Explore Fasting Mimicking Diets For Disease Treatment & Longevity Transcript

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Introduction to Longevity Research

Welcome to this episode of the PCOS SOS Summit. I'm your host, Dr. Felice Gersh, with me for this very special episode is Dr. Valter Longo, probably one of the most premier experts in longevity on planet Earth.

And we have gotten to know each other for several years. When I went to his lab and he gave me a tour and he introduced me to this concept of the fasting mimicking diet.

But he does so much more than that. He's done published papers on so many different things relating to longevity and nutrition, but probably he's best known for the fasting mimicking diet.

So welcome, Valter. Thank you so much for joining me. And we're going to do a deep dove into all of your research and then we'll tie it to how it relates to women with PCOS.

But first, can you tell our audience something about yourself, your research, where you're working? Now, I know you're both at USC and you're in Milan and you know some of the projects that you are most proud of and what you're working on and where you see the future.

Yeah, so thank you for having me. And we are at USC. We are focusing we focus for many years on longevity and healthy longevity and lots of work in mice and lots of work in cells and lots of work originally in microorganisms to describe the genetics of aging and then eventually lots of clinical trials.

Now we probably have completed over 20 clinical trials and there are maybe another 30 or 40 are running or are about to start all over the world. So we're very, very happy that so many universities have taken up the task of testing things out like cancer, you know, from Mayo Clinic to MD.

Anderson to stand for the for inflammatory bowel disease to the European oncology groups for cancer against to University of Genova and USC for multiple sclerosis and etc..

So yeah, we're doing lots of things and they almost all of them, we first do it in mice. We make sure that it's a very solid that we have very solid data in mice and then we move it to the clinical world and also the epidemiological world.

So right, right.

Building the Longevity Diet

So for example, we are also very much interested in population analysis of populations and when we describe the longevity diet and it's a low protein, mostly vegan diet, we looked around the world, for example, for what you know, what was the effect of a low protein diet versus a high protein diet and diseases of longevity?

And so those are some of the things that we also work. And so I have both the lab and a USC were asked to direct the Longevity Institute and then here in Milan, I have a secondary lab, which is a U. S.

film lab. They're focusing on cancer. It sounds like you have your hands full and it's just so amazing the research that you have done. I've read many of your papers and every one of them has really been groundbreaking, in my opinion.

But now you mentioned the longevity diet. Let's start with there. I know to be healthy, you have to sometimes eat and you have to sometimes not eat or what we call fasting.

So let's start with what to eat. You mentioned some of it, but let's go into a little bit more detail because I can tell you so many people focus on eating so much protein.

So maybe you could explain a little bit about how you came up with the type of diet that you recommend a little bit more, what it involves, what you would eat and what about protein that makes it either good or bad?

What is it? Let's understand that. Yes. So first of all, I wanted to move away from words, for example, you know, now whether I had the Mediterranean diet, but we wanted to learn from the Okinawa diet and the Mediterranean diet and and there was one pillar right then.

And the idea was, what if we look at epidemiological studies, clinical data, basic research, the centenarians around the world, and we put it all together, what do we get? Right.

So I think what we get is a pescatarian, a vegan fish. And because we were also very much interested in preventing frailty, not just saying, you know, can we make you live longer?

For example, very few people know that the Southern Italians that are so famous for be long lived are also frail. And I wouldn't be surprised if the Okinawans are frail.

What does that mean? If you look at a frailty index, the southern Europeans are much more friendly than the northern European. Right. So you don't want to live longer, but then double your frailty.

Yeah. So then we really wanted to develop something there and test it, right. That that was ideal for most people. And so the longevity die then. It's a low protein up to age 65, 70, but then an increase it increases also in the range of products.

So for example, legumes are very limited in certain type of amino acids. And so even early you can have low protein, but you cannot have all low protein, all legumes. Right?

So it gets tricky. And I think that people, you know, I encourage them to read the book, The Longevity Diet. Then all profits go to charity and it also talked to maybe an experienced nutritionist, dietician, because it's more complex than, you know, I can explain it in a 45 seconds.

Yeah, that's for sure. I hope everyone heard that. You must read that book. I have a few copies. I keep them in my office and at home and I've given them to my relatives.

