Introduction and Speaker Background

Hey folks, today I have a real special privilege to be introducing to you a company that has decided to sponsor this summit. The sponsorship is allowing us to reach more people get the word out and I hope you'll enjoy our next speaker victoria hans.

She's from uh prolonged, she's got a very interesting background and so I really look forward to you guys meeting her and listening to her answer my interview questions.

Welcome back everybody. I'm really excited to introduce you to a new friend of ours today, victoria han she's a registered dietitian with a master of science and nutrition health span and longevity from the University of southern California.

She completed her training at the University of California and said at the Irvine Medical Center and it's not too far from me with specialty rotations at the Children's Hospital in Los Angeles and the Goran lab. She currently works for a really good company that we're familiar with. She's one of the medical educators there for L nutra as a medical science liaison.

Now prior to her joining L nutra, she was working in the field of nutrition science covering a wide range of topics including nutritional sufficiency in specific populations and the ketogenic giant as a treatment for pediatric epilepsy.

That's so interesting and her primary clinic experiences in patient clinical dietetics covering a full spectrum of patients, including pediatric medical and trauma.

So I'm really happy to have you here today victoria, How you doing? I'm doing great read, I'm so excited to be here today. Um you know, thank you so much for inviting me on to kind of share a little bit about not only what I do, but you know, the company that I work for, so I really appreciate this is great.

Yeah, Fantastic. Well when I met you I knew I had to have you on here and so I think everyone's gonna be really interested in finding out a little bit more about you, you know, where you came from and we got you into this and then yeah, we'd love to hear more about l nutra and that sort of thing.

So I got I got some questions for you but tell us a little bit more about you because we love to get to know new friends. Yeah, absolutely, so thank you. Um so a little bit about myself, you know, obviously right now I work as one of the medical educators at all Neutra and it's a really exciting role for me because it enables me to not only still remain present within this field of research, which is that's my true passion.

Um I was in research for quite some time, not not a very long time, but you know, I got a little taste of it and I just never really wanted to leave, but you know, just as tides turn and as you know um as I kind of got out of undergrad and when I was transitioning to get into my dietetic internships, you know, um I was trying to figure out exactly what I wanted to do and that's actually how I stumbled upon the program at USC. It's funny because um that program was gravity why I gravitated towards, it was obviously you know it's a dietetic internship so I got you know all of my internship hours so I could test for this R.

D. Exam. But in addition I saw this woman, her name is Carrie Kreuzer and she was speaking at a symposium and she was saying you know, oh you could do some research at USC and that was the one thing that I heard them like I gotta be there, you know, I gotta be there. I had a few other programs in mind but you know that one is so accessible because I live in California and I live in Los Angeles specifically. So I figured oh well you know let me go find out what this program is all about. And it's it was unique because I was part of the first cohort to actually go through this novel program that yeah, USC Gero had started and so it was a wild ride. It was great.

Um you know there were a lot of learning curves if you will because as a growing emerging program um you know you really have to go through everything.

So it was a really awesome experience and I did get to do quite a lot of different research projects there and that's really how I got connected with neutral and you know, during that time when I was doing, you know in that program, that's where I was starting to get interested in this diet called the ketogenic diet.

And the thing that was so interesting to me about it and why I really love research is because the biochemistry of it, I love this idea that you can very elegantly see how something works. Like you can provide a specific diet and see an actual effect in real time which you know, there's many diets as we know that you know, they do affect our over health and you can measure that and you know, they're beneficial.

Victoria Han's Path Into Nutrition Research

That that's something we widely understand and know, but sometimes to see changes that take time and that you know, kind of being a bit of someone who really wants the instant gratification, I will admit I was just so drawn to this diet where you know, wow, you can see changes nearly immediately. Well not necessarily immediately, but very, very rapid, especially for something like nutrition.

And um you could see it helping out these specific um Children in essence. And so that really got me really engaged within that area of nutrition science and like I said while I was going through this USC program, that's how I stumbled upon, l nutra, funny enough, I'll never forget the email that I got, I thought it was a research position and so I was like, oh you know this sounds great, I'm right about down.

If I program, you know, let me just go and apply to this and um find out it's, it's for a company called L nutra and I haven't really known what they were about.

I just knew that there was this individual, his name was vulture Longo, very prominent researcher at USC. I knew all about his research and I had to take one of his classes and it was a really awesome class about this longevity and fasting.

And I learned so much there. Um and so I was really drawn to this potential of this company and that's really kind of my little story as to how I got here um tell nutrient, it's been quite a wild ride because I got to see it grow from, you know, really an infant. Uh you know, all the way up to where it's at right now, It's, you know, quite a large company now, we have so many different people on board and I've seen it grow and develop.

So it's been quite an interesting experience, you know, to go from kind of this more academic research setting completely to industry. It's been um it's been interesting, but very fun and the really nice part.

Yeah. Uh no, I was gonna, it's a wonderful story and and you know, I was gonna ask you like about working with kids because working with Children is very, very rewarding and health coaches. Uh a lot of us have kids, you know, and, and they do respond quicker. You know, they respond really fast. I've had some almost miracles just getting kids off certain foods and things in their environment to more stable, you know, nourishing kind of, and just watch them change.

It seems like almost overnight. And I'm sure you saw plenty of that. Oh, yeah. I mean, working with kids and it's funny because we always say, you know, when you work with kids, you're really not just working with one patient, you're working with several.

So you always have to work with the family. Um, if you have a change for the child, then the parents are also probably going to change their behaviors or how they eat or what have you. So it's, it's a very rewarding experience to work with kids. Um, it it's one of those populations where it's really funny because it's kind of like this running joke and I want to say medicine where some people that really don't understand pediatrics, they'll say, oh, you know, Children are just tiny adults, but they're really not like from their physiology to their behaviors, everything, they're totally different.

And it's a, it's a really rewarding field to work and if you ever get the opportunity. So, yeah, I absolutely agree. Yeah, their mentality and their metabolisms aren't like us at all.

They're not just little, you know, you can't use the same kind of say, well, they're just, you know, they're £40 adults know they're not one bit. Yeah so that's a great thing.

Uh Another question I have for you about that experience at U. S. C. Cause about 15 or 18 years ago I read a book called The 120 Year Diet and I highly recommend it if you like some of these older research books and you know there's a lot of nerd in most in most health coaches you know we're just kind of nerdy you know we like the biochemistry and physiology and anatomy and things like that on top of the inspirational stuff training people and getting them to transform their lives and things like that. But this guy Roy Woolford dr Roy Walford was the U. S. Yeah well he his book inspired me 20 almost 20 years ago. Is he still there?

Do you know or um you know um Roy Walford I believe he's actually at U. C. L. A. And it's funny that you mentioned him bolt Longo the founder of you know mutual the company he was he got to study under him I believe for his PhD I could be wrong don't quote me on that but um I definitely recognize the name and he was prominent with the biosphere biosphere one and two.

He was the nutritionist. Yeah. Well I'm sorry to mix those two schools up. I know they hate when you do that you know it's okay Bruins are just don't tell us C.

Or U. C. L. A. Yeah. Yeah. Yeah I try to stay out of that that kind of politics but so why don't you do? Yeah. Yeah well just the rivalries you know I got my own alma matter too you know so I'm a buckeye but uh you know L nutra tell us more like you when you started with l nutra and um you got into industry.

I think it's also this is this is a factor that health coaches need to understand too. Is you can take training like people have taken my training it's very robust.

We have the anatomy physiology chemistry with all of the diet, rest, exercise stress reduction uh supplementation training. We have training and on boarding clients and and helping them out through a certain time period you know actually doing the coaching work and things like that and you know at the same time um a lot of my graduates end up going out and getting jobs.

You know they maybe they're not entrepreneurial, they just wanted the information but then they go work for supplement companies and and lab companies, things like that.

So tell us what that about l nutra and what that experience is like for you. Yeah so working for all Neutra it's it's quite a wild ride I will say because we're such a passionate and ever growing company. I mean it's fasting in its own right we can just start there you know because it's such a a novel and exciting field um you know, actually in 2020 it was rated the number one food pattern in America and so we definitely know that people are very attracted to this topic of fasting and I can tell you what even here, I feel like it's been exponential growth ever since I've been here. So it's it's a very dynamic place to work out very rewarding without being said because part of what I really love to do here is we get to take all of this really incredible research and apply it in so many different facets.

So you know, just to kind of briefly mention what l nutra is about. So Neutra is this neutral technology companies, the nutrition technology and what it does is that it uses breakthrough science to enhance human health and longevity.

So the real idea that we have here is actually to health to enhance health span, which is this concept of healthier years live, like what's the point of living long if those years are of very low quality want high quality years and that's really what one of our fundamental kind of concerns.

And so our mission is really to give everyone the opportunity to live to be 100 10 but healthy.

What L-Nutra Does and Its Mission

So very, very important to always keep that in mind and we do so by providing a wide variety of solutions nutrition solutions and lifestyle solutions to um you know help individuals uh and and also the medical system adopt these

types of patterns or programs so that they can achieve that goal.

And you know, this has been built over 20 years worth of research and um you know, just basic lab science by Dr Longo so walter, although we were briefly mentioned in him and he's actually the longevity institute director and that's at USC University of southern California.

And what he was able to do is he was able to really pave the way for all Neutra to produce these solutions such as the fasting, mimicking diet, so specifically Poland and then also the fast bar. Um but something I do want to note is that l nutra is not just kind of on a commercial side about, you know, developing products. We also have a really big focus on our dedication to advancing the space of credible fasting science.

And so one of our major solutions that we provide is supporting education. So that is one of our big pillars here, because ultimately, you know, as we all know, knowledge is power and if we were to provide individuals with the right tools, then, you know, the the hope is that they'll be able to make better and more informed decisions, but with that being said, there's just an abundance of misinformation today, especially as it pertains to fasting, um science and you know, of course technology and social media just very much complicate this picture, everybody is an expert, right? And it's not to say that, you know, people are not absolutely, you know, we are are own kind of investigators, but it's really difficult to sift through sometimes and you know, find the accuracy like what is truthful and sometimes we don't even have time to be looking through these things. So the citations that are present, you know, who's going to sit there and spend hours reading all this very dense literature.

And you know, that's really where l nutra comes in really want to be advancing the space of credible fasting. Science. Perfect. Yeah. And that's what we're most interested in.

You know, So why don't you teach us something here today about why fasting so important? You know, I mean, we've all probably got an opinion about it.

There's a lot of people making a lot of claims that you guys actually are doing the research and we can tell you're sincere R and D. Person. So why don't you teach us?

What is fasting so important? Yeah. So, you know, fasting? Why is it so important? Well, ultimately it's it appears to be at least required for life. So you think about it from this perspective. So we're either eating or what are we doing after? We eat?

We are technically fasting and that's so remarkable to think about um you know, there were organisms before us that could not sustain themselves during these periods without any food intake. And so in essence just due to evolutionary pressures. Um they did not survive.

But what did were these types of organisms that could persist through these periods of fasting and in essence feasting. And so it's it's really no surprise that we have this built in machinery to be able to, you know, handle these periods of lack of food intake. But the real funny thing is that it wasn't until more recently, um that these periods of interrupted food intake or interrupted by uninterrupted daily food intake. So we're thinking, you know, fast food, um locations, convenience stores like I can go down the street and go by myself just, you know, 1000 calories worth of nothing.

And I would gain a lot of weight this way by just over eating. And just to say, we we we really see that this may be linked to of course the multitude of health concerns that have arisen.

And so it does appear that, you know, part of why fasting is so important is because this is what we were built to do. You know, we we but we just don't have the ability um whether it's from a behavioral perspective or you know, just making up the knowledge to capitalize on that natural process.

And so that's Going back to what all neutrals all about living. You know, that quest to live to 110, um, you know, knowledge is a very key asset here and there's so much information on fasting right now that you know just actually a quick Google search on fasting, I believe it's around 100 million hits you'll find.

So you know, even to just try to start like okay, well I know fasting is important, but what should I do, what kind of fasting should I do? Like what is fasting to begin with?

Yeah, yeah, absolutely. So you know the funny thing is that it depends on how you really want to define fasting. Um so you can think about it from, you know, it's adjective perspective, so you know it's too fast a rope and you can think about it from like an adverb perspective, like the cars moving too fast um but more often than not people think about it from its more verb perspective.

So to abstain from food and typically you know when I ask this question because I asked this, you know when I whenever do presentations I always ask the audience, you know, what do you think fasting is like how do you define fasting?

And you know those shout out words like lean body mass loss, malnutrition, oh that's hard, starving, not eating anything. And those are all kind of correct to some capacity, you know, depending on which angle of fasting, you're looking at those all kind of fit within this puzzle but I like to define fasting and the way that we at all neutral, we look at fasting is more what happens once to abstain from food.

So fasting to abstain from food that's more of a trigger for this outcome. So what would the outcome be? You could look at it from a physiologic perspective and then also a molecular perspective.

So if you look at it from a physiologic perspective, it's really be shifting from one energetic substrate glucose for instance to free fatty acids and then subsequently ketone bodies. But in addition it also appears to be the efficiency in the utilization of that energy. Because if your body doesn't have a lot of energy coming in than it has to be a lot more resourceful about what it does have available.

But you can look at it even deeper. So what's happening on a cellular level like what's happening within the cell on the molecular level. And it appears that what's really happening there is the absence of what we call these um you know the triggers of these food sensing pathways specifically they appear to be these growth pathways. So things like Ig F one instant like growth factor one M. Tour the mechanistic target of recognition and then also P. K. Or protein chinese A.

And um what dr Longo had actually helped to help us realize and recognize also in additionally of a few other researchers as well was that these pathways they sensitize concentrations or degrees of nutrient presence.

Why Fasting Matters

And so it's not to say you need to completely vacate all nutrition, you don't have to just be absolutely, you know. Abstaining from everything rather you need to be very meticulous about how much you're getting in at a point in time and that is in essence enough to not up regulate their activity. And so what you end up seeing is in essence fasting. So without the presence of adequate uh you know these stimulatory molecules, these triggers you end up seeing fasting occur and what you actually can link that back up to is this other process called stress resistance.

And so it's a it's really remarkable when you start to think about fasting less of this kind of verb definition like not eating food and more thinking about it from you know the perspective of that is a way to trigger fasting but there must be some other ways to do that as well. So as long as we understand what's controlling fasting, physiologic and molecular perspective then maybe there's a way to mimic it and that's really part of what l nutra has um you know really leveraged from dr Longo's lab is this understanding of fasting.

Yeah there's so many different angles like you said, you know, you hear all the time about intermittent fasting and um that to me is I mean it's a lifestyle, you know and it is a way to cut calories and but it's sort of a trick to lose weight, no one would do it if they weren't trying to lose weight really.

I don't think they're getting deep enough and I guess you are into the science of it and uh you know how exactly does that change your cellular, you know the molecular part um physiology how you're actually functioning on all these different levels, you know, what does it do to your hormones, your immune system, digestion, detoxification,

things like that. So you you guys um uh and it also I think for the audience um we've heard a lot about ancestral dieting, the paleo diet and these kinds of things and it works for a lot of people if you get the paleo which paleo diet, you know because if you're not eating according to your ancestors, you know if it's an ancestral diet, well who were those people you know and it's not gonna be the same for me is maybe for you even you know that we had different ancestors that would be different. But one thing might be common and that is that it was feast or famine, you know because back in the day that it was like hunter gathering was all there was there was no agriculture so you probably if you killed something you know and you could scrounge up some root vegetables or something, maybe something that was hanging on a tree but you'd probably feast for days, you know like you not do much at all rest, sharpen your tools, you know procreate or you know like I said just resting thing.

But then you go then what, hey, you gotta go a week before the next kill. That's real fasting. But it's um it's hard. I mean that's where you, you know, it's, it's not an easy thing to do. So I love that you brought up mimicking, you know, so I don't know what, you know, what would be the best order to talk about things in.

So we talk about that. Do you want to tell us um you know what other kinds of fasting patterns are out there? Um Let's talk about that. Yeah. Oh yeah. So we can kind of dissect the different fasting patterns that are out there because you know, there's, there's just honestly a lot.

Um and even what I'll share right now, it's almost like a cursory overview. But in essence you can define fasting kind of this umbrella term. So you know, there's all different types that fall underneath this umbrella term.

And so the way that at least we define fasting is that you can split it out between either two or more days at the time. We call this prolonged or periodic fasting or two or fewer days at a time. And we call this intermittent fasting.

And that's where this big buzzword whenever you read papers, especially scientific literature on intermittent fasting. It really does. You a lot of justice to go read the methodology section to figure out exactly what kind of fasting pattern they were using because I will tell you what, um, there's all different types that they use and they kind of will use this blanket term of intermittent fasting because of course it's very popular just trying to be right now. And so as a researcher, you want your publication to be published. I want those, you know, good keywords in there, but at the same time, it does kind of murky this picture.

Like what exactly do you mean by intermittent fasting? So, just for the sake of, you know what we're talking about today, this is how we define it. So within this scope of intermittent fasting, so two or fewer days at a time, um, you know, there's time restricted eating and that's where you restrict eating to a certain window of time. This one's quite popular right now, let's say the 16 8, so 16 hours of fasting, eight hours of eating and then the 12, 12, 12 hours of fasting, 12 hours of eating. And there's so many different iterations without being said. There's even this one called the one meal a day.

And technically that's a form of time restricted eating because you're consolidating all of this food consumption within a period. So that that one is quite popular today.

There's also the 52 diet, which is five days of normal calorie intake, two days of fasting or very low calorie intake. There's several different iterations of this one. Um, and then there's also alternative fasting where in essence to alternate from fasting and feasting fasting and feasting or nourishment.

Um And that's first period of time. Some individuals have specific types of regimens that they'll follow. Um So that's kind of intermittent fasting, so to go on the opposite end.

So two or more days of the time, there's a consecutive days. So now it's quite long. Again, we call this periodic or prolonged fasting.

Types of Fasting and Time-Restricted Eating

Um There's really very few versions of this, so there's water fasting, of course you can water fast. Um And depending on the individual that can be dangerous.

So we don't recommend, you know, water fasting unless it's dramatically supervised and absolutely cleared by a health care provider. And and typically because it's so difficult to do, it's done in an inpatient setting, meaning you do this at a facility and someone's monitoring you and you know, kind of distracting you with other things to do.

Um And again, it's not the easiest thing to actually undergo, but people do it. And then there's also fasting, mimicking diet. And this is an iteration of prolonged fasting because it's typically days at a time, the one that's commercially available, prolonged, that one is five days in a row. And this one is typically done in more outpatient setting. Most individuals can do this at home.

Um And in essence it has the same degree of uh same same idea of prolonged fasting, but you actually get to eat food when and you're fasting. So it is quite different than what you would think of as water fasting.

You actually get meals during this program. And this one is the one that we're really leveraging. Dr langer's research with. So we utilize all that foundational pre clinical understanding and the clinical trial to support its um you know, safety and efficacy and that's how we have this program called pro on. So how are they, how are these different, how like how would you pick one? Because you know, I know I have friends, certain religions and they don't eat from friday uh at dust till saturday at dust, you know, like they just skip a day and it seems to work well for some, but I don't know what good it really does. It seems like more of a religious thing than a health thing, you know? And so what are some of the differences.

Yeah, so the one that you're describing um you know, there's actually quite a, I wouldn't say a lot of research, but as it pertains to time eating because that one is still this emerging field. Um some of it is, you know, kind of speaking towards the more spiritual and religious fasting.

Um so it's quite an interesting topic. I will admit that it still does appear to be a little murky just because the studies there, you know, not necessarily very large in size, but that will soon change.

There are a lot of studies that are pending and you know about to be published on time restricted eating that are you know quite larger in in sample size.

So we should get some really good information on T. R. E. Soon to come. It's quite an interesting area of research but what I'll say is that you know, it's hard to really uh you know kind of piece together what uh duration of fasting you should have dependent on the individual. So you know, is it really that everybody should be doing a 16 8?

Or is it only specific to a certain type of you know certain type of individual? Or should everybody be doing a 12? 12? What is the best form of T. R. E. And likely as even you were alluding to earlier, you know it's it's gonna have to be personalized.

Everyone is different, everyone is unique and to try to to categorize everyone and blanket statement it's much easier to do it that way. Much more cost effective to.

But that probably will never kind of solve the true question at hand. You know when and how should we be fasting from a daily perspective. So within this 24 hours that I have, should I stop eating at six p.m.

Or should I stop eating at eight p.m. Or when should I start eating? That's still a question that we have. Um But in regards to the other fasting patterns and really how they connect and how they compare, you know, ultimately there is no one grand um clinical trial that's comparing all of these different types, hopefully soon to come. But you know, even with that being said, it is possible that these patterns, they're just different because of the duration of time.

So let's take the 52 diet and alternative fasting. There's quite a lot of research on these two types and the sample sizes, they are quite sizable, so the information is robust um but typically in these studies, when they're, you know, the type of arms that they have, they compare this to court calorie restriction. So in essence, either you can do in the five to or ADF or calorie restriction and in that, you know, calorie amount and cork amount, they end up being equivalent um when when you look at it from the nutrition profile and what they find is that, you know, maybe you

can get some weight loss a little earlier with some of the fasting patterns. Um That's arguable, but ultimately, when you look at it from that six month mark, you know, it's just as effective as a caloric restriction. And so it's interesting to note that because, you know what I'd say is that this is a really unique tool to utilize um an additional tool to utilize beyond just this traditional kind of method of caloric restriction, we know that calorie restriction, you know, it works. It definitely works in the immediate setting, but in terms of long term, there's always something that occurs and it may be behaviorally dependent and maybe met above publicly dependent.

We're not too clear on why people get weight regain and why sometimes, you know, they're not able to lose additional weight. And obviously this is a huge problem that we have even here in America.

So the jury is still out if it could be even more effective than caloric restriction. From a long term perspective we're thinking years at a time, but it's still something to you know, actually be proud of that.

This is now a new type of program that we could implement if our clients or patients are looking for weight loss specifically um if they don't want to be doing a restriction or calorie restricted diet. This is an alternative talk about interesting in that regard. Tell us about the idea of mimicking, how about prolonged because I think it's fascinating.

I really I've actually created my own study group so I'm sponsoring uh you know, a dozen of my staff to go through a fasting, mimicking diet. We're going to start it in another week or so. But tell tell you all about it.

Yeah, it's since we met, you know, I started that because I'm just so interested. I want to try it myself and things. But so what is tell us more about pro on and the mimic idea of mimicking because starting yourself is not attractive.

Well it's not starving yourself in five days. Okay, that's totally different. I would argue that that's not what problem is. It's a mimicking thing you get to eat.

ProLon and the Fasting-Mimicking Diet

Right. So yeah, absolutely. Yeah. To kind of like piggyback off of the last question into this uh you know, describing prolonged even. So the really interesting piece of, you know, prolonged fasting and specifically prolonged is that this is fasting for days at a time. And so in a clinical study when we're looking at, you know, how does this work? What kind of uh you know, outcomes do we observe? We do get to see this weight loss effects specifically this trunk that region three cycles of FMD over three months.

So once a month for three consecutive months and generally healthy individuals. What they had observed was actually around £5.73 being lost 1.6 inches of waist circumference going down, preservation of lean body mass and nobody lost any, which is great. Um It's a big, you know, kind of worry.

And then we also saw some kind of metabolic balance support as it pertained to a few different markers that we're measuring. So it is to say that as it with all that being said, there does appear to be, you know, some interesting effects of fasting for days at a time that may even be outside the scope of what we see with the shorter term pass. And so specifically we think about pro lan, it's this periodic five day structured meal plan.

And it's kind of funny to say it's five fast days, literally five days that you're fasting and in technicality and it's five days, so it's fast. So I kind of like that phrasing because it really does describe exactly what it is and what it does is that it delivers this very unique nutrient ratios to deliver the benefits of prolonged fast without you actually having to abstain from food.

So you do get three meals a day with some snacks in between. And it's been scientifically formulated with these plant based ingredients to mimic fasting, prolonged fasting specifically. So again this is not like the 52 diet where you're just fasting for a couple of days and you go off for one day, you go off and you go back on, no this is fasting for days at a time, five specific days at a time and you know part of providing the meals.

The hope was that this would enhance the adherence to a prolonged fast because of course the alternative here is water fasting which is just quite difficult for the most part.

Um And again, you know sometimes why this is done in an inpatient setting, although one could always make the argument that um you know if you have someone who is highly motivated, maybe they'd be able to do that, but for the grand majority of individuals to abstain from food for, you know, days at a time, that's a complete lifestyle change.

I mean, I know that even for myself to think about doing even a shorter term fast, let's say, you know, maybe just a couple of days um if I had to think about not being able to eat for those two days, that's me reorganizing my whole life, I have to then figure out exactly how I'm going to avoid any of these um triggers if you will and um you know, kind of reorient myself where I know that, you know, my partner, he's gonna want to be eating, but I cannot, and so it's, it's, it is a whole lifestyle change, even if it's short durations and that could be quite difficult. I know, even for myself, sometimes it's hard to get certain individuals in the past.

Um I'll never forget, you know, there's certain patients that you have where you'll say, hey, you know, um, how about you, just eat some more fruits and vegetables.

You said that you, you know, you want to change your dietary patterns and your habits and, you know, this would have been all like discovered in the interview of course, and my mind, you, most of my clinical expertise, it's an in patient clinical, so these people at the hospital, they're really sick.

Um and so I get to kind of force them to eat certain things and so after, you know, me talking with them, they'll say, oh yes, you know, I want to change my diet, I want to eat better, I'll come back into the room and I'll observe what they actually ate from the meal and they would have left all of the greens, so all of the vegetables, and I'm like, what are you doing?

You know, Of course, I don't say it like that, but you know, I I asked, you know, like, hey, you know, where you gonna, where you finish, where you going to eat all of that?

I'll get to that you're not a problem. So, you know, it is hard to change that behavior ultimately. And that that's a huge component to um parole on is that, you know, by providing meals, this actually could make fasting more accessible for, you know, most individuals. And we found that it's actually been used, you know, safe and effectively in 100 and 60,000 users globally, whether we're thinking a direct to consumer or even HCP channels, a healthcare provider channel, and we do track its safety profile carefully.

So you're that's a good explanation. So your fasting, but you're not fasting, that's where the word mimicking comes out, you said FMD fasting mimicking diet, right? So that's what you meant.

So how does that work? You know, like, how can you eat? But your body thinks you're not eating or something like. Yeah, absolutely, and yeah, so FMD me fasting mimicking diet.

Um yeah F. M. B. I don't think that you could actually say that word without sounding um you know kind of nice but nonetheless um uh so this program um you know like I was mentioning it was really built with this you know foundational research that Dr Longo had um you know undergone.

So all of this knowledge that he all these studies that he had spent all this time on, he helped to develop this program that in essence mimics fasting and you know the way that this is working is that there's very specific nutrient ratios.

So very specifically um Dr Swango is mindful of the amount of protein, the amount of sugar uh carbohydrates. And then lastly of course calories and each one of these plays a role as it pertains to these nutrient sensing pathways or food sensing pathways. Um Specifically again I Jeff one in some micro factor one PK A protein and then also enter or the mechanism target recognition and in essence what he was able to do by you know kind of modulating all these nutrients and kind of not necessarily perfect amount but a specific amount.

Was he was able to see the kind of the same type of effect as what you see with fasting without actually having to fast. And so that's where the mimicking comes into play. But you know truth be told apart fasting is is it's this

stimulation of the stress resistance kind of pathway the stress resistance effect.

