort of food Now the thing is though the issue becomes when those sugar trucks don't work as well The key is not working as well that maybe there's something jammed in the ignition maybe the battery of the sugar trucks aren't working quite as well Something's going on to where the that key of insulin isn't getting those sugar trucks out there That's where you start seeing the rise in your blood sugar start going up and up and up Um And I know we're gonna talk about insulin and measuring insulin but like you know so your pancreas if if your blood sugar is still going up and up and up your pancreas may go hey we need to send more keys Why is why is the blood sugar going up and still sometimes that doesn't work because there's something in the ignition or the batteries are dead or that type of thing That's the gist of of food and insulin and and glucose metabolism Um We can go into a little bit more of why that happens and why I'm into obesity and lipids But um that's that's kind of the quick overview Yeah please take you in there Yeah please take you in Just do it Yeah I I yeah I can So you know there's there's some really cool researchers out there you know I'm not a I'm not a bench researcher I'm just really into this from a like a like a clinically translational research standpoint where it's like you know some of these mouse studies and all these things are cool I like to take that and put it into practical uh translational um terms with my patients But in general uh we started seeing a lot more insulin resistance in the past you know however many decades Um because of our adiposity there's a few different hypotheses out there But I think the underlying causes this energy excess that we're getting when you get energy excess from calories where it doesn't matter whether it's from You know people talk about its own it's the carbs or it's the fat it's energy excess whether it's carbohydrates or fat not as much so protein And we can talk about that later but that both the energy excess will then cause an adiposity excess fat excess And some of us are good at storing that fat Um for example in your legs and your hips subcutaneous the stuff you can pinch other Others of us have a lower threshold to where we can store it a little bit But then it starts spilling over into our organs where it's not supposed to be And when the fat starts

spilling over that's where you know if we go back to our analogy that's where the key the insulin key doesn't work so well Uh there's something in the ignition So in general we're eating too much Not I'm if we want to get into like the whole obesity as a choice I love talking about that but we're eating too much I don't think by any fault of our own it's our environment and plus our genetics that combined together some of us are able to gain a lot more weight than others We call this we talk about our weight health where some people can be a BM I let's say they're a BM I of 35 they they look like they're carrying a lot of weight but they're metabolically healthy They're storing it in their legs and and their butt and thighs and whereas somebody else could have a BM I just to they look like they're normal weight but they're carrying it around their abdomen and they have a very low threshold of of carrying that fat and they may have actually poorer weight health than the person that weighs a lot more So that's why you see actually different ethnicities we have different cutoffs of BM I and we're we it's not talked about enough and this is one of the issues with the BM I But if you start using different cutoffs for depending on your ethnicity then we can start seeing like hey this person had a 28 BM I is at a higher risk for type two diabetes than someone else of a different ethnicity than even if they had a 34 35 BM I or something like that So it's it's it's it's a genetic thing because some people have genetics that protect them Some people don't Uh and it's not all about just the the number on the scale It's also about where we store the fat and how it's stored and our how our body processes it And honestly we our next kind of thing to dig into is your expertise on obesity So it's a great segue into talking about uh and a lot of your current work but you know obesity isn't a choice that people necessarily make Um and a lot of where your focus is now we'd love to go there Next Sounds great What do you got Shoot Well if you want to start it as a I should have said this in your opening Uh Doctor Endows has an awesome Instagram account that you should absolutely follow Um but I know something that you focus on there a lot like you said is that for everyone it's not just as easy as stop eating food or it's a morality issue You can't control yourself around certain things Um I think this is you know a great opportunity to hear your insight as actually someone that works with primarily people that do have excess adiposity um your experience there Yeah people get really upset when you even insinuate that obesity is not a choice and it it's because people don't understand what what that means what people think is that we have no no free will to make healthier choices and that there's no point we might as well just do whatever because we're gonna

our destination has already picked for us And that's that's not what it means I I don't think anybody goes throughout their life choosing to have obesity Like I always say unless you're a Sumo wrestler or something like that you're like trying to eat a lot to weigh a lot um I don't know too much about Sumo wrestling but that's the only one instance where um I could foresee that being the case but most people don't go through their life uh choosing I wanna have obesity and then people like but they make choices all day and every choice that that you make you have a choice to pick something healthier or not healthy uh to eat We'll we'll get into that But think about like a a little kid they're just they're just living life passively what they're going throughout their life like whatever's in front of them whatever tastes good they're not thinking about their weight necessarily Uh So they may start gaining weight without much thinking about it And that's how most people go throughout their life until there's some sort of external factor like the doctor saying something a friend saying something What's interesting then is that the stigma and the shame that can be put on those people you would think that for most people to be like hey you should do something about this These people try to then make that conscious choice to start fighting back Unfortunately we have these biological drivers in our brain And again a lot of this is genetic This is where the genetics fall into place because the gen the genetics are in our appetite centers and our reward centers So it would be like hey most people know that eating an apple instead of the donut in the break room is probably a good the eating the apple instead of the donut is a good idea People know that hey maybe I should eat that broccoli instead of the French fries or something with dinner I think most people know that Um but there's these drivers that aren't just you know our internal drivers but also externally if that if we didn't have those foods around us we wouldn't know any better But then once the foods are around us we have these internal drivers that it's like an itch that you just have to scratch Some people don't have those bitches though And that's why we see some people like that person can eat whatever they want and not gain weight and it's not necessarily because they have like a faster metabolism They burn everything up They can you I mean we I see it at birthday parties that you can see it at birthday parties with like even fraternal twins where um the one girl will eat uh or boy will eat a few cupcakes and the twin that's fraternal not identical They'll eat one and they'll be like I'm full the other one They have the same So they have the same environment growing up the same nurturing Right But the nature is slightly different in their genetics and you'll see someone

