Introduction to Walter Longo and the summit

Hi everyone. This is Duckett Joseph Anthony, your co-host for the Fasting and Longevity Summit. This episode is going to be a very, very special one. Probably one of my preferred because we have with us Doctor Walter Longo, who is probably the the father of the fasting discipline and the longevity, the new thinking around longevity.

And as you know, this is the name of our summit fasting and longevity. I actually went, went and asked ChatGPT about who's the number one fasting expert in the world.

And Walter Longo was was the first. And who's the longevity nutrition expert in the world? Also, Professor Longo was the first there. So today we have a very special guest.

You're going to listen from, from the source, from the most scientific, you know, authority in the field. And we're going to discuss how why fasting is the cornerstone of longevity, how we were able to discover the fasting mimicking diet, meaning how can we eat and get the benefits of fasting?

And then what is the latest on the fasting nutrition for longevity and fasting nutrition part of food is medicine impact or support for patients with diabetes and or cancer.

That's about a longer thank you very much for your time today. Well, thank you. Thank you for having me here. I appreciate you very much. So first, why why fasting is a is a big pillar of longevity.

People, you know, always asking what is that interconnectivity? Why is it so special for for longevity? Can you clarify that concept for us? First of all, I always say, that fasting doesn't mean anything.

It's like eating, can be good, bad or neutral. So people shouldn't think that just because they fasts somehow that that's, it's magic and it's going to work no matter what.

Why fasting matters for longevity

And so I think that the there are lots there are some ways to fast and, and that fasting has to be personalized. You know, most cases, there should be a healthcare professional, guiding that.

And if it's done correctly, I think that the, the effects can be tremendous. And, and most of it seems to have to do with the ability of these periods of fasting to clean up, and use a lot of damaged components.

But maybe even more important than the clean up is the, regeneration part. So so I think for the best 120 years, the agent field is really focused on uncovering restriction and restricting things.

But I think that we've sort of try to push the the second part, which is the re expansion, right? You restrict the calories and you shrink. And most organism this happens in probably all organisms that fast for long enough.

But then the most interesting part and so lots of interesting things happen like autophagy during the shrinking and also killing of damaged cells, as we've shown for cancer cells out to new cells, etc..

But then the Re expansion is an opportunity a to reprogram. So Yamanaka factors in these factors, these epigenetic, changes that occur on one side and the other side, stem cells get activated and they give an opportunity to many organs and systems to re expand, but they do so using embryonic development like programs.

So now and that leads to rejuvenation. This is very, very clear in mouse studies in Arab studies and studies of others. But now we're starting to see evidence for, for the human body, doing the same.

And is it also a metabolic benefit when, when, you know, 73% of Americans a little bit struggling now with weight with the latest statistics are showing 90% of all of us have certain metabolic issues beyond that, cellular autophagy, interstellar rejuvenation and the regeneration you talked about.

Are there benefits we're seeing with fasting on metabolism in general? Yeah, I think that lots of the benefits having to do with insulin resistance and just functionality have go back to the same mechanism that I just described.

So the, the, the major part is still about rejuvenating systems and resetting the system. And this is why the great majority of 20 year olds, even the ones that are overweight and obese, they tend to be still okay, right?

Not all of them. Some of them can be diabetic in their in their teens, but I think the majority, they can still be functional enough to to deal with it, to deal with overweight and obesity.

So a lot of it still has to do with if the system is young and highly functional, you're probably going to be okay even with the excess weight. But then, of course, the nice part about the fasting refitting, it's done correctly, right?

It's done for five days. And then the refitting period lasts at least a month. Now, the the body goes to the fat, burns the fat first, and it temporarily shrinks the lean body mass, the muscle.

But then re expands that and, and so, this shrinking re expansion is probably, what's so important also to just get rid of fat and not a muscle. And, and that's exactly what we see.

And now this is very clear in both mice and humans. And I think this is one of the, impressive things that I, that I discovered on my fasting journey.

And, and with the fast mimicking diet we'll talk more about is, you know, chronic calorie restriction have a little bit failed on the muscle, you know, and ends up ends up, you end up losing muscle.

And now we have to see my glute. I had a big craze also where we're seeing 20 to 30% of the weight loss is coming from muscle. Get fasting. Be the secret of sending the right signals to the muscle to rejuvenate and maintain, which is important for subsequent metabolism and longevity.