So make sure you do read that book, The Longevity Diet. Now, I made the assumption, which I think is true, that sometimes you should eat, that sometimes you should eat, and sometimes you should stop eating.

But is that true? I mean, do we need to ever actually have episodes when we fast and what's the point? What happens in the body when we're eating and what happens in the body when we're not eating?

That makes it important to balance them in some way. Yes. So, you know, I hate to be a contrarian, but but I think just for like for the Mediterranean diet, we need to move away from the idea of fasting. Right.

So everybody talks about fasting. So fasting is good for you or bad for you. And, you know, fasting doesn't mean anything. It's like saying is eating good for you, right?

So so then clearly we need to say, what are we talking about? What kind of fasting? What kind of fasting is good for you? So I really like the work of Sachin Panda, but particular like the 12 hours a day.

So he pushes all the way to say 16 hours a day of fasting. But I narrow it to see 12 because I think it's a compromise. It is lower limit, but I think is my upper limit.

12, 13 hours of fasting per day. Why is that? Well, up to 12, 13 hours of fasting per day. You really don't see any

side effects. Right. And it doesn't involve breakfast skipping, which is associated with lots of problems.

So for those reasons, I remember one fasting type. I like the 12 to 13 hours for that, and it matches the centenarians, whether the Okinawans or the Southern Italians, the Loma Linda people.

This is something very, very common.

Fasting Windows and Meal Timing

And I would say every physician in the world would say, absolutely, I don't have a problem with that at all. And the other kind of thing is a periodic fasting mimicking diet that you mentioned earlier. And why is that?

Well, this is now something that we just did it by improvising. And it's not something historic. I mean, nobody did the periodic assuming that this was really learning, you know, 30, 30 years of work and learning from Walford was my my mentor back in the days at UCLA.

And, you know, it was really a world leading expert in nutrition and longevity learning from him and from so many studies and then saying, okay, maybe the way to go is older than this.

Walter Hours of fasting per day is to once in a while have introduce, say, 4 to 7 days and in most cases five days of not true fasting, because it could be not so safe for people and very difficult to do.

But a fasting mimicking diet. Let's give him between 800 1100 calories a day. Let's make it 100% vegan. Let's make it extremely safe or very, very safe.

And and so and let's just let universities and hospitals test it, you know, and I think some of them are testing it to prove us wrong. And then and then they're surprised sometimes that, hey, this is actually very beneficial, right?

So so yeah. But while some some of that so far has been positive, but I think eventually we're going to see the negatives and that's okay, right. That's okay. That's that's what we need to do.

A standardized test that and and see what it's good for and what it may not be good for. Now, you talk about healthy longevity. It turns out that women with PCOS basically live in a body that is aging prematurely.

So they have, for example, by age 40, they have seven fold higher risk of developing diabetes. They have higher risk for hypertension at a younger age and so on.

So is it too young to start working on your healthy longevity? If you have a condition and I know you're working on data collecting data, but if we just look at the metabolic problems that women with PCOS at a very similar to the problems that aging people face with their metabolic changes and challenges, what age should people start thinking about their longevity?

And then we'll get into maybe more details of from a practical point of view, what can people do, particularly people with PCOS? Well, we're doing a trial on PCOS in southern Italy.

I think we already have about 30 patients enrolled and it's going very well. The preliminary data looks very promising, but we still have quite a way to go.

And by now there has been three or four diabetes and prediabetes clinical trials completed and and they all show very consistently the same thing reduction in drug, use it for diabetic patient or reduction d one.

See for those that are not are not taking drugs and a reduction in insulin resistance, a reduction in abdominal fat but unlike we've seen for example, with the Mediterranean diet, no reduction in in body mass. Right.

So it does not have the problem of the chronic lifestyle changes and it doesn't have the burden, although we of

course, we we say what? You should have a chronic lifestyle change.

But most people cannot do that. And that's nice to know that intervening to say once a month or potentially less. Now, we are we are we are about 200 patients in a trial, 500 patient randomized trial in southern Italy, looking at the fast moving in the eye once every three months.

Right. So is it possible? And I suspect it may be. Is it possible that even once every three months, you know, allows you to have this reset? Is these effects seen in, you know, causing the fat, Domino's fat and not fat to be burned in the system, turning from a fat storage mark to a fat burning mode and and therefore helping you once you return to your normal diet that, you know, metabolically, you know, maybe have enough, as we've demonstrated before, for the mice having a faster metabolism and not a slower metabolism.

And but also, what about education? Is it possible that the brain in those finds of a vegan diet, it gets trained into understanding that those that vegan diet is very healthy diet is actually making you feel better.

And then we see lots of patient tending to gravitating towards that that more of a healthier diet with us giving them any section. Well, that's really exciting news, you know, that you can sort of reprogram people's brains into wanting to eat a healthier type of diet.

And certainly when you look at women with PCOS who have such high rates of insulin resistance, looking at the data as you're discussing, involving diabetics is really, really encouraging.

So maybe you could explain a little bit more about like if you're going to do the fasting mimicking diet, what would you expect? I mean, are you eating sitting down and eating food or are you having a shake or, you know, what type of a meal would that be?

And then going into, well, what should you eat? Like getting a little bit more into like your longevity diet when you start re feeding and how important is re feeding in terms of choice that you have in terms of food that you will eat?

Yes. So the I fought very hard starting 50 years ago when we were doing clinical trials for cancer patients. I fought very hard to make it as much as possible, like a regular diet.

But of course, you cannot be. It's very different. But I try to make it, you know, the breakfast, the lunch, dinner, the snack. And why? Because I knew that for people would be easier for most people would be easier to to have soups and bars and and things that they're generally okay with, even though the composition of it is very different than than what you expect. Right. You might have a tomato soup.

That tomato soup is really been developed to to have certain effects. And yeah. So then, then we tried to make it as reasonable as possible while not compromising on the can, then in on the fasting mimicking properties.

And then as far as reseeding is concerned, there's a re feeding instruction and there is a re feeding day instruction. And so it's a generally low protein but is beginning to transition to a normal protein diet.

And it's mostly vegan again. So that's the basics of the, of the diet, which is the re feeding day where people stop using the box and more to the to the regular to their own food.

Now you keep, you know, you bring up protein and that it's a diet that is vegan low protein. So what is there about protein that talks to the brain in some way that allows the brain to know you're eating?

And what is there about the fasting mimicking diet that it can actually do this? I mean, it seems like amazing. How can you eat food and yet your body acts like you're fasting?

No, you get the the impact of fasting. And and what is the role of protein? Because some people think, well, I could just eat a low calorie diet for a few days.

Is that okay? Or does it have to have a special formulation like you're inferring? Well, it definitely has to have. I mean, of course, you could do you could do all kinds of things.

You could do water only fasting. A lot of people have done it before, but that's a thousand years old and is never worked. It lasted a couple of years and then somebody is hurt by that and especially as it becomes more and more popular and then the medical community goes against it, why is never be standardized, right?

So it's really if we want these to be in the toolkit of physician and people, we need to standardize it and we need to have it clinically tested right.

And so that's very, very important that that, you know, there could be many versions of it. Right. So, for example, one of the discussion we've had for cancer with the with the Milan National Cancer Institute is being about small changes in the way we have the best thing we can do.

And and they have the first meeting that. So now we're basically helping them develop a modified fasting making doctor. But it has to be asked to be standardized, you know, in ways of fasting, mimicking, well, most people in certainly in Europe, in the United States can go two months with no food.

So what does it mean that they have two months of food research? Right. So we were starving in the sense that we're not seeing any food coming in from outside, but we're not starving in a sense of not having calories. Right.

So there is a lots and lots of reserves, you know, with over 70% of American and over 50% of Europeans being overweight and obese right now, you have tremendous reserves. Right.

So what does it but what are those reserves? What those reserves are made of or fat?

Fasting Mimicking Diet and Refeeding

And and that's why you can have a fasting mimicking that. Well, we always knew we had the fasting because we have one inside of us. Right. So so that was my idea from the beginning.

20 years ago, developing the fasting died. I knew that the body would not would not change its its fasting mode if it was given a fat based diet. But then I also thought, what if I combine it with the healthiest nutrition in the world for longevity?

And there was a good idea because now we're starting to see benefits from the sort of high fat content, but we also see benefit from the plan based fast on the plan based proteins, etc., etc.

And so yeah, so I think it was a great idea to combine the two and, and so far it looks like we got it absolutely right. