Summit Introduction and Guest Background

Welcome to the Fasting and Longevity Summit. I'm your host, Dr. David Jockers, and I'm excited to interview my co-host for this summit, Dr. Joseph Antoun And we are going to talk about why fasting is the best longevity lifestyle intervention.

And of course, it doesn't cost you anything. But we're also going to talk about some powerful food based resources that you can use to mimic the effects of fasting and why that may be more advantageous in certain circumstances.

And so a little bit about Dr. Joseph Antoun. His passion is to enhance human longevity. He is the CEO and chairman of the board at L-Nutra Inc, a unique nutrition technology company leading the longevity in food as medicine markets.

You can find his website prolonlife.com. And Dr. Joseph Antoun has dedicated his professional experience to launching two novel markets. The first is the longevity market, whereby he launched the first tested and patented healthy aging product called ProLon.

The second is the food as medicine market, where he launched Nutrition for Longevity, which is now among the first foods ever to be reimbursed by CMS and insurances.

So truly food being used as medicine and recognized as medicine. And he's also ProLon. And his companies have also helped to fund a lot of great research into fasting and fasting, mimicking diets.

And so real powerful information here. Be sure to share this with anybody that you know and that you care about. Get them involved in this summit so they can learn how to use fasting as medicine to reverse aging, slow down aging, I should say, and and reduce their risk of developing chronic disease.

This is a powerful information. Again, please share this with somebody that you know and they care about. And let's go into the interview. Well, Dr. Joseph, great to be with you today, excited about this conversation.

I know you've been working in this fasting and longevity space for a long time.

Why Fasting Drives Longevity

You've got some incredible knowledge and really love what you and your company, L-Nutra, are bringing to the space and really helping people access this natural form of medicine in the form of fasting and food technologies that really help us to get the benefits of fasting, particularly with certain population groups that may really struggle with fasting.

And so let's start with this question. Why? Why is fasting a core longevity intervention? Well, thank you, Dr. Jockers and hopefully we need to change somebody like today.

I'm going to go straight to it. Fasting probably is one of the only two or three interventions that we know today that can really reverse biological age and help people to live a healthier, longer life.

And in what's the correlation is when you fast you're doing two major benefits to the body. I mean, we can talk about it in detail about the types of fasting and the impacts of each on longevity.

But in general, you're doing it in a big intervention on your metabolism and doing a metabolic reset. 73% of Americans today are overweight. 90% of Americans suffer from one, one or two kinds of metabolic disorders and or, you know, meaning something going wrong with the metabolism, whether it's cholesterol, triglyceride weight,

etc..

So when you bring fast, just to start with that, you're helping 90% of the population try to reset one of their metabolic markers. But what made fat went abroad fast?

And this is the if you want, the the low calorie setting of fasting and helping the body lose the weight, then improve blood pressure and cholesterol and better use the right hand and all the other inflammation and inflammation, etc..

Now what took fasting to the prime scene of longevity was around that 2013 to 2016 when the science coming from USC and Professor Valter Longo, we're seeing that if you do fasting in mice, you're rejuvenating their cells and you're bringing new stem cells up to the surface to replace old senescent cells, the zombie cells.

So USC has established a longevity institute and they were looking at fasting. And under the leadership of Dr. Valter Longo, a lot of folks probably listening to us know that name and have read the Longevity Diet book.

And if you haven't read it, please go and buy the longevity of that book by Valter Longo. He explains how first in mice they were looking at if you do two or three Days of fast, which is equivalent to 4 to 5 days in humans, the mice metabolism is a little bit faster.

And he was showing that the body is going into a type of crisis in a fasting in mice are fasting the body of the body in the first couple of days has enough calories from the liver, from glycogen, from fat to the reserves of the body.

They help you in the first couple of days and then on day three, you go into a crisis where the body telling the cells, Hey, I cannot feed you any longer, you're going to go and eat that.

The reason the organ and you get it rejuvenated and you get to perform at your best so that we together all the cells can survive that fast. So the crisis and the cells after the three of human fasting or after the second day in mice, is what pushes the body to rejuvenate the cells.

That discovery won the Nobel Prize in Medicine in 2016 under the name of Autophagy, and then for the first time we're seeing a fast that pushing the cells to fix and therefore they're going biologically younger and when you fix the cell going back in time and a younger you as a you further away from the onset of the four big killers diabetes cancer, Alzheimer's and autoimmune disease mainly the age related health conditions that are killing 90% of us.