I think that clearly the way so when we're 20, everything is functioning and in most cases the fat is limited, let's say, to less than 20% of body or the body composition is fat.

How the fasting mimicking diet was developed

So I think as long as we go back to the function, I mean, the best way to do it obviously, is to go back to the, the in turning the multiple systems to be as young as possible and at the same time reducing the fat back to a, a normal level.

And, and obviously, there is no better way than that. I think the fasting mimicking diet and the reason is that, it doesn't it uses what I call 3 billion years of research and development, to fix the problem rather than trying to interfere or, or activate GLP one Excel except.

Right. So, so I think that the FDA system is great. But at the same time is short term. So it's just looking at, okay, let me solve a problem for three months, six months a year. Right.

And and fine. You can solve a problem for a year. But I think we look at it from how can I make you live to 110 healthy? And that's a it's a much, much more difficult problem to solve.

Right. So short term you can solve things in a lot of ways. Some are good and some are bad and some are really bad. And but long term, it just really takes a lot of expertise to make somebody lead 100 and healthy.

Right? So when you intervene with the fasting mimicking diet and we feeding it, it looks like there's so much,

functionality improvement and reduction of risk factors.

And, and now as soon enough will, will be published in, biological age, etc.. And, but really, it's hard to imagine that we drugs. Right? Even so, now we see that GLP one, we see the initial problems and there's a lot of problems, including the muscle loss.

But I think as we get to five years, ten years or millions of people doing it, we're probably going to see much more problems. Yeah. And is it is it is standard in common for, for drugs that interfere or activate specific pathways in.

Yeah. I've mentioned a couple of times the expression fasting mimicking diet. And and you are you and in the University of Southern California, the Longevity Institute and and now I think 18 other universities have tested the fasting mimicking diet on, on different conditions.

But can you explain to us from a high level, how is it possible to fast, I mean, the oxymoron fasting mimicking diet. So we're eating. Yeah. The body things is fascinating.

Can you talk a little bit about that discovery. And then we want to address the bit, the benefits coming from it. Yes. So maybe around 2010 or so we were testing, water only fasting.

We can see patients and USC Norris Cancer Center and and we were thinking, of course, that the cancer patient is highly motivated. They're going to do it.

But it turns out that it wasn't the case. They struggled and the oncologists were not happy with it. And the the patients were not happy with what it only combined with chemotherapy in that case.

And so, so it was then we went back to the government, the government and basically the government funded research, to for the identification and testing of diets to mimic fasting.

And that's what we called the fasting diet. And, and so we had been working by that time for many years. Which ingredients activate the, the pro-regime pathways, which ingredients activate or block the regenerative pathways, etc., etc., the protection pathways.

And so, the the first American diet was based on, coming up with a formulation that would be viewed by cells and system and organisms as water only fast.

So they get to eat, but the effect will be very similar to what on fasting. And we will actually quantify this by looking at IGF one, IGF P1, glucose and ketones.

But these are like classical markers of fasting responses in many organisms. Right. So yeah. Yeah. So then you know, for example ketone bodies, if they go way up then that's a good sign that, that means that the body is into a fasting response month mode.

Now, we also, we're worried about, health, long term consequences. And so that's why we decided not to exaggerate with these peaks of fasting response.

So we wanted to to have a fasting response. But we do not want to exaggerate. We now want people to go through your your, extreme fasting response and back to lots of food, you know, because of course, there's really not no negative data that I know about this, but I think it was very, very important for us to design in a way that it would be difficult to imagine, even after 20 years of doing this, at the right frequency, somebody, being hurt by it.

And really, that was the, the the number one, goal. Yeah. Let's make sure that it's designed so carefully that nobody does worse. And then, of course, we see incredible benefits, with the use of the fasting mimic diet.

And I remember. Well, you can if you were studying the nutrient, what we called nutrient sensing pathways, how the cell senses nutrition and how the systems with insulin and IGF get recognition of food and and the FMD or the

fasting.

And it was designed to nourish the body. Why not trigger the recognition of the systemic and the cellular way? And this is how it mimics the benefits of fasting.

While as you mentioned, makes it more safe and compliant to do. Yes. So basically, the body, during fasting understands having lots of fat broken down and and so and so fat generally does not interfere with the fasting response.

So if only fat is coming in, that's, that's okay. Now, sugars and lots of different carbohydrates and proteins and especially certain amino acids are, can block or dampen or reduce drastically the fasting response.

Right. So then the, the challenge was to come up with, so many calories to be reasonable for a medical doctor to feed to the patients, but also to be reasonable for the patient.

And at the same time have ingredients that would not cause insulin to go up, will not cause glucose to go up, would not cause IGF one of these, genes to go up.

And, yeah. So that's what was achieved with the fasting diet. And and in some cases, again, and, we do not want to overdo it. So we were okay with the ketone bodies getting to a certain point, but not too high with the glucose getting lower to a certain point, but not too long.

And the same thing with IGF one and same thing, with, with, yeah, ketone bodies. So yeah, those are the four, I think, by glucose I g IGF one and IGF one.

And I sometimes call this FMD like a funded fast. Right. Because when you do only water fast here, there's a price so that it's not only benefits, as you mentioned earlier, we start talking sometimes there's there's disadvantages of water fast.

Whereas with the FMD the consumer or the patient are getting macros, they're getting carbs, they're getting proteins.

FMD versus water fasting and safety

And sometimes we get ask is is is with the FMD give a fractional benefit of fasting or actually in some cases actually is better than water fast. Have we studied any of the effects of potentially fasting fasting with food, the FMD fasting versus water fast.

So we we published lots of studies where we compared them. And in some cases, if you look, for example, a cancer in most of the papers where we compare fasting, we can do either water only fasting.

They're comparable. But in other cases, for example, in in gastrointestinal inflammatory diseases, we saw the, the fasting week in that beating the, the water only fasting and we, concluded in their paper that this is a, inflammatory bowel disease paper.

We concluded that the ingredients so the fasting making that from the time I developed that and my group developed that, we wanted to combine the, the high the longevity diet.

Right. So the, the nutrients from the longevity zones of the world, those that are uncontested problems with the food, with fasting, mimicking. So we wanted to have fasting, mimicking properties and then pick all the foods that almost everyone will agree.

Yeah, this is a good food and it's probably going to help people live longer. And, and there was probably a good a good idea because it turns out, and we weren't even thinking about it, to tell you the truth.

But it turns out that these ingredients serve the prebiotic feeding the Lactobacillus bifidobacteria and different bacterial species that are associated with anti-inflammatory effects and improvements in the in the gut function.

And, and so in that case, the water only fasting to increase the leakiness of the gut and the fasting making the decrease the leakiness of the gut. And in the first imaging, it was much more effective than water, only fasting in the in the improving the in reversing the symptoms of IBD inflammatory colitis in Crohn's.

Essentially the mouse mouse model. Yeah. It's amazing. So I want to transition into talking about the who should do the fasting mimicking diet. What what have you or your partner university tested it for?

We've heard you mentioned you get started and the discovery started with shifting from water fasting to fasting with food on cancer. You mentioned diabetes.

And so the resistance, you mentioned IBD. I want to start first with with longevity. Say, you know, I'm a I'm a 45 year old, male or female. And, and I listen to this conversation, I'm listening to this summit in general, and we're talking about fasting for longevity in the fasting, mimicking diet.

What would you advise for longevity? Say I don't have a health condition. What what would you advise that profiles such as that with how many times to do it, when to do it, etc.?

So as we are aging, lots of things, whether it's white blood cells or muscle cells or liver cells or, you know, liver fat, and there's a lot of things that start accumulating or becoming dysfunctional, become dysfunctional.

And we don't think about it. But the I always show two slides at the beginning of almost all my talks, and I show the number. The obesity and smoking is a major risk factor for cancer, cardiovascular disease and Alzheimer.

And then I show in the next slide how they they compare with 30 years of aging. And they almost disappeared. Right. So smoking and obesity as risk factors for all these diseases they disappear compared to 30 years of age.

So treating aging is the most important as well by far. Right. By far. It doesn't mean that that's always the case. You know, people can be young and have problems, but if you have to pick one thing and one thing only, you want to keep people young, as young as possible.

And, yeah. So I think that's where the first mimicking diet that, does lots of lots of jobs. Right. So one job, for example, it reduces the white blood cells temporarily small a small reduction to then bring them back to the normal level during the refilling and insulin sense of that.

So insulin in the people, in the patients where there was insulin resistance and high glucose level, it tends to lower. But in those that very low glucose level, it tends to make it higher.

Right. So it's a very we seen lots of patients where very low glucose levels and probably not healthy. Right. And and in it may make a higher right. So you go from 55 let's say for a single call to 75.

And 75 is probably a much better glycemic, than 55. Yeah. So I think that is this ability to, to basically, reset multiple systems organs and making sure that, they are now able to function as they should.

Right. So this is the first time in thousands of years of, of human existence, where we eat all the time. Right. And then in the last. So it was already bad, I think in the 20s.

But then it got worse and worse and worse, and now it's ridiculous. And with 75% of, of, Americans overweight and obese and nearly 60% now of Europeans are overweight or obese, right.

So this is really, a, pandemic. And, and interestingly, nobody's doing anything about it. And, and I think fasting, mimicking diet, need to be at the center of that.

And now, why do I say fasting and not fasting? Because, of course, we are big proponents of these 12 hours a day of fasting. Right? So to eat for 12 hours fast for 12 hours, there's clearly a very, you know, it doesn't cost anything and everybody should do it.

But then as you're trying to compete with the efficacy, you know, of drugs, they come with problem. But, you know, lots of drugs do work for lots of things.

They do. Then I think, you know, you have to standardize, right? So you have to standardize it and you have to let hospitals and universities say, I'll test that.

You know, for example, Heidelberg University, they test that factor making that and diabetes patients now, I think they they were very they were not trying to prove that the FMD worked.

And so they compare it with the Mediterranean diet. And it turns out that five days a month of the Mediterranean diet, there is absolutely nothing. And five days a month of the fasting diet is a tremendous impact on diabetes patients. Right.

Who should use FMD and how often

So, I think that they will have been happy to show that the, the range of that work and they actually do the work, you know, so so I think it's very important to standardize it and, and then let everyone test it.

And, you know, so far the record has been remarkable. I'm very surprised. I mean, we would have thought there would be a lot more negative results. And and so far, the great majority of the trials have been positive, whether it was cancer, diabetes or prediabetes, or, inflammatory diseases.

And it was soon enough. We'll have the data on Alzheimer's. Right. So we'll see what I think. And I want to get into those. Why somebody with any of those condition would consider the fasting.

But before we conclude the longevity part, would you recommend that people how many times per day per year. And I heard you talking. It's a five day fasting mimicking diet.

So how many times somebody on average the average person should do it per year? So I think that is the average person probably about three times. And and so in the diabetes trials, the, the of course they start most of the obese and lots of problems.

So they do it once a month for six months and or 6 to 12 months, and then they can go down from there. And that's the idea. Right? So even if you start with diabetes and you have to do it once a month, being followed by your doctor, the, the idea is year two, maybe you do it six times and year three maybe you do it 3 or 4 times and that's your maintenance, right?

And that's what you stay with. But I would say yes, maybe three times a year seems to be, a very good, way to go for most people. And that's really five days every four months.

That's it's basically 15 days only out of the 365 days that, that an average, you know, let's say healthy. And then we can we can always define healthy.

What that means would be, would be a good average, where there are studies on the bio age, like what does it do if, if I, if, if I were to benefit from what you mentioned, which is I want to reset my metabolism, I want to help my cells go through autophagy or regeneration as well.

I want to try to get my body a little bit biologically younger, because the younger me is that a little bit, you know, away from the onset of the conditions, as you mentioned, what what do I expect?

What do I expect from, from a biological age, or did we did you ever test or simulated what would that mean? Yes.

So now we have three trials where where we measured or we're measuring biological age.

And in the first two trials was a blood the, bio age, measurement. And in the latest trial, it's going to be, telomeres, epigenetic. So we'll see. Right.

What happens. But certainly, we, we suspect that, biological age will be reduced in people that do enough cycles of the fasting making that. But we have to wait and see.

But every indication. Right. So when you see IGF one being lower than cholesterol, being lower than blood pressure being lowered and fasting glucose being lower and inflammation, we look I mean, it's hard to imagine all these changes occurring in the absence of the system, being younger and more functional.

It's possible. But unlike in. Okay. And, well, make sure to follow up with you when, when the results are out and published, because this is, I know that the fasting we we can diet was the only or probably one of the first, if not the only even technology nutrition technology that was awarded the patent on longevity.

So that would be a great, a great fit, to show clinically as well the results. So we'll we'll do a follow up with you at some point to show that if everyone wants to to go deeper into a doctor, Longo is talking about that.

The Longo has the Longevity Diet book, which talks about the fasting mimicking diet, but also what to eat every day. And it was, know, a big international bestseller.

You can you can buy it on any of the online platform, the Longevity Diet, and you will get a detailed respect of, why fasting, why fasting? Nutrition diet?

There's a chapter on health conditions as well, to understand how to do it and how to apply it. Today we're going to give you almost the summary of it.

So with no further I do that longer. You mentioned cancer that this is how the fasting we begin. They started you mentioned diabetes. Can you tell us why why a patient with cancer would even considering doing fasting or to fasting would make your diet?

Yes. I think that the reason is probably pretty important. Right. And, and so if you think of cancer, it is developed, it is started, let's say, from a mutation and develops from that mutation in the presence of loss of food.

Right. And the great majority of people, as we said, you know, in so much and, and so in the evolution of a cancer, it always had excess of everything.

Lots of glucose, lots of sugar, lots of amino acids, lots of proteins. And so when, when that's taken away, we now very clearly show over and over and over the cancer goes into an emergency mode.

Right. And, and people have this illusion that if fasting can cure cancer, well, we really don't see that. Well, we see fasting and fasting, making diet.

Do is put the cancer in an emergency mode. But the the important, very important thing is when it gets into this emerging emergency mode, it tends to rely on very few, systems and pathways, what we call pathways.

So there is now a very few genes they are keeping that are essential, to keep that cancer cell alive. Now the drugs can come in and they can do a very good job at blocking those.

Right. And so we've shown that for hormone therapy, for chemotherapy, for kinase inhibitors, for immunotherapy. So when you combine it now all of a sudden this joint joining of forces is extremely effective in the mouse.

And now we're starting to see the data in humans. Very much in agreement with that in mice. And, and it makes sense. Right. Because unlike most therapies, there is just a fundamental reason why this should work, right?

So be very it provided that we can match the fasting response in the mouse. It's it's almost it's extremely unlikely that all of a sudden it's going to stop working in humans.

It may not work in all cases, but it's going to be a matter of finding. So how do I revolutionize the environment of our patients so that that cancer cell, no matter which cancer cell it is, struggles.

And then with the standard of care drugs together with the standard of care drugs, then you can kill them. All right. Kill all the, all the cancer cells. Right.

So and so we see that fasting, mimicking that, maybe putting at least, you know, in the early, early stages, but putting the cancer in the the cancer treatment in the category of antibiotics.

Right. So, so it's so wide acting together with so the drugs plus the fasting making that there's so wide acting there's going to be difficult as, as you know for the antibiotics and bacteria it's difficult for the bacteria to escape.

Sometimes they do.

Biological age and longevity outcomes

But if you if you take advantage of lots of different antibiotics, they work for the great majority of people. And that's what I start seeing, at least in the laboratory work.

We started seeing this kind of a potential right that, that we can get them. All right. Maybe not all of them, but we can get the great majority. So, I mean, it's still a, you know, years away to, to of clinical trials, but, but least that there's that potential right there that maybe that's that we just say that it's a, it's a, there's a high potential.

And, and we just asked to be demonstrated it in the, in the clinic. And so the what we're saying, it's not about fasting or fasting. Unite alone. You combine them with the standard of care and the fasting condition sensitize.

It puts the cancer into a difficult situation that then it's sensitizing it when the intervention is coming in to hit it and potentially could hit it even stronger.

Yeah, it makes the cancer dependent on a very few things. Right. And, and also and probably more importantly, it doesn't just make. So when you look at a cancer, we think and I think pharmaceutical companies think of a cancer. There's one. Right.

And so you go to the FDA and you're thinking I'm targeting the major cancer. I'm not targeting the 5000, 200 additional cancer that are within the cancer, right.

It's impossible. You can't go after all of it. Right. And that's the power of the fasting mimicking that. It's targeting all of it, right? Why? Because it makes it so difficult to escape, in and resolve all the problems caused by so low or no IGF one, no glucose, increase in ketone bodies, decrease in leptin, decrease in insulin.

So all these changes now all of a sudden are very difficult to overcome, especially when the immunotherapies ad it when the chemotherapy is there. Certainly.

So yeah. So that's that's that's the key. Is going after the major cancer. But it's also making it difficult, difficult for the escape for the resistant cells. Right.

So and those are the ones that usually kill patients, the one that become resistant. So hormone therapy for example. Yeah works for a year or two. Then the cancer becomes resistant to the hormone therapy.

And then the patient is in trouble. And the job well, we've shown in mice, if you have the standard two drugs of hormone therapy. And now in mice, as for humans, eventually the cancer adapts.

Start growing. But if you add the fasting, making that now, then never happens and the and the cancer goes down, down, down until you see cancer free survival and, yeah. So I think that's, that's why it's so the potential is so high, for humans, it's just, a question of, as a habit for immunotherapy, to, to see where does it work and, and how do you apply.

So that optimizes, overall survival, an increase in overall survival and progression free survival. They remember that you ported this word of or expression of differential stress resistance with it.

We talked about sensitizing potential cancer. Is there also any effect on the normal cells of the bunny when they go into a fasting nutrition state. Yeah.

And so this differential stress resistance and also differential stress sensitization are really key. Because if you think about maybe all treatment right now besides a few innovative ones that are very futuristic, but all treatments with this chemotherapy or hormone therapy or immune therapy even, it's going after all cells, right?

This is why there's a lot of side effects even from immunotherapy. So you're basically blocking these PD1, Pd-l1, dialog, let's say, between normal cells and cancer cells.

And but that can happen for any cell, right. In the case of fasting mimicking that instead this is differentiates resistance sensitization actually sending the normal cells in the cancer cells in opposite direction.

Right. And this is very well established by us first and then lots of other people. So the the normal cells, they know what to do. They, they shield the, the slow down growth.

They standby and protect the can protect the cancer cells, you know, different degrees. But in most cases they disobey. And, and this is the definition of a cancer cell fight, disobedience from anti-growth signals and probably fast thing in fasting making the eyes are the biggest anti-graft signal and but they don't care.

And that's exactly what we want them. Right.

Fasting, cancer, and treatment sensitization

So that's how we think that, the chemo etc. hurts them, but also the immune system recognizes them, right? Their rebellion may be very well at the center of immune recognition, meaning that now I know that you cannot possibly be one of mine because you're just disobeying everything that a human cell knows about starvation or, you know, fasting responses and dialog.

I know your studies go beyond fasting and fasting. Nutrition for cancer is is a lot of important information. And what patient with cancer should eat in between the chemotherapy or the immune therapy cycles.

And it's a full nutrition for cancer discussion. We're going to cover it today because they were focusing on fasting and longevity. But I just want to give a small secret here to the listeners.

I think you have a book already published in Europe on cancer and cancer nutrition. Hopefully it will come to the US. Any expectation when if somebody's listening to us today, very interested in fasting tradition, but also how to eat when you have cancer.

Any information what we expect the book to come up. Yeah, it should be within ten months. Right. So it's a sure thing. It's it's already been almost finalizing the in the American English version and, yeah.

So ten months and, but my suggestion is, so I started a foundation, years ago. The foundation is both in the United States and Europe. It's called Create Cures Foundation.

And we have a clinic, and the clinic follows. The clinics follow thousands of patients, many of them, or less. About 50% of them are cancer patients. And so I encourage you to, the current people in, colleges to contact the Create

Cures Foundation and, you know, and, and, and I consider entering a program.

These programs are usually very long. So the, the idea is, can we follow, week by week, a patient to make sure that whether it's a fasting, making diet or say, we also use the ketogenic diet in some cases, or the longevity diet, etc., etc., etc..

Exercise muscle training. So we want to keep the patient as strong as possible, and keep a lot of these markers law, but not so low to where the patient becomes malnourished and frail and, yeah.

So it's it's extremely difficult. And people underestimate how difficult it is. And but we're very happy now to see lots of oncologists and doctors, you know, working with us to, to say, okay, they do their, their job and, and we, we do ours and together, you know, we're really starting to see, in not just in cancer, but, but also in cancer, remarkable, results that.

It's been plastic and, you know, the, the I've heard a lot of patients stories about the clinics and definitely encourage oncologists and patients to consider in nutrition.

And food is medicine. It's a big supporter and enabler, for, for for the care before we depart here. And probably this is a home run for the fasting. Nutrition is is diabetes.

And maybe this is where we have, you have a little bit more clinical data on it. And if you can share a little bit some of the findings on cardiometabolic in general and diabetes specifically with the fasting nutrition.

Yeah. So diabetes I think now that I, I so I know of the trials that have been published, but I also know the trials that haven't been published. And I would say that that's the one that, we would be shocked that, to, to, to see, a, a reversal of what we are already seeing in hundreds of patients.

So it looks very, very good. You know, it looks that patients that do 6 to 12 cycles, monthly cycles of the fasting making diet see a regression of the disease.

And in the absence of other interventions, now in the clinic, we combine it in these lifestyle programs and, and we see even better effects right now because we can sort of customize the everyday diet, plus the fasting, making diet and, so we see even better, better effects.

But yeah. So reduction of A1, see with that reduction of lean body mass and less the FMD is combined with drugs. Then we see, lean body mass reduction.

So yeah. So then but for the, the incredible, differences are that when the FMD is done alone, we don't see that. And that's like trial number 4 or 5 that, we see improvements in, in glycemic in the glucose level and insulin levels A1.

See, but no changes in lean body mass in muscle mass. And so, so we suspect that because we only see those changes when the drugs are used, that, most likely, it's the drugs or, you know, it's a combination with drugs that causes the problem.

It doesn't it's not big problems. Right. But but I mean, Yeah, that's really what you want. Don't touch the muscle mass. Maybe rejuvenate or have improvements in the muscle mass, you know.

So don't touch. It's absolute, composition and weight, and potentially improve its function. And, and then, have the metabolic or the cardiometabolic improvements and, and we see, we see pretty regularly all of that which go from, you know, the insulin and glycemic A1, kg, etc., all the way to blood pressure, cholesterol, you know, C-reactive protein, etc..

We don't always see, effects, on cholesterol and blood pressure. But I say the, the green majority of the, of the trials, we saw that in a few. We didn't see it.

For example, when we combined, the FMD with hypertension drugs, we did not see the hypertension being lowered, but of course we already lowered by the drug, but we did not see a further reduction.

So, yeah, but in general, we consistently see, see effects, on lots of these markers. And that's the longer a typical diabetic type two patients, they come in in 2 to 3 drugs.

What is the protocol? What is the fasting? We begin to see protocol that has been the most tested for those people to go on. Yeah. The way to go, I think.

Will we follow thousands of patients at the clinic? And the way to go is to personalize. So, for example, I always tell the story about the doctor, that had diabetes and hypertension and tries lots of the drugs, GLP one and tries them all right then and nothing works.

And, and people are very excited about these drugs. But then minority or you know I don't know if it's a minority but certainly the group of people for which it doesn't work.

It's it's a big it's a big group of people. Right. And, but this doctor comes in desperate, got diabetes.

Diabetes, cardiometabolic health, and clinical protocols

And, and so it does, I think five cycles of, of the FMD in a year and a half. Well, first of all, that's nine months of the longevity diet. Right? And I'm telling this story because I think it's very representative of what we see with, with in the trials and what we see in, in lots of patients.

So, so there's nine months of longevity diet. And it has and this is one that is like, okay. Now Mediterranean, it's a very tough, you know, in everyday nutrition for longevity.

Right. That takes from lots of different diets. They try to optimize everything. But even after nine months of that, there's improvement, but not big improvement, right?

A little bit of weight loss and in a few things. And but the glycemic swap there is still, you know, in the diabetic range. And so then we start with the fasting mimicking diet.

And then we you see the A1 collapsing. And and so he does it five times. And so I think it was a process of about two years. And then this doctor goes from lots of drugs to no drugs, no diabetes, no hypertension.

And yeah. So I think that that's what we see in the clinic. If people are working with us, we have to personalize it. But, you know, within a couple of years, the majority of and we can get them back to, to health, not drugs.

And, this is I mean, it works for all of them, but it works for the probably the majority of patients. And and in the trials, you see 50 to 70% of patients regressing.

Right. And that's so it's very much consistent in regressing just with their family. So so now if you have that personalized touch and and we don't revolutionize diet.

So the in the clinic we're basically saying okay do the FMD. And then can you make these small changes. And those are the long lasting ones. Right. So we we want people to make small changes.

They can live for the rest of they can live with for the rest of their lives, and then use the FMD to get into, to drop in all those, risk factors and, and markers for, for diabetes and, prediabetes.

And that long ago, I know there's trials happening on autoimmune and Alzheimer's. I'm not going to get into details today about those. The focus was on longevity and maybe were already we had clinical trials on, like, cancer and diabetes.

Before we depart here, any final words, any final recommendation to those listening here, maybe for the first time, interested in fasting and longevity, maybe the first time being exposed to why is it important to do a fasting nutrition?

What would you recommend for an average person? What could be the ideal pattern of fasting? If you mentioned the 12 hours you mentioned FMD, how can you put it together?

As a final conclusion to the listeners today? The think the the I mean, first of all, I hope that we get the medical community engaged, right? So the and not just the doctor, also the the nutritionist, the dietitians, the nurses and all the health healthcare professionals.

And I really think that we need the minority, maybe at the beginning to say, okay, we can do this with lots of drugs. But can we just can we focus first on getting all the patients that we can bring back to full health and a younger, a biologic colleague?

Can we just focus on that? And then and I agree, if we do that for two or 3 or 4 years, as we do at the clinic, sometimes we fail and we say, hey, is now working on this patient.

So now, yeah, that's where in the drugs should come in or where the drugs should be the only, the only, intervention taken. But yeah, I think for the first 2 or 3 years, there should be a very coordinated effort from the healthcare professional and from the patient to say, okay, I need to go back to lower cholesterol, low blood pressure or normal cholesterol, normal blood pressure, normal glycemic, normal weight, cognitive function that are, you know, as high as possible.

And inflammation should be very low or absent, etc., etc.. And, and that's really, it's not going to happen with 20 drugs, right? They can't go after.

And this is why they're not the typical 67 year old is, is taking 4 or 5 drugs. And and by the time Americans are 45, the average number of drug is for chronic diseases, chronic condition and drugs is two or more.

So yeah, that's, that's what we're facing. And I really think it's, there is a, an emergency to, to act and, and find the, the professional that says, okay, I'm going to focus on that from now on.

I'm going to focus in making people younger, healthier, and keeping them like that so that we can see them have optimize their potential to make it to, to 100 and maybe even 110.

Yeah. And I think I think you have unlocked this for humanity right before it was sick and drugs.

Final advice on fasting, longevity, and care teams

Then when we discover it and we as a physician community that okay metabolic and lifestyle was is behind a lot of the diabetes now a little bit the type three diabetes, the Alzheimer's.

We said, okay, maybe dieting right. Chronic diets that they came in, they're difficult. They impose on lifestyles. They don't get you younger. They slow down a little bit your metabolism, and they're much better than eating wrong.

Don't get me wrong on that. But you unlocked a way to hit getting the body biologically younger. Protect that lean body mass, and then deal with with the root cause rather than the symptoms of the conditions happening today.

And this is why the fasting is emerging. The last 7 or 8 years. And we hear a lot of doctors, a lot of clinics excited. In the U. S alone, over 15,000 clinics, you know, working with the fasting and big intuition that excitement is coming from unlocking aging, because all these four killers that we talk about accurately is the aging.

It's protecting the organs of longevity, helping their cells and dealing with the metabolic issue without having to

impose on the consumer or the patient and lifestyle change from day one.

That is drastic enough that they kind of default and leave and then feel that chronic, learned helplessness that we see with most, most patients. So I want to I want to thank you very, very much, Doctor Longo, for your time today.

This has been, and unbelievable discussion. Pretty sure we're going to come across again and a future maybe, maybe May, June. The cancer book will be at the new trials and the, reversing bio age would be probably published.

And we can have another discussion about the FMD for those health conditions. I appreciate you very much today. Thank you. You're welcome.