another one eat more like my kids for example I don't stop them from eating cupcakes If they we're going to the birthday party I'm not gonna say hey you can't have that cupcake Everybody else is enjoying it I probably I I probably get shamed on Instagram for that But like I I notice my you know my kids they they'll eat one once in a while they'll want another one and they'll just be like they'll eat half maybe sometimes like ok I'm full and I'm like that's interesting where I'll see other kids they'll eat a few more And then I and then it's really particular though with the the like the fraternal twins sometimes I see and and the and one of them will eat much more than the other one And I'm like hey that's interesting They have the same environment at home Um just different genetics and so clearly there's something genetic going on here Now what people will say is like our genetics haven't changed right It's it's correct Our environment is what's changed in the past however many years But the the genetics load the gun This is a a famous quote but the the genetics load the gun the environment pulls the trigger And so even before with different genetics we'd have different variations in our weight just slight but the environment exacerbates it aggravates those differences over time We have these foods that are just very easily over eaten And uh with genetics combined with that some people just eat a little bit more each meal by no but by no choice of their own because it's just it's a passive thing They may try to fight it But imagine like you see these I mean if you follow my Instagram people be like well you're choosing to eat however many more calories I'm like so you're telling me that everybody lives in a metabolic kitchen where every morsel of every food and every calorie is measured No Imagine like every meal there's like just 50 more calories here there and it just adds up day over day Um and so like telling people that they choose it just makes no sense So Spencer how do you explain the fact that there is a strong coordination between the socioeconomic condition and obesity Basically a more a higher income less obesity lower income much more obesity Yeah I mean so there are a lot of studies into this and you know i it's so funny this is another social media is is a crazy world but you'll see some people like who you can't uh make it you can't cook these pulses for like 80 cents and all this and that it's true that you could probably make some of these foods for a lot cheaper But in in the end like when you're when you have to work multiple jobs to try to make ends meet you're stressed because of you know maybe you have kids that you have to take care of in the end having a lot more money just makes things a lot easier I make a joke about like the personal trainer at the gym shaming the the mom of three that they

have to meal prep every meal get 7 to 8 hours Um oops Can you see me Sorry It cut out there for a second Ok Uh and and the mom's just sitting there like what like whereas the personal trainer literally lives in the gym It's it would be easy for me So I have a very flexible lifestyle Now I'm all tele medicine and in between I'm able to go for walks in between and sometimes during meetings I have plenty of resources to cook whatever I want I can even you know I'm not I don't live where I wanna live right now I'm moving soon but like pretty soon I'd be able to uh afford an Uber eats super healthy meal Whereas somebody else maybe they only have uh a mcdonald's or whatever near them and like you know I I'm not so sure of how good the food is at mcdonald's or whatever fast food that they have So that that that explains a lot of it I mean um it's just when you have the resources you can do whatever you want I can you could build a home gym you can do this and that you can have a neighborhood you can walk around That's nice Whereas other people they won't have that I mean they could they could try to make it happen they could fight through it but the barriers are much larger Um So it's always easier said than done with somebody who has those resources just do it versus somebody who's like OK I'm trying here but um pretty hard So so basically what you're saying it's uh the resource And also I think that the time as as I'm getting older money is the cheaper than your time We we are talking about it always that the longevity by design uh you have your own time I know it will be 9 90 or full over 100 but that's what you have and when you are getting older on order and usually we are getting also more and more also er er er that that you have you started to realize the time is the limit and the those people with the low social economic they're working two jobs three jobs Uh and also they live in the uh food desert So it's very hard for them The stress I think that that's yeah the stress Yeah I think that that's AAA big part of that So so that's drive me actually Uh you spoke a lot about the BM I not a lot a bit about BM I and so on And um uh there there was something er er um in addition to BM I that er we like to look at at least the track and assume that you are as well It's a more like a a body composition Um so if you uh look at that comparing to BM I what is your opinion Yeah Yeah So the the cool thing about a BM I and I know everybody hates a BM I but the cool thing about it is it's so easy to calculate That's why they do it It's so easy to calculate It's ingrained into the research If I you know if we had it my way there'd be like some little Star Trek little thing on our app that would scan us scan us without but that was cheap It was it was a free app It would scan us it would know where every little molecule of our tissue was located

what type it was Um And and we'd probably be able to get a lot of really cool research So they're starting to do this with Dexa scans even MRI S in some cases trying to look at where uh how like what type of body composition muscular versus Adipo Where is that Adipost located What even like the type of adipose tissue Uh and and and that type of thing And then they're starting to look at functional MRI S and all sorts of all sorts of crazy stuff So if I had it my way we would be able to scan everybody and and and then have the research on that to where when we scanned another person we would be able to predict what was gonna happen with that person Unfortunately we don't have that luxury yet I'm sure uh things are changing quite quickly with health care So I wouldn't put it past that We have something like that in the next few decades Iiii I think But for now we have do we do have Dexa scans that we could get um they're somewhat readily available in bigger cities and the data is pretty clear that like uh body composition would give you uh incremental better information But if you don't have that you can use a BM I plus a waist circumference at least And then you know for you guys uh we can do biomarkers and the biomarkers plus the the waist circumference and the BM I does a pretty good job at clinically uh what I call staging that person's obesity So that goes back to the person who you know you they have a relatively smaller waist but they they have a larger BM I because they're holding it in their legs let's say and then their biomarkers look good whereas someone who has a a lower BM I but a higher waist circumference and their biomarkers look not great So you can actually clinically assess their obesity in that type of way as opposed to getting everybody a Dexa scan Because even if you got everybody a Dexa scan you know there might be some variances in there where um hey we still want to check their biomarkers because that's not gonna predict everything if that makes sense No it makes a lot of sense And by the way I've I've done a scan a couple of months ago and I found that I'm good and I've seen that I have some vis facts literally Now I've started to work very hard to uh uh to move it So but again I think that I'm in the side of a I don't know the 80 the 80 20 I'm in the 20% I'm trying to optimize everything and the what you are trying to do which is I think very noble is let's take the 80% people that are really unfortunate that let's bring them to and I think that er er today instant tracker is more uh taking care of the 20% people that really want to live better longer have the funds have the excitement have the motivation to do that And definitely we need also to help the 80% that don't have all of that So thank you for doing that Yeah Yeah there's definitely a business model