And so sometimes you know I think about it and I think you know fasting almost doesn't really do this. You know kind of mechanism doesn't really do it justice because what's really doing is it's helping to put the body into this kind of mode where it can survive and sustain itself without food intake.

Um And so that's really what he was leveraging and so kind of how these two um you know kind of sides of the coin work is that when you're eating normal food intake you know obviously have adequate levels of protein calories, carbohydrates sugars and that will trigger these nutrients or food sensing pathways.

One M. And P. K. A. And what that will ultimately lead to is in essence aging. Now that does sound pretty heavy. Um because aging is kind of a heavy word.

But truth be told that really means growth. It really means one of the same thing when you think about you know a child or an infant growing into a child the age right?

So they're really one and the same coin. Just 11 sounds a lot worse than the other. So we can just growth. But that's what happens when we eat food, we have adequate building blocks in order to grow and that makes perfect sense.

So when you look at the opposite side of this, when you don't have adequate intakes of protein sugar carbohydrates that leads to you know, kind of this suppression or it takes away these triggers that would lead to this kind of growth occurring.

And so what you end up seeing is stress resistance. And so that's really how the program works is that it's very specific in the types of nutrients that are being provided over those five days in order to perpetuate this kind of specific molecular and physiologic response.

And what is that specific molecular physiological response called? Are you talking about? Is that what you're looking for? And can you explain that? Absolutely. So, Takaji is quite a beautiful process and Yoshinori Ohsumi in 2016, I believe he won the Nobel prize for this in medicine or physiology, physiology and medicine. And um, you know, honest to goodness, if you ever get the moment definitely to check out how atop the works and read some of his papers, it's just this very elegant process and there's all different types of atop a GI will admit it gets very complicated.

The deeper you get into that topic. But what he was observing was this thing called macro Takaji and he was able to categorize, in essence it's mechanism.

So, how it works is that pathology is basically the cell. So, it's an interesting process happens within the cell. It's the cell's recycling machine and so, during fasting conditions during stress, such as fasting, um, the cell will kind of trigger this auto fascism to synthesize and it's a very beautiful process. Again, if you, if you like the details, let me know and we can definitely chat about it.

But in essence, it help to create this auto fascism which will bind to a license. Um, that will degrade all these intracellular components. So what's within this? Auto fascism very specifically, it appears to be these misfolded proteins or poorly functioning organ al's.

They get shuttled into this auto fascism where they get degraded and then this will release at the end. Um, in essence, the building blocks for life. So proteins, amino acids, glucose. Um, and that's so remarkable because when you're fasting again, you don't really have anything coming, at least traditional fasting. When you think about abstaining from food, you don't have enough nutrition coming in. And so yourselves actually have a way to sustain themselves by, you know, preferentially appear.

Who ProLon Is For and Who Should Avoid It

It appears to be preferentially metabolizing these less functional components and repurposing them for other notable gun points. So it really is just a very beautiful process that ourselves have that appears to be triggered with fasting.

That's beautiful. I do get the uh the, the beauty in that, that your body finds a way this idea of stress response goes very, very deep, including that if you don't eat, it will find a way to sort of just consume the the garbage that's laying around and do something, you know, get get benefit from that. You're kind detoxing almost on a cellular level. It may not be called that, but I could see it as being a very cleansing cleansing kind of a thing.

But you need to get into a true fasting state to for that to occur correct. And so but fasting for like I said, and I wasn't referring to program, I was just saying, not eating for five days sounds really hard to accomplish.

Like you said, if you're gonna do a water fast, you need to be under medical supervision heaven forbid. You know, So, so if you could get that benefit that effect another way by so you can, you can consume something.

So you don't just feel like you're totally starving to death. I've tried fasting going out in the woods and not eating for a few days, you know, and it's it's difficult. Yeah, it's really difficult.

There's actually survival. Yeah. There's survival camps where you go out and you you hiking camp, you know, when you take water and that's all you take water, there's nothing else around. And you know, people start thinking about eating bugs and think because they're just having a hard yeah. So anyway, so that's, you know, but that might be um just like you said, it's part of the stress response.

You know, this idea of resistance and how our ancestors survived and grew and were able to um you know, actually advance uh you know, survive. Yeah, it's really fast.

We have to leverage this very beautiful process that, you know, we, we've all kind of forgotten over time. You know, it's, it's funny because you have, you know, certain types of channels that where their main focal point is food and food is just this very remarkable, um, you know, thing, it, it it allows us to survive. It allows us to, you know, think, and it's it's a beautiful, it's also, you know, social, um, um, you know, events when we eat food, we eat it with family, we have a friend. Um, so it's so much more than just nutrition.

But yeah, the core of it, you know, to not have food, uh, you know, fasting in its own right. This is what helped us to, you know, evolve. And so it's, it really is something that we've kind of forgotten as time has progressed. Um, but it's really awesome that we are starting to see that people are recognizing that fasting, you know, well they're remembering, oh yes, this is the thing.

And then they're also thinking, hmm, maybe this could benefit me. So maybe I should just try to, you know, maybe I should try it out once in a while. Um, and yeah, so it's, it's been really interesting to see this area grow within honestly the past like 5 to 10 years here.

I'm really looking forward to it. I've tried other ways that didn't exactly that I don't really want to repeat, you know, even if it did me, you know, and so I'm looking forward to this. I again, I've sponsored a group of my staff to about half of my staff is gonna do it and um you know, we'll do that for the benefit of the other half and then we have a lot of people that might be interested in depending on what we learned from it.

So why don't we talk about who provides for then and maybe who is not for if it's not for everybody, let's let's find out about that. Yeah, absolutely. So in essence, you know, roll on.

Um ultimately, well, side note of course, before starting any new dietary regimen, always be sure to speak with your healthcare provider if you are, you know, on the consumer side of life. Um But in essence um the problem is, and what it's for who it's for rather would be someone who's looking for weight loss support.

Um someone who's looking for healthy aging, support for maintaining healthy aging. And then also those who are looking for the metabolic balance support um with that is quite a wide variety of individuals. Um So some, you

know, they may find some benefit with utilizing this program um for a multitude of reasons, even all three of them with that being said, but you know, the kind of without being so broad um Really who this is not for is kind of the hard steadfast list. So, you know, do not use pro on if someone is allergic to any of the components within the program.

So there's tree nuts, there's out sesame um other components that we cannot replace because you know kind of going back to how specific the diet is um how specific that nutrient profile is. We really want to you know um make sure that the consistency of each program is the same so everyone you know is actually getting that same fasting mimicking. Um So with that being said we don't have any substitutes or there are limited substitutes for for things such as you know tree nut allergies. We actually haven't found a good sub for that yet. So somebody does have an allergy.

Um We would not recommend using the product with them um for those that are pregnant or breastfeeding those growth phases, they need specific nutrients to you know kind of uh stimulate and um sustained physiology. So we wouldn't recommend prolonged for that if someone has an active infection if someone is malnourished or underweight.

So B. M. I. Of less than 18.5 or below or however else you are paralyzing malnutrition and then of course those that are pediatric. So those that are you know um 17 years old and below.

We would not recommend using colon with them. Okay fantastic so listen you guys have been so generous in your sponsorship of this event and I appreciate you coming on and tell us all about yourself.

Great, great to get to know you and to know about prolonged because the idea of fasting mimicking is really fascinating, It brings out the nerd in all of us.

Key Takeaways on Fasting Science

Plus we're always looking for tools that we can help our our clients with and then their transformation, you know, all of our clients have goals and uh you know, it's not just about weight loss, it's about being healthier, being happier and living longer in a good way, you know, like you said, it's not about adding years to your life, but adding life to your years of course, and uh so any major takeaways that you'd like to make sure that we get out of this presentation today or interview.

Yeah, yeah, thank you, thank you very beautifully said so kind of the main takeaway that I would hope everybody is able to you know, leave today with is that fasting, It's a part of life and we've all had these piri of fasting and feasting even when you know, we're not trying to so for example when you're sleeping and when you wake up and theory of course, unless you are sleepwalking and eating, that is a thing that can happen. Well let's just say you're not doing that then, in theory you're fasting um and so in light of the building evidence to support fascinating.

You know, it really is time to get a better grip on all of this information um and really to assist through what the facts are and there is, like I said, there's a lot of information out there, over 100 million hits on google and I'm sure that will continue to trend up as time progresses and there's also a lot of excitement with fasting um you know, it's this number one eating pattern in America right now, so you know, if you'd like to become just more knowledgeable about fasting as a whole and really, you know, understand what the tools are out there, especially if you're planning to provide insight on this topic, but you really don't know where to start, then I would encourage you to just check out, you know pro on and even fast more, there's a whole host of information on our websites as they pertain to fasting and um you know, fasting uh research and how it works and I would definitely invite you to really see some of these tools because like I was saying a little earlier, um you know, our main goal here, one of our main goals, we have many goals here, one of them is to be able to provide solutions for everyone um as they pertain to fasting and fasting science, so we hope that you know, you check us out and that you know, you also feel empowered by looking at some of the things that we have to offer.

Well thanks so much, it's been great to get to know you and again, get educated on fasting and fasting, mimicking and especially your product prolongs.

So thanks again for being here. Yeah, no problem. Thank you so much. Read for having me. I really appreciate the opportunity and thank you all for joining us today. Thank you for spending some time and I hope that you're able to further solidify your understanding of, you know, fasting and of course fasting Science. I appreciate your time today, victoria. Thank you.