Now, what Valter Longo and USC developed, actually, they went even further. We all talk about auto vision, fasting, the next step. So imagine so the first two days, the body relies on the reserves fat glycogen in liver.

Then the three day for the body tells the cell, Hey, no more food. I'm depleting the bank account to get to the inside. That's out of phase. You establish that if you move forward and the cells are saying, I depleted, I, I rejuvenated what's next?

And this is where the elimination process had been, what we call the regeneration. And the body is saying, okay, I have cells that I don't need. They're all they're zombie cells.

They're senescent cells in the body, kills them, a process called apoptosis for those and pushes the younger cells to replace them. So basically get ineffective cells and push the younger cells.

And we see this very much so in mice and we see it in humans in our ProLon trials. We're going to talk about a problem and we saw a spike in stem cell and in precursor of white blood cells.

That is then kind of a totally different, you know, stem cells in which which means the body is getting that older cells. And these older cells are key in the process of aging because once you start having many of them, they're very pro-inflammatory.

They start creating that environment of accelerated aging. You know, folks who are 50, 60, 70, they start having a

lot of these old cells and the accelerated aging actually even faster.

We call it the exponential aging at the end of life. So it's very important to look at not just the intermittent fasting, but the little bit the prolonged one whereby improving metabolism benefit number one we talked about due to the way birth benefits.

Number two, rejuvenating the cells. That's the autophagy benefit. Number three, replacing old cells with new cells.

Fasting in Human History and Daily Life

The result as part of fasting, all those things are reversing bio age and helping you stay healthier longer. Yeah, what a great explanation. I mean, fasting is this, like you mentioned, this hormedic stressor.

It's a stressor on the body, but the body actually becomes stronger, more resilient through it by getting rid of these old, damaged, senescent or zombie cells that are just kind of going along.

But they're they're not functioning properly and they're causing poor function inside the body by getting rid of those and then replacing them with new young stem cells or repairing cells that are were still able to repair through that autophagy process.

So yeah, really incredible stuff. Now, when I was growing up, I was told, you got to eat three meals a day. It's got to be, you know, breakfast, lunch and dinner.

You got to get, you know, all your calories. And so, you know, I never really heard the term fasting. Now, my family would do fasting one day a year for spiritual religious purposes.

And I thought that was like the worst thing ever. And so now, of course, you know, you and I are big advocates of fasting. You hear a lot of people online talking about fasting.

A lot of people are certain to practice this. Is fasting new or has it been around for a long time? No. And everything you said is right, both eating three times a day.

And we're actually a proponent of that. And the ProLon fasting is has to be added to this. So I'll put it all together. Well, fasting has as been part of the human diet since since the beginning.

Imagine the first in a few thousands of years where humanity didn't even have any fire any any refrigerator or anything and humans live. I hear all these theories about the caveman.

And then we lived there on rivers. We didn't live. I mean, you can in the cave, you can hide at night, but there's no food or water. And by the oceans, the water in ocean wasn't wasn't drinkable.

And there was no trees. And it was, you know, so we live there under rivers and humanity lived because with the river you have water, you can drink and you have a lot of grass and a lot of trees and a lot of fruits.

And so we were plant based and little bit pescatarian. The flip fish is the only animal that cannot fly or run or seek clear. And it was easier to fish.

And this is why that for the longest period our diet was a plant based pescatarian. Then we started learning how to hunt a little bit. We became flexitarian, we added a little bit of meat meat to it, and they were periods where there was rain and snow.

So in the summer with abundance, we would store our bodies to store in fat because of the winter and the winter, there was a lot of fasting periods. There was a lot of times where because we can in stores with the way we can store it today.

So the notion of not having food all day or going several days without food coexisted with us for the longest time. Imagine in the middle of the snow or you migrate in your, you know, packing your tents and going and all that.

There was a lot of beards for a lot of us. So the body learned how to cope with all of it, learn how to store when there was abundance and learn how to deplete and learn how also to react when the depletion goes longer.

By fixing the cells, fixing the spoilage, and being very ready to walk and find the next foods. Or and this is why we what happened with fasting, we transformed fat into ketones.

The key those are just food for the brain to stay up and be able to walk and not faint because then we would be exterminated as a race. And the second thing that the body does is to protect lean body mass.

This is very critical. Critical and the body invest into the brain and the muscle to keep walking and collecting fruits and vegetables, in a way is critical today because today for all the folks who are diabetic or overweight or have some, we put them either on a chronic diet and they lose muscle and they lose that fat.

But because they lost muscle, they're not able to go back and resist restoring the fat. And they always everyone tells me I've learned helplessness. I go on a diet and then I go off and they regain everything because they lost the muscle.

And now we have the new the new semaglutide and injections that that a lot of people are doing. And up to 20 to 30% of the weight loss is muscle loss, which means that they you stop those, you going to pick up the fat again.

It's very difficult to rebuild. The muscle is very easy to store the fat. So it's critical to understand that fasting is one of the very few, if not the only intervention that helps you lose a lot of fat while maintaining lean body mass.

In spite of the success today of athletes who still do it or in what do we do with the fasting mimicking diet? Probably we'll talk about it. We even accelerate that because we're giving the muscle, even the nutrients that it needs to develop.

So we have even a better way to preserve body mass. And in some trials and then we're seeing an increase in lean body mass when you do a fasting mimicking nutrition.

But due to to go back and close on the end, fasting lived with us for a long period of time as humans even then when we when we start sorting food, religion was the predominant, you know, adoption with humanity and and all divine religions actually have one common word which is fasting.

So we kept it as a tradition, as a cultural tradition up until the last 40, 50 years. We became less religious. We saw now we're food better than ever.

And we accelerated the delivery of food, late night deliveries with the Uber eats. Ah. And we started working late at night and over eating. So we went from fasting and feeding to multiple times, eating per day and eating late at night, which is the worst thing you can do to your body.

But your parents were right. We should eat three times a day. And this is a big discussion between intermittent fasting then and longevity proponents, whether you should do the 16 hours of the 12 and 14, and I'm happy to go into all of it.

But one recommendation here is eat early, do it frontloaded intermittent fasting. If you want to do your 12, 14 or 16, just have your dinner at five, six and then still eat something the next day in the morning, which will give you the 14 hour that you need or the 16 versus eat late at night and start everybody all the way into the evening time, because that creates a delta between your circadian rhythm and your biological clock versus the and you'll be starving your organs when they need the food in the morning and you'll be feeding them at night when they're just relaxing and and it pushes insulin IGF and accelerates aging.

So that's a separate discussion on how to do intermittent fasting. Right. But definitely we should do intermittent fasting and not during the night phase and 2 to 3 times per year, which is what our ancestors did and prolonged fast when there was no food.

Today, the science is showing that actually the five days of fasting done two or three times per year helps us refix our metabolism, fix ourselves and be a pro longevity intervention.

The simple example to give here is that, as is a Formula One or a NASCAR Cup race, if you watch those, if you're driving, you're going pretty fast. That's that's life today. We're getting toxins.

We're getting the wheels are being over abuse. The engine is hitting. What you can do is you can slow down intermittently. That's intimidating. I think it helps you a little bit decrease all this, you know, heat on the engine.

But what you can do optimally, you can go to the pit stop, the mechanics come in, they fix, they change. And that's that's the five days fast. That's the problem. Fasting and it can die.

You take the five days the zombie cells are the or the senescent cells. You're fixing the existing cells, you're resetting your metabolism and your car goes back on track, can stay longer, healthier and faster.

Yeah, really fascinating. And you made a really good point as far as the sarcopenia or muscle loss we know when we talk about longevity, one of the biggest risk factors for all, cause mortality is muscle loss.

It's called sarcopenia. And fasting helps preserve that because you get an elevation in human growth hormone and HGH helps your body preserve your lean body mass.

We think about it from an ancestral perspective. When our ancestors didn't have food for a few days, if they got weaker, it would be hard to hunt or harvest.

So they actually got in a sense, they preserved that lean body mass and their senses because of the ketones in their brain, their sentences got heightened and therefore they were more mentally clear.

They're less brain inflammation, so they're more creative. And, you know, all their senses were heightened. So it was easier for them to get food. And you mentioned the key word, it's the stress.

So fashion is not a low calorie setting. We see that in other restrictive diet. It doesn't work that you lose the muscle. The fasting works because it's an injection of stress.

It's like intermittent intense exercising, right? You get the same benefits. Fasting is actually like the intermittent, you know, transient and high intensity, high intensity exercise.

It develops a superior level of intervention, the level of stress that then the cells say, okay, I need to flex, I need to adjust, I need to be metabolically flexible, but I need to rejuvenate and fix and be at my optimum to survive and you don't need to do it all the time.

How the Fasting Mimicking Diet Works

The prolong one. You get to do it, you know, when you when the body is needing it. And we think it's every 4 to 6 month is when you would go and do it, which again, whether it's a car race due to a pit stop during that race, whether it's humans, we used to migrate two or three times during the year with the snows and the springs and Ottoman.

It's part of the cycle of life. Yeah, yeah, for sure. And you know, some people that are listening here have done a three or five day fast water fasting.

And so for a lot of people, water fasting, they they see amazing results with it. They feel good with it. But a lot of

people are very intimidated by it and really have trouble as they get started with it.

And that's what's interesting about L-Nutra. You guys have made these great food technologies where you're getting the benefits of fasting, but you're still actually eating and you don't actually have to make food, prepare food or really think about food.

You know, you just in a sense, yeah, all your food in a box and it's all set out for you. So you're still fit, you're still eating. A lot of people are taking medications and you've got to take, you know, that that they need to eat with and things like that.

They don't have to disrupt their day to day life with that. Yeah. And you know, we used to be in water fasting, the clinical trial. Read our story. A new trial is enough is enough.

Speed up the universe of something. We were founded. We were founded by Dr. Longo, the head of the London based in NYC in. And we were the results of their water fasting actually they said to us, so this is 20 plus years ago they were looking at the benefits of intermittent fasting and then fasting for a day or two or three.

And there was a lot of actually benefits on cancer patients. And the first time you went and the human trial, it partnered with Mayo Clinic to go on a pure water fasting intervention for patients for patients with cancer.

And it took a year and a half to just do two or three patients because nobody cared or wanted to do a four or five day fast. But in my case, we were showing major benefits on diabetes and cancer on autoimmune.

So we took all these results in mice through the NIH and we asked for grants to go and develop the fasting mimicking diet, meaning can we because we were also our founders are experts into what we call the nutrient sensing pathways of the cell, how a cell recognizes food, what are the sensors of the cell and they thought they would devise a very specific precision nutrition formulation that would feed the body and the cells, but keep the signals of fasting at the cellular level.

So this is why it's called the fasting mimicking diet. You're feeding the body over five days, and I'll tell you how the cell misses that. But at a cellular level and a metabolic level, the body doesn't recognize the food.

And therefore you're getting the benefits of a five year fast. Actually, you're getting even more benefits because you're responding. The transformation of the body.

When we say autophagy, you're going to mobilize to mobilize Lysosomes and others. So if you don't have minerals, if you don't have the vitamins that you have, the macros that you need, you're not going to do that.

If you want to push you cells, you get it, also feed them. So we were seeing in a lot of cases the fasting mimicking diet to be not just safer and more compliant and easier to do, but actually had much better results than fasting on certain determinants.

And the big question I always get is how can you trick the buddy into fasting and what is this formulation about? So it all goes to how the body understands that you eat when you eat these two macros that stimulates if you want the recognition of food, you have the carbs which stimulates that insulin.

It's a growth factor at the systemic levels. Think, okay, we have carbs, we're growing, we're all fasting and the proteins trigger exactly similar IGF insulin like growth factor.

So whenever you have a protein intake, you're also telling the body that I'm I have I have one of the macronutrients and therefore we're not fasting. So the first step at a systemic level is to not spike insulin and to not spike IGF.

And so one of the core formula portion of the fasting INDIGENE that we call the colon in the for promoting longevity problem in the market is to not spike insulin.

And that's like IGF. And there's two secrets there because people are wearing CGM now, they say, oh, I did get a spike after little spike after lunch and little bit bigger spike after dinner.

And we engineered actually two of our soups to do that because you want to feed you want to create a mini spike of carbs and insulin at night when the body naturally is pushing the growth hormone as well.

When you sleep so that the muscle is getting the calories and the boost to be preserved, this is why we do better on protecting your body mass. That water fast.

We're nourishing the muscle and giving a signal of double signal of insulin and IGF and growth hormone. Naturally, for the muscle to be preserved and to to rebuild.

But but it's a small spike in general. No big spike of insulin as a response to that big spike outside. You know, when you get on the cellular level, the cell perceives nutrition through the peak pathway, the thought pathway and the rest pathways.

And they they interject that are other many paths pathways. And so the formulation does not over trigger these three pathways. We have to study an every ingredient is 77 ingredients is protein.

Is it fasting by nourishment, not by starvation. You're getting a lot of nutrients. And we studied every combination of nutrients that the cell does not get satisfied and say, well, I'm getting some nutrients, but I think I got to be cautious that I get to still be protective and stay in the fasting levels.

And these are the two layers that we need to cover to put the body in tune. We do give kickers, you know, with the with the Omega supplements, etc., to, to and the healthy fats.

It's rich in macadamia and pecans and all that. It's all plant based solving and there's nothing engineering engineered in it. So it's clean, vegan, one of the healthiest thing you can eat outside of fasting from an ingredient perspective.

And we also play on the healthy fats to boost that environment of ketosis, an environment of fasting. Yeah. And so it's a calorie restricted diet and short term, you know, long term calorie restriction, you have a lot of the problems like you talked about where you start to lose the muscle.

But these short term bouts of calorie restriction where you're also keeping your insulin or your mTOR pathways down or your growth pathways down, you're getting all those benefits like you talked about, the stimulation of the autophagy, the stem cells, right, and different things like that, getting rid of the apoptosis, getting rid of the zombie senescent cells.

And so can you talk about like because it's it's you guys have it all down to a science. And so it's like day one, you're consuming a certain percentage of your normal caloric load, right?

And then day two, three, four or 5 to 5 day approach. Right. Can you break that down how what it looks like day one through five? And I want to clarify, it's not the counter restriction so much as much as the formulation.

Yeah, because for Alzheimer's, for example, we have for Alzheimer's, for example, we have a fasting mimicking by there's up to 1000 401,200 calories. So it's it's calories. Six is part of it.

But the precision formulation that does not spike incident IGF and does not trigger the nutrient sensing pathways. The release of the cell is the big key secret.

Yeah, because you could eat a thousand calories of fruit and it's all sugar. You can eat right. That. Yeah, right. This is why the ketogenic diet, by the way, which can be can be also restrictive, is not getting you into ketosis because the protein in the cell senses the protein.

So you're you're very low on carb, but you're sensing the proteins and therefore you don't go into food deep, fast. And sometimes you can just then people say, Oh, I'm doing juice fasting or others.

I mean, if you if you even with the 300 calorie or 400 calorie intake per day, you can you can excite one of the receptors on the cell. And therefore, the cells would would be an in-between fast or a partial or a non fast stage.

So it's very important to this is what took us $36 million in the research and 12 years literally to get to that formulation. Now we have 18 universities that are tested on Stanford University of Miami, USC, UCLA, all the big ones in the US and in Europe.

Clinical Uses for Cancer and Diabetes

And it took a long, long time. It's it's very it's balancing calorie intake with ingredients and effectiveness on longevity and on chronic conditions.

And they one is a thousand, 100 calories. And and they two, three and four and five are 800 calories each of the days. And again, we have a formulation that goes for cancer patients a little bit more restrictive.

We have one for Alzheimer's patients that's even higher in calories. We adjusted to different health conditions. But if you're doing the the prolonged longevity package, it's a passive 100 calorie day one and then 800 calories every day.

It comes in boxes. You get a big box. There's one box here behind me. You get a box and it has day one, day two, the rebate for day five, you open the box of day one, you have your breakfast bar, you have your soups, you have your lunch and your dinner.

You have the snack and the drinks and the supplements. So you don't need you don't need to do anything else. You have your drinks, you have your hydration, you have your pills, your supplements of the day and the food.

And you just enjoy five days of the structured delivered meal and, and you get the rejuvenation and the metabolic benefits of it. Yeah. And I'm most familiar with your, your, your basic prolonged package.

I'm interested to know that the science there with you were talking about with Alzheimer's patients, you bumped the calories up a little bit. What is what is the reason for that?

You know, most most Alzheimer patients are actually an older population and a little bit more frail. They have less reserve or they can adjust less, even if they have their reserves a little bit metabolically flexible, they metabolism is different.

So we allow ourselves to go a little bit higher up, giving them a bigger and bigger, nutritious if you want intervention to adjust. And we also play a little bit on the Alzheimer's is it is a condition of the brain and you can allow a little bit more ketosis and finding that ketosis with with healthy fat as well to get to prime the benefits.

Yeah. Yeah. Really interesting. Now you said with cancer sometimes you're more restrictive. Can you go into that? So we have a fasting mimicking diet that we've studied probably now we have eight papers on it and the goal is to couple the fasting nutrition with chemotherapy or with immunotherapy.

So whatever standard of care you're doing, we do the fasting nutrition. We tested right before the four days before and the day of the intervention and why we want to fasting cancer.

And this is how the entire company, by the way, started. We started as bringing nutrition to cancer patients for testing them on fasting, nutrition with cancer.

As I indicated, the goal is cancer is what is cancer. Cancer is a cell. That loss inhibition, it replicates typically a segment replicates when it touches other cells, it stops replicating.

Cancer is a cell that just lost it. Inhibition keeps going, going. And when it's too big locally, it just goes in the blood and goes everywhere. It just loves the proliferation.

And so cancer doesn't know how to stop replication and we use this to the disadvantage of cancer. So when you fast the body before chemo, the normal cells, the normal cells of the body, there's no fluid, there's no growth factors.

They hibernate, they don't replicate the hibernation and the cancer doesn't know how to do that. So the cancer is being starved and doesn't know how to respond, doesn't know how to stop.

So it gets into a very oxidative, very stressful, very weak state. And then you hit it with chemo and therefore and you're hitting a cancer that is malnourished, that starving, and it doesn't know how to how to escape.

So the first theory is, how can we create how can we weaken cancer versus chemotherapy, or can you put up the theory? Number two is, as you know, chemotherapy has a lot of side effects because it kills any cell reputation, any cell doing mitosis, replication gets impacted by chemo, cancer first because it gets the most.

But you lose hair because the hair replicates fast. You lose white blood cells because they replicate fast by fasting the body before the chemo, the normal cells are hibernating.

So you're sparing them the side effects of the chemotherapy. So benefit number one sensitizing cancer to chemo. Benefit number two is sparing the normal cells.

We call this phenomenon differential stress resistance. You're hitting a death that you're spreading the normal cells, you sensitizing cancer, which unlocks the biggest dilemma in chemotherapy, in cancer treatment, because you cannot give high doses, you can induce cancer cure today.

If you can give very high doses of chemo, but you can not because of the side effects. So what we do, we enable we have like this delta called differential stress resistance so that the doctor keeps giving the high dose of chemo to the patients and spared the normal cells and hyper to kill cancer to increase chances, hopefully of remission. We're studying all this.

There's two or three papers already published on it. There's a third benefit which is, as we know, cancer is fasting. The fasting mimicking that rejuvenates white blood cells.

So white blood cells are supposed to attack cancer. This is why we have immunotherapy now to help unlock that. But they coexist and they get lazy and they adjust to the cancer by doing fasting.

For the four or five days you're swapping you white blood cells, you reactivating them, and they had infiltrated that cancer in a better way. And these are the three major benefits.

Now if you want to overstuffed cancer we do the version of on but it's a version for cancer specifically we have we have a launch again, we're launching it next year, but it's more restricted because you want to oversight of the cancer before the chemo and over sensitized to it.

Yeah really interesting. Now some people with cancer are dealing with Coca-Cola where they're rapidly losing weight, losing muscle. Is there any sort of modifications they need to make as you're doing this?

Yeah, if they already have lost a lot of weight. And by the way, that's the dilemma. The problem is doctors do chemo without the fasting or without spitting.

And therefore, you have a lot of GI side effects. They have nausea, vomiting, then you lose weight and it's a vicious circle. So if you want to do the FRC, if decided early on so that you don't get to that stage, but if you already are frail, if you're really frail below BMI of 18 or 19, then then you should not fasting should actually replenish.

And it's important yet to replenish with healthy fats, not to feed the cancer with high protein. With the other big mistake that a lot of oncologists and a lot of people do today, they replenish them with high doses of a big concentration of of cards and protein.

And why it's a mistake because you're feeding cancer the first and foremost by the cancer is is hunger is the hungriest organ once you have it and wants to take it.

So it is very important there to give them complex carbs, to give them plan based proteins that there's an over spike IGF and and growth cancer and to fill them with healthy fats, give it the calories mostly there as well, so that they are actually boosting the cancer drug.

When they pick it up on the way there, then you can do you can go back for to do the fast. So for some it's too late. For some you can really feed them and help them and do it.

Yeah, really powerful stuff. So this fasting mimicking diet again helps to protect the normal healthy cells, but helps to sensitize the cancer cells, basically starving them down and making them uptake more of the chemotherapy or whatever sort of oxidative therapy that you are utilizing.

Radiation, whatever it is that you're using to try to kill the cancer cells. So they get more of that, less side effects, you know, that it's just a great combination.

And how about diabetes, right? What kind of results are you guys seeing with diabetes? And, you know, a common question people give is when, you know, if they are diabetic, how do I go about fasting?

What do I do with that? And this is why that fasting decision is important. They're not on water fast and they don't risk hypoglycemia. Right. This is we're fasting our main court.

Main, main today. And we actually just launched a month ago or two months ago our fasting, what we call the diabetes regression and remission program in, you know, the word remission is now there's the the American College of Lifestyle Medicine, the Endocrine Society and the and the American Dietetic Association.

They came together and they kind of did a national position paper to say if treatment is reserved as a claim for drugs, we want to create the word remission reserved as non-drug intervention to reverse diabetes.

So the word remission, meaning a patient does not need medication any longer and the word the regression and they define to whereas the word regression it means the patient needs less medication.

So in that very patients typically today when you know in traditional medicine the stories they start on one pill they go to they go to three, they inject and then they go on insulin.

That's the normal course you don't hear stories about. I was diabetic for ten years and then I reversed it and we we accepted that that's the problem.

It's a lifestyle disease that we accepted to just coded as a progressive disease. But now seeing that eating healthy and actually in the National Position Paper, they mentioned that fasting mimicking diet because the results of the fasting were so effective on diabetes that it was one of the reasons for them to create this regression in remission position, because we're seeing a lot of patients needing less medication or no more medication with the classic American diet.

So so what is why to do the fasting mimicking diet and diabetes. And we have a separate program again under a neutral health for diabetes that people can go and subscribe and have the product of the fasting nutrition for it, and they'll be supervised with the dietician also on our behalf.

But the premise is in diabetes is, is a disease of three pillars. Number one, and this is the most surprising is aging and, you know, most people who get diabetes at age 50 or 55 or 60, they were still overweight, most of them even

at 40 to the 35.

But their body had enough muscular metabolic rate and muscle mass and IT cells were young enough to correct and escape it. Right. So it's a disease of aging first and foremost.

And even if you get it at a younger age, you're accelerated aging with over nutrition and you're biologically older this late to get it at the younger age.

Number two, it's a disease of also muscle retaining muscle because muscle is the engine of burning carbs. And when you start losing muscle mass, correlate it.

Sometimes with aging, you start seeing your blood sugar going up and then you have the lifestyle, you know, it's it's a disease are over storing calories which create insulin resistance and then gets you into it for diabetes.

And obviously this genetic predisposition as well in the problem today when you look at aging, we're talking about root causes aging, having enough muscle in the body and that over eating and having the right lifestyle.

We never had an intervention that deals with all three the chronically diets help you with the insulin resistance but then you lose a lot of muscle. They don't work much on aging and therefore, you know, once you stop them, you go back you go back to two diabetes.

And the other side, the the the drugs, the diabetes drugs they play mainly on the uptake of HIV. When have blood sugar to accelerate insulin sensitivity or insulin production, they're both leading to more carbs storage into fat and accelerate the disease.

And now we have the see my great thighs those pigs and the and the and the well go with the others. And they're just helping you lose weight fast. But you're losing 20 to 30% muscle.

So whenever you sub those, you pick up back the fat and you you don't pick up fast the muscle, unfortunately. And then you you go in a vicious circle.

So there's never been a solution for three up until the fasting mimicking diet because with artificially reversing biological age, you're protecting lean body mass.

As you mentioned, it's the stress growth hormone is high. We're nourishing the muscle and women thinking body mass. And obviously we're working on insulin resistance.

You lose a lot of fat to the presence of the resistance and you escape the pathways and what we're seeing now, we've done two clinical trials on fasting, one in in in Holland.

It's showing in six month, six month, only five days a month into the fasting that we can night. So an aggregate of 30 days, six times five, you have two thirds of the patient needing less medication, two thirds already, some of them off medication.

They lose 22 pounds. They decrease their consumption of blood pressure as well, pills and their A320 is decreasing by 1.4 points, tripled the foot by MBA by at the recommendation.

If you have 45 degrees in each procedure already clinically significant and you can become a drug in six month, the drop is 1.4 to 8 points. And then we did another trial in home in Adelaide in university, one of the biggest health systems over there for 12 months, showing that if you did a fasting American diet versus the metformin or a healthy lifestyle, you have 53% chance of better regulating the drug disease versus just 8% when you do the traditional recommendation of how to eat or whether you do metformin alone.

Research, Products, and Closing Advice

So we're over 800% superior and better regulating the disease versus today the most used drugs, metformin and or lifestyle recommendations that typically have a lot more gives to the patient.

So 800% results, clinically studied, really awesome stuff. That's one of the great things that I love about your company is that you guys use proceeds to actually further research on this, which is really important because, you know, there's there's really not much money to be made in fasting, right, as opposed to a pharmaceutical drug or something along those lines.

So there's not a whole lot of government grants and things like that. So it's like, you know, we need to be funding this because we want to actually show more and more research on these benefits.

And you guys are the leaders in the industry when it comes to funding research on fasting and and, you know, basically using using these kind of products, right.

Like ProLon to support the benefits and to reverse metabolic diseases and overall chronic disease burden in our society. So really great stuff and people can find it out prolonlife.com is that correct?

And you can find practitioners that help help support this. And you guys have a support team as well. Yes. And as you mentioned, we're the first nutri pack of the word.

Like we we apply randomized clinical trials to, you know, and people trust us for that. It's like, okay, this is almost like it's like how every drug gets tested.

We do have this science in mice and then in humans, and then we bring the products and the claim forward to market. We're showing two lead nutrition for longevity and nutrition as medicine and and we want to keep using our revenues to fund more and more trials.

We've now we are now in our 34th clinical trial on one food formulation. Yeah. If you go to prolonlife.com you can, you can buy the product five days there.

We have products for intermittent fasting. Those that have longevity proteins and longevity spreads. And you can you can benefit from any of those for healthy aging.

And if you subscribe, you can you can also reach out. We have a team of our customer service team is all nutritionists and dietitians. And if you go on the program, if you want to the diabetes program, you can go to l-nutrahealth.com L-Nutra is the name of the company.

l-nutrahealth.com gets you to the diabetes program where you have a personal dietician with us and we have also doctors and or we send you to your doctors to help you.

You know, every three months, reduce your medication or be checked with it. And it's an integrated program. Well, you know, I have to commend you and just acknowledge the great work that you're doing really leaders in in this industry and pioneering this approach to reversing chronic metabolic disease.

So thank you so much, Dr. Antoun. Any last words of inspiration here for our audience? What I want to say is, you know, a lot of 90% of us here, you, me and everyone listening are going to night from four conditions diabetes, cancer, Alzheimer's and cardiovascular diseases.

60 to 80% of why we get any of those is due to aging and lifestyle. And so let's make these these option meals in our life, or at least let's push them by ten, 20, 30 years.

The way we're living today with eating all the time and stressing all the time and not sleeping well all the time and and not exercising is not the right approach.

You know, Warren Buffett always says because the asking or changing assets in the best way is the only asset I

cannot replace in the body. And this is why it's like you cannot go wrong about it.

And one of the best thing that tradition and religion and science all agree and all I did this decide that can change your life is fasting do intermittent fasting do the right one overnight circadian 12 hours.

This is the balance of life for you to lose weight fast so you extended little bit and or do three times a year ProLon fast significant attrition it takes you but it is a cycle that our ancestors used to go through when they're going summer to winter and then emerging into the spring.

This is what's going to fix your cells, reset your metabolism, and always give you that temporary reverse by your age and keep you further away from whatever incident or accidents that that is correlated with aging.

And you're not having the right lifestyle. I love that vision, Dr. Antoun, and thanks so much for your time. It's been an honor and a privilege. Everybody be blessed.