with people that there are a lot of people that want that extra little bit So I can understand that I think g and I both would very much love though if we could instead of focusing on the 1% getting 1% better like you said going from a 300 to 400 like whatever Yeah Bench sorry get my brain um to really again helping someone just go for that 10 minute walk Um yeah but on that bench press doctors who lift I know it Something that you and your brother also did too and focusing on muscle mass is some and strength training I feel like it's also something that's pretty rare um amongst physicians of recommending that people pick up and put down pretty heavy stuff Um But there's tons of research that shows that muscle mass is associated with better health outcomes We're hoping that you could maybe describe some of that um research or reasoning behind that And then if there is a recommended protocol for strength training among adults es especially maybe adults that have that excess adiposity Yeah So I always talk about like but you know we talk about the key uh from insulin and and um the sugar trucks in our muscles Let's say when you have more muscle you have more sugar trucks you have more storage depot for uh the sugar and nutrients Um The other thing is like when you exercise acutely like at that time you sensitize you you recharge the batteries of those sugar trucks that can come out Some of them don't even you might hot wire them they don't even need a key necessarily uh to help get the the sugar And so lifting weights creates in the analogy more sugar trucks more ignitions whatever you wanna say more places to store that that sugar When you look at longevity uh studies it tends to be people that are stronger throughout their life that uh live longer You know we we don't have any randomized control trials of doing this They would take they would just take too long That's why there's no there's not any really good randomized control trials looking at longevity for some of these things we just kind of have these observational data and it looks like those who have more muscle mass to a point by the way to a point Uh It's probably these bodybuilder that have a ex there's an excess of everything uh but a little bit stronger a little bit better a little bit more muscle throughout life better quality of life too It's you know I know you guys focus on the longevity but I have a feeling you also qu uh focus on uh health span and a quality of life which is also important so function as well But metabolic health you have more places to store uh nutrients and um have more opportunity The the the thing with the adiposity though So some people mistakenly say all right you just got to build more muscle You don't have to lose more fat It's like well the fat can still the excess adiposity despite having more muscle mass can

still um really make those batteries dead And the sugar trucks really put something in the ignition but lifting weights makes that process a lot easier More muscle means more Uh calorie burns not by a lot by wrestling but you do more When you have more muscle you can function more you can work out throughout the day do more and you burn more during that aspect and then having more muscle um is also related to uh if you have excess adiposity you're able to lose more fat and keep it off You know this is observational but that tends to be the key So I love lifting weights I'm just a I'm a shield for it That's what got my you know got me good at sports It's also been a big part of my career So at least twice a week if you're not doing anything right now 10 minutes once once a week just start trying to do like body weight squats or and if you can't even do one just start with a half one and just work your way up push ups if you can't you know just get on your knees and kind of do some some of those types of pushups knee push ups and then work your way to two hands and and you know whether you need to get a strength trainer and a strength coach or somebody else that can help you through the motions Like I think everybody or most people I don't want to say everybody not everybody maybe there's some people that you know can you can't move at all right now But um a a lot of people could start just even once a week with just a few minutes um working through some of those things So but ideally you would do it at least twice a week I would say full body uh work your way up there and then if you get up to three or four times you start it starts to get gravy Like you know once you get past that twice or three times a week if you're doing full body or most of your muscle groups you're you're good to go Yeah And Spencer I would like to double click on the point that you said you can't exercise too much And uh we in in our audience I'm sure that it's happened It's actually happened to me uh this way that I I went to uh a lot of uh a weightlifting classes and I've started to feel like a uh one of my ma and started to uh feel very bad And instead so I said immediately I I quit the class and the day after I I joined the yoga class So so what I'm saying it's a it's amazing to exercise and when lifting weight is very important But also uh if you take it too much you will get injured and that's will make a negative effect So know what is your limit And try to uh not go over the limit and uh maybe I don't know four times a week is great Don't do it Seven days a week take the rest and they er er do some stretching and also do some cardio So and I'm not saying that because a lot of our audience are overachievers and the the risk of being overachiever is basically they get injured and then you won't be able to exercise for a while So try not to do it

Awesome Yeah I I agree I I've been one who has overdone it many times in the past so could appreciate Excellent Um so um we er er discussed a lot about the glucose and insulin and the I don't know if you're aware of that but uh very recently a couple of weeks ago uh in track added the insulin as the uh our new biomolecule in the uh in our uh ultimate panel which is a panel that include up to 48 blood bios It's a lot of biomarkers and uh we're trying to trying to do the er er how to use it and er er er what to uh to do with that So I would love to hear your perspective about but the insulin high level uh how is it important What is the insulin the let's say responsibility other than what everyone know that it's important for a way allowing the glucose to go to into the cells uh it would love to to your perspective about that Yeah So uh fasting insulin you know some some doctors do it Some doctors don't It's one of these things that would probably be like a cherry on top to where if you start seeing an increasing fasting insulin it's like clearly this person has likely has some insulin resistance I don't know what uh cut-off level you use I generally use like a cut off of 10 It can be it can be quite uh it can be spurious where some people it looks like it's all it's getting close to 10 And then the next time it'll be like four or something and they don't have any other uh reasons they would be insulin resistant But if you see a consistent like their their other markers look within the relatively normal level let's say their HDL is you know maybe teetering that lower level but like and their triglycerides are starting to increase and then you see an insulin that's like let's say it's like 20 or something like that When you start seeing that rising insulin it's it's because your pancreas is pushing more out because it's like hey we got to keep this glucose lower your glucose could be normal And that's because your your your pancreas is trying to keep it that way So I've I've used advanced I I don't I don't get it automatically inpatient because you know it's an insurance thing whether they're gonna pay for it or not But there are patients that wanna go hey I'd like to get I'd like to know if I'm insulin resistant or not Ok let's get all these markers and insulin if it's if it's above 10 and they have other you know like their waist circumference is a little bit elevated but their other things look relatively in the normal range That's where I'm like hey yeah you you got some insulin resistance We need to we need to tighten things up a little bit Um get you a little bit leaner That's that's kind of the the gist for me If you start seeing that increase it's like pay um time to time to lean up Yeah And I um spoke with a good friend of mine He also was a guest in the podcast and actually er we were we just recorded another episode with him His name is uh Doctor Mitch Rosling He is a a

bariatric sergeant one of the best bariatric sergeant And he when I discussed with him uh insulin is saying in his opinion is insulin is the like the early warning signs for a starting to have a like an issue with the glucose metabolism very similar in a way that when you look at the apple bee as is the early waring signs for a lipid issues Uh So that's how we see it and it sounds like you you describe it very similarly So I'm happy to hear that and happy that er er we made the right decision to have insulin and uh give our user a bit more early warning Uh because we believe in prevention it sounds like you believe in prevention as well So let's say uh let's find the issue early and let's take care of it instead of a send it to the the mechanic and then they do a lot of uh inject a lot of insulin in order to solve the issue that you might solve by just eating a bit different Yeah so thank you for that Yeah when you when you get some of these tests you want to know like what am I gonna do with it So like some I know some like endocrinologists or doctors might not order that and they're like what how is it gonna change our management But I will say if if a patient is motivated and they and and let's say you didn't get the insulin but everything else looks normal and they have a little bit of an increased waist circumference Are they gonna is that gonna change their behavior So what what the insulin would ideally do is go OK we got this Everything else looks pretty good but your insulin is high and I think based off your other stuff you definitely have in insulin resistance Now will that motivate that person And I think for you guys people that are like really into this If they see that added to their to their biomarkers it would probably give them a little bit more motivation to go Yeah I really you know there's a I love Schar I'd be like ok I should probably cut back on the garlic sauce that I'm putting on my s Shawarma or something like that So yeah I think I yeah I don't I don't see any harm in in doing it other than like the only harm would be like if somebody didn't if you were just spurious for some reason it was elevated once and everything else is normal Um As long as there's as long as people understand the pretest probabilities and and understanding of these numbers that there can be some variation Yeah I think it's a I think it's a fine marker Yeah by the way is my wife's favorite food like it can be for Yeah I love it It's my favorite by far it's the one thing I could eat for the rest of my life And uh if we stick on insulin resistance for a bit we know it has an impact on obviously being able to pull glucose from our bloodstream into our most of our cells Um Are there other health risks that are associated with being insulin resistant Yeah So insulin has uh has receptors you know in different parts of our body So um there are certain enzymes that control our

lipid metabolism for example uh lipo protein light pace is what uh cleaves off uh the some of the lipids from our our lipo proteins which is you know our low density lipo protein um to the LDLHDL the VLDL all these different things And and so if the lipo protein light pace is in it for your insulin isn't it The lipo protein light pace isn't working as well Those lipids aren't getting cleaved and being used in our cells either But then there's also something called hormone sensitive light pace And you know people talk about how like insulin comes in and uh it's a fat storage hormone Well hormone sensitive lipase uh insulin stops the cleavage of of your um of your own fat cells your own adipocyte And so what people think of as insulin as fat storing But if you become insulin resistant you're actually you're in a lipo that you're breaking down fat and you can't stop the process because the insulin usually does that And what that creates is this kind of really dyslipidemia this milieu of dyslipidemia where you see small LDL particles increased triglycerides on higher apolipoprotein baob And that so there's insulin resistance which can cause you know endothelial dysfunction that that can cause the LDL particles and A B particles to get stuck in your in your arteries to start aosis But you also have more particles in general which will then cause more atherosclerosis So uh that's that's what I focus on It's like hey if you're insulin resistant not good you're gonna have these probably more aro GIC particles and you're and you're gonna have them more readily stuck in your arteries and start atherosclerosis So that's a that's a big thing I focus on blood pressure too If you look at metabolic syndrome uh blood pressure it'll have an effect on there which also can increase aros kidney disease strokes that type of thing And then you will have to stop eating And then I have to see I mean I suppose you could just eat the chicken but I wouldn't have to be able to have anything else with it Uh Since you mentioned it So a ob is something that you know we'd also love to touch on Um And I'll just say a lot of I feel like sometimes I read comments on your post related to cholesterol and people just going constantly about LDL particle size but all particles of LDL are things that you know we don't necessarily want um triglycerides precursors to LDL Um And a Pob as you mentioned something that recently has garnered a lot of attention from scientists as well as c clinicians kind of maybe becoming um more of an essential predictor for heart disease Um And what are your thoughts on that of utilizing a Pob for a predictor of heart disease as well Yeah when you look at the like what the the physiology or path of physiology I should say the process of aros it's it's the particle specifically that gets into the endia which

is the lining of your artery And the particle has this a ob protein on it And that's the part that gets stuck actually gets caught in to the um inside your little matrix inside your uh intima of your arteries So like if you actually measure the measure the particles and not just the cholesterol the cholesterol is kind of the cargo the triglyceride is kind of the part of the cargo of these particles If you actually measure the particles those are what are specifically getting stuck in your arteries And so you'll have a much better prediction and and it turns out like they thought this and they've done lots and lots of studies to look at this It turns out that's that's the case It's like yeah actually the risk falls along at the level of your ali of protein B And so um yeah II I think in the future you know some people use just the standard lipid panel which everybody knows it's the HDL cholesterol which doesn't have a Pob that's the one particle that doesn't have a Pob by the way But then it has to have an LDL cholesterol and then you can actually do something called the non HDL cholesterol You use your total cholesterol and then just subtract out your HDL cholesterol And then all the rest is are your A ob containing lipo proteins but they're still measuring just the cholesterol the cargo on those pro proteins Whereas if you measure the actual A Pob protein that's the specific protein that's being caught into the endothelial and starting the um Aros cascade starting black So um yeah II I think in the future we're gonna see as long as it's cheap and insurance starts paying for it I think we're gonna start seeing like why don't you get the lipid panel and then why don't we get the A OB with it Because there's something called discord And so the way that the reason that they haven't changed from that is because well the measuring just the cholesterol does a decent job at estimating that A ob like it's it it gets close But there's some people that can have what appears to be a normal appearing LDL cholesterol you know people call it the bad cholesterol but cholesterol's cholesterol But the LDL what they're really trying to get at is the LDL particles LDL cholesterol does a decent job at that But there's some people they'll look normal at LDL cholesterol but they'll have a high amount of LDL particles in A OB and you wouldn't know unless you measured it So and and in those in the people that are discordant it's really the insulin resistant people which are you know unfortunately a lot of people um I'd say you know I could do certain estimates but a lot of people are at this point are becoming more insulin resistant to where if you've only got the standard lipid panel you'd probably miss out on some of these people So I think if you can do it I would grab an Ale lipo protein B with your standard A lipid profile panel So so why why why it's not part of the normal medical practice

to test a ab on top of the normal lipid panel Yeah it's it's one of these things where like inertia from you know certain ways we've done it It's like one of those things where everybody's done it this certain way let's uh just keep going that way So I I think it there's a big push to to add it and it's in the past decade it's gotten hard uh stronger and stronger and and there are a lot of big proponents about it I don't think it's gonna I still don't think it's gonna change even the next decade But I think in maybe a decade or two the trials have to start also uh using it as like a way to um target it And then once it gets into the guidelines the true guidelines like hey this is the number one recommendation to do it That's where you'll start seeing change Insurances have to pay for it as well You'll you'll hear some pe patients complain like hey the doctor ordered an Apple B and I got charged $100 for it It doesn't cost the it doesn't cost a ton of money if you pay cash for it But um yeah I think it really it has to get into the guidelines Studies have to continue to to um stack up and then uh insurances have to pay for it and then we'll see it So so in the meantime everyone that want to go again above and behind should find it and notify the clinician most likely And uh and and unfortunately that's the situation let's say for the next decade or so Yeah I think I think it's gonna be Yeah I think it's gonna be well But yeah Yeah Yeah Well OK if we pivot from a poppy into again a lot more of what you focus on um in telemedicine in particular Um At least when I started following you a few years ago you were working with another company offering nutrition um counseling to people online um which I feel like was at that point pretty revolutionary Um And when it comes to weight management or body composition metabolic health understanding the role of behavior change is something that's so crucial for people trying to give these recommendations for people to listen Um But how do you use behavioral science to help your patients achieve their health health goals And I think especially since you mostly are involved in telemedicine seeing people remotely Yeah So in the past it was just me I was just the only guy like doing it all by myself I had to do all the nutrition the strength training and the medicine you know So I had to learn behavior change I had to read books motivational interviewing took courses you know Now the great thing is I have an amazing team Um uh like Weight Watchers They have a whole scientific team that that goes into behavior change Like that's like what they're known for You know they're the number one doctor prescribed a commercial program for behavior change and lifestyle So now luckily I we utilize tech and a whole team that can do it So uh it takes the burden off of me and and also my clinicians at sequence

We have a whole comprehensive program but having a team behind you to help with the tech to do that But if you're doing it yourself it's you you you really have to talk to patients with empathy understand where they're coming from you know not wag your finger at them and say hey you need to cut out this food and and that food and you gotta follow this type of diet or else you're gonna die type of thing Sometimes scare tactics work for individuals But for most people it's just like I don't wanna get shamed I'm not going back to that doctor again I hear it all the time I hear it from patients that saw other doctors and that type of thing So it's really you know meeting the patients where they are like hey instead of you don't have to meal prep every single day chicken and broccoli and brown rice or whatever that they're that some people will say to eat or that you have to follow a ketogenic diet or you have to eat this many calories or or else you kind of see what they're doing You give a you know a certain dietary pattern a good healthful dietary pattern But then you you talk about like what are you doing now how can we shift that a little bit more towards this Uh and also of course that's where you know I get into the medicines if I need to hit a biological um driver and push back against those drivers that's why I use medicines But you know for if it's a behavioral thing we can focus on that by really meeting where they are and uh doing that Yeah And they iii I have to say as the founder of the company that the doing that for the last 14 years I think that the behavioral change is the hardest uh for us and the ma Ashley is with me and now we are working together for more than the eight years and and we see it again and again it's uh that's the toughest the finding the data it's hard and the er lighting it and the designing it and all of that But how can you uh make the uh the client in your case is the patient for us as a client uh make changes It's a it's a very tough nut to crack And I think that it's also if we uh most of our audience are not founders or not running a a practice that they trying to help people to lose weight so they care more about themselves even for yourself You need to find a tactic that will work for you So I know I I like er I know lifting weight and uh going cycling my wife likes and Pilates So she should do Zumba and p and I should do weight lifting and the and cycling And when I'm trying to bring her to to work with me or to me she doesn't like it and she she brought me to Zumba I didn't like it either So I think that everyone should find and we need to question what do you really like I have a good friend that is over weight and then I invited him to ride a bike with me once and he started to be uh so excited about it and he started to cycle because he found something he's like and it's exercise or something So uh and my wife

sometimes telling me you you are like er er uh you are doing it too much It's like you are a like a addicted to exercise at least I'm addicted to something that's positive I'm not addicted to drugs So I think find AAA push your addiction to something that is positive And uh and also when you are there try to be not too much addicted because if you are addicted to exercise you might get injured Um but I I'm 100% with you Uh you need to find the uh the be change and something they can stick for a for the and don't do something that don't exercise at 5 a.m. if you used to wake up at 7 a.m. That's one Yeah I had a debate at the Obesity Week It's a big conference and about like cardio versus lifting for fat loss if you had to pick one And it's it's a funny debate because like I'm sitting there going like you know like I usually give it to my preference to my patients My patients like to bike or run or whatever Um I'm not gonna tell them to stop and to only lift weights So like honestly like yeah physical activity is good Sure We'd like a combination but like let's do what you think you're gonna do because all of it's good for you anyway And we'll have good effects So I like that Uh do what do what do what's the patient prefers as long as it's in a healthy direction Excellent And something else that you talked on was um one I think it offering empathy to your patients is so important especially in the um you know patients that do have obesity Um and something I know you talk about a lot on social media but also have a lot of expertise in is targeting those biological factors related to obesity Um And there are um so much debate about these new class of drugs the G LP one ago nets that can be very helpful in helping um reduce adiposity So I was hoping you could briefly talk us through what those are and then maybe debunking some of the myths or misconceptions or garbage in general that you hear about them Um When you do make you know posts similar to how obesity is not a choice like when is when is it the right time to prescribe them and what do they actually do Yeah So G LP one stands for GlucaGen like peptide one natural hormone that comes from our intestines in general After eating certain foods it helps our pancreas make more insulin It slows our gastric emptying but also has an effect on satiety uh and cravings and appetite So the issue is that our own endogenous or natural G LP one breaks down within minutes So like if you took an injection of it it would be it would be gone like it it doesn't matter So scientists first used it for type two diabetes because they found people's blood sugars were improving And people were losing weight So like this is a great type two diabetes drug as opposed to some of the older drugs which cause weight gain and sometimes hypoglycemia their blood sugar will get

too low These don't make your blood sugars go too low for the most part Uh and uh people are losing weight and and they're helping without using insulin as a different noninsulin type of drug So the scientists found ways uh there's a hula monster they use the venom from a really cool story if anybody wants to go look it up but they found ways to basically uh mimic our own endogenous or natural GOP one without it being broken down within a minute or two And so throughout the years it started off with a twice a day injection and it went to a once a day injection Now we're at a a week once a week injection they found ways to have like a seven a seven day half life and the way that they're they're modifying the peptide and even finding ways to make it not a peptide So the reason it has to be injected is because it's a peptide and it gets broken down in our gastrointestinal system Like our our stomach acid would just break it up They have found ways to put it in pills even as a peptide but that it has a special delivery system that changes the ph all these different things Now they're finding ways to make smaller little molecules that you can ingest Those won't be out for a little bit later But for the for the time being a once weekly injection and uh people's blood sugars are improving Now the thing is they found that people are losing a lot of weight like wow this is there they have receptors in the brain that had the GOP one receptors in the brain And really this is having an effect on satiety So uh they developed it for obesity First In 2014 it was the drug Lyra glut first used as specs Then uh that was a type two diabetes drug Then in 2014 they cranked up the dose from 1.8 mg to 3 mg And this is a once a day injection But that drug helped people lose about seven or 8% total body weight which is OK When you think about diet and exercise over a year average on a population level it's more like five or 6% You start getting up to seven or 8% and keeping it off That's pretty good But these newer ones are even more powerful The the reason there's a craze about them is because now we're seeing that 15 to 20% total body weight loss on average and it's only a once a week injection with with relatively minimal side effects Now the side effects are like G I like you get some nausea Most people it resolves Most people it's mild Some people get a a moderate to severe nausea once in a while They're like throwing up They don't feel good Uh for most people it's very mild Uh one of the misconceptions is that it's the nausea that makes people lose weight It's it's not that resolves in what they're left with is the satiety and it's not just satiety like you feel full What people describe is that they used to have they felt full and satiated after a meal but or maybe not but let's say they didn't the me the medicine helps with that But also they could

have felt full but still like you know everybody here probably knows this you're full but and you satiated but you still want that dessert whatever it is I don't know Some people's ice cream some people's pies some people like kind of starchy like chips type of thing That's that's our our reward center in our brain These medicines also having a strong effect there and people describe that food noise like go get it go eat that go eat that right now You're full But I don't care go eat that It's this little little person on your side yelling in your ear These medicines basically go zoo hit these receptors in your brain and you go you know what Not only did I eat a a smaller portion that I usually do I could take it or leave that dessert And it's what the patients describe They all say the same thing we've had I've had thousands of patients We have tens of thousands of patients and uh they all say the same thing Like they still like it They can eat it if they want to but they can take it or leave it They just don't want it anymore They don't they can't they they don't have the strong desire that strong itch that they have to scratch They don't have it anymore They can just take it or leave And what they say is that is this what it finally feels like to feel normal What what it feels like to be someone who lives in a smaller body of a body that doesn't have to fight tooth and nail white knuckle every single day to to not eat those types of foods And I I it is it's it's it's remarkable and that's kind of the way getting back to the genetics where some people don't have to fight Some people can eat a piece of pizza and be good Some people have to eat four to feel good and still want more These medicines basically hit these receptors in the brain and all of a sudden they're like hey I don't need to anymore and they feel great So so Spencer it sounds like too good to be true What is the negative side of the G LP one So you know so people are like you must be a big farmer show I don't make any money I mean I think you know if you look at you can actually look it up I always tell everybody look it up There's this open whatever the sun sunshine act you can look it up I may have made like I've gone out to lunch to learn about some of these things and it's like 30 bucks every couple of years or something like that But uh you can look it up I don't take money from them I just love the drugs are some people like these aren't miracle drugs I'm like well they kind of are in certain ways but here are the negatives Some people get severe side effects where they they can't tolerate water they can't take the So like you worry about them the people talk about kidney failure and this type of thing They don't they actually are kidney protective but in the rare case that somebody gets a severe nausea they can't drink or eat they're throwing up They get what's called hypovolemia and they get dehydrated and

because there's not enough blood flowing to your kidney their kidneys get injured and hurt so that you you do see the you see that rarely once I mean like we we monitor this very closely in our thousands of patients but like it it doesn't it doesn't happen very often We do have dieticians that also help with uh side effects So like hey this person's having side effects because you can change the way that you're eating it Some people prefer eating a little bit more frequently smaller meals less heavy meals So not as much fat in the meal So you'll know like some people like oh I don't feel good after that so we can modify the way they're eating That can help I have some other medicines to counteract some of those side effects as well Other other potential negatives though They're expensive right now They're super expensive Some in 50% of commercial insurance is paid for it the other 50% Unfortunately you're out of luck So that's a negative I would say I think we're gonna see a lot of competition coming out in these next few years where it's not just gonna be you know two companies we're gonna see multiple companies and I'm hoping the competitions starts driving down the price uh and making it more uh affordable for people insurances Um We gotta start doing lobbying There's there's there's bills out there being introduced that were hey we need to treat obesity like a disease the way it deserves to be treated And so we need to cover these things And as you know you're talking about well let's prevent cardiovascular disease before it happens because once somebody has a heart attack they go and imagine having a hospital stay where you get a Coronary artery bypass and then that person's on all sorts of medications and in certain quality of life factors So let's let's see if we can find those patients where we can prevent it Uh I think that's gonna be key We're actually doing some research in that uh regard So I think we're gonna help help out there Yeah go ahead Oh sorry I I wanted to ask about the duration and also what happened when you go out of the er because I assume that then you're starting most of them starting to gain weight again or they are staying at the great question Another big problem OK So another negative you have to stay on Most people may have to stay on this drug longer term Now caveats to that I don't think everybody has to stay on it I actually think here's my hypothesis because we're going to study I I think we're gonna be the first to study this honestly Uh because how how closely we're monitoring people but um I don't think everybody has to stay on it for the rest of your life So you'll see some people be like this is a short term quick fix People are just gonna use it stop it regain other weight Why even start in the first place Whereas other people will say obesity is just a

disease They're gonna need this medicine for the rest of their lives I think the truth lies somewhere in the middle I don't know where it lies Maybe it's a little bit more towards more people having to require something But I think there's gonna be some people that might require that high highest dose of whatever they get on There's a few of them out there right now But I've noticed that some people can actually titrate or wean down on the medicine and instead of even they're on the lowest dose instead of even taking it once a week they're taking it every like two weeks almost and they're still maintaining their weight I have some other people that have completely come off and they're still maintaining their weight Other people that we monitor them closely at sequence you'll see their weight starts going up and so then you intervene again before they regain all their weight Um And then there's other patients will we we stop their medicine and not not not because we want to stop their medicine Insurance stops paying paying for it For example it's not by anybody's choice and we can use non G LP one drugs that didn't work before They've tried to lose weight with these drugs before For example Propan and Naltrexone um uh used originally for like uh depression and smoking cessation and alcohol cessation for the Naltrexone You can combine those two drugs and make a a decent weight loss medicine but they didn't work for these patients in the past But weight loss initial weight loss is different than weight maintenance So it might be that the drugs helped improve that inflammation in the brain that the whatever you wanna call it leptin resistance all sorts of different things that might be occurring And now now a a less powerful drug actually works in helping them and cheaper drug helps them in maintaining that weight loss So I'm noticing that as well So yeah that is one of the things I think no matter what obesity is a disease and will require chronic therapy But I don't think that means chronic medical therapy Some people and my hypothesis is this I think the people with genetic more propensity towards obesity where they have a lifelong appetite disregulation they're gonna require probably more medical whereas some people only gained weight recently in life and it was due to like the pandemic or uh a move a a death in the family marriage kids actually kids is the number one I always hear And so those people maybe they just needed help with the medicine to get back into the old habits that they used to be before you know the the food noise and things and the environments going on and they just it's it's hard to handle They use a drug to knock that food noise out All of a sudden they're able to follow the habits they used to do and they get back into the habit of it and you slowly wean off the medicine and

they might notice a slight increase in their appetite and cravings but overall they're back into the habit of doing the things they used to and they maintain the weight noticing it anecdotally has to be studied in a much more rigorous fashion But I think that's where the future is gonna be Excellent So what you are saying it's a very personalized some people will need likely to be on it for life Other might be on the north and some other uh that uh maybe have a stronger will parallel and better genetics Maybe they can just uh go with lifestyle and the in completely from the G LP one And I agree with you I think that it's AAA wonderful blog and very exciting for it We started with the 2080 20 So very exciting both for the 80% that uh and the very busy working hard and they I I think that that's give them AAA sort of unfair advantage to be with the 20% that they'll blow away Let's say a full chance to have more money and more time and more So not everybody responds I will say that to you I can't say like this is gonna solve obesity right now I think in the future we there's there's so many different drugs coming out that it's like wow I don't know what's gonna happen They may be able to edit our genes at some point too It's there's all sorts of vaccines weird stuff going on but not everybody responds to these at the moment Um And that probably has to do with genetics which we're also studying But like for the most part most people respond um pretty favorably so pretty cool Awesome And then I feel like we can't let you leave without talking a little bit more about social media since you have such a big presence there Um And how misinformation really spreads so rapidly on social media and people are so heavily influenced by individuals that they follow that have absolutely no credentials to be providing any sort of recommendations or making any sort of claims Um So you know what are some of the biggest myths maybe that you see out there that maybe you could address Um As I said I like to read your comment section I swear there's a Venn diagram between car carnivore Antiva tanning bed the men right in the middle Just love to comment on your post I love to hear your thoughts about that You know the funny thing is there's this restrict option You can restrict on Instagram So they continue to yell into the void but they don't know So nobody else sees a lot of these comments I I go through and I see all these restricted comments from people I don't block them because I think it's it's always so funny because the same people I'm like you follow me like just to like just a hate follow and it's like I don't know why it's it's so funny to me like I I can't believe you waste your time doing that But so anyway um yeah the so I I will say with the credentials thing it's a it's a hit or miss thing because like it's it's an appeal to

authority basically if somebody has an MD do or phd behind their name we should automatically listen to that person So it goes well for me for social media because like yeah I'm a doctor or whatever But like the problem is I I don't know who's worse the people without the credentials or the people with the credentials who who knowingly are deceitful Um It's a good question I think I think those people actually make me more mad because at least they can't plead ignorance you know So uh those people make me a little bit more mad So I but the biggest myths that I see are like you have to follow one specific dietary pattern and and they overhype certain mechanistic type of thing So for example like the whole like vegetables and seed oils are are bad for you So you can find studies that will support any of your um any of your hypotheses You can find little little mechanistic studies in like like bugs and and little mice and things like that to say hey this happened in a mouse So you should probably not eat XYZ that's been shown to actually be associated with longevity or improved performance But because we saw it in this mouse and it fits my narrative and I'm selling a book Uh You should you should avoid it I mean this is this and the thing is what you find on social media is is that the the fair um If you're vanilla and you say mainstream stuff your social media is not going anywhere it's not gonna it's you're not gonna unless unless you're someone extremely famous and extremely attractive you're not it's not going anywhere Um But if you start if you take a strong stance on something that's uh mainstream that's known to be you know good such as like hey vegetables are good for you OK No vegetables are actually bad for you and you give a little studies you show up and screenshot pub med and show a little mechanistic thing and whatever Uh It's even better if you can like find some pictures to go along with it and whatever and and and make something crazy that will go viral Um The way that I did it though I was like I want to take a stance against this but I have you have to there's a big void How are you gonna in this huge sea How are you gonna get attention So I use humor um and kind of make fun of that type of stuff So I use and while also being um you know maybe making fun of stuff but then also throwing in their genuine like here's how it works So I think I think what you're seeing we're gonna see is a shift of people getting so sick of the the Charlatans and Gurus out there and they want somebody they they they want to trust and I personally just like humor because it's fun It's just it's more my style Like I don't want to be boring and stil or whatever I wanna I wanna get people to laugh because that's just my personality anyway So I use funny memes to kind of um then get somebody's attention make them laugh and then teach a

lesson Uh Yeah you could I mean you can go on my social media you can see examples of of that But like you know first diet Coke for for example people uh Asper ta and any any artificial sweeteners really gets people people going because it's kind of this unknown unnatural thing It doesn't matter if there's lots of studies showing safety People are like hey it's not natural So I like to zing people with memes and whatever and it gets the conversation going all the time and you'll notice the same comments happen over and over again Why not drink water why not do this And so then I eventually have to address all those in the comments I I can make a post about that once a week or once every two weeks and it will always do extremely well because it gets people talking Um so stuff like that I I I just yeah I think being careful with credentials I think you know great power comes great responsibility But like if the people people with the the credentials I I think the ones that are doing the disservice those are ones that really make me that irk me a lot makes money but it doesn't uh it's not good for integrity honestly and not good for humanity also So don't don't give someone a bad bad advice Yeah absolutely Awesome Well any any final questions from you that you wanna touch on No I think that that was AAA very good uh episode and I think that er your explanation are amazing I think that the G LP one the agonist explanation that's the best explanation that they held and I spoke with a lot of people that er trying to explain it let's say to nonscientific audience So I think that that's uh uh you you are very good in the translation a complex science into uh er er understanding of a uh someone that is not scientific So it it was a fascinating discussion for that Thank you Appreciate that Well we wrap up every episode just asking all of our guests if they have a top number one tip for our listeners for extending their health span Um So that quality of life not just the amount of years that are in their life You better lift some weights That's what I would say Twice a week lift some weights if you haven't started and you're thinking about it I it's just 10 minutes 10 minutes but at least once a week to start and then get it to twice a week Awesome Thank you so so much for joining us Um it was as Gil said really great to have a conversation and it was fun for me to get to fan girl Um One of my favorite accounts to follow on social media Thank you Thank you so much and Spencer it was a pleasure Thanks for listening to Longevity by design Please subscribe to this podcast on Apple Spotify or youtube Longevity by design is powered by inside Tracker a personalized health optimization platform that helps people improve their lives by improving their bodies from the inside out using personalized science backed

recommendations for nutrition supplements and lifestyle changes to learn more Visit inside tracker dot com slash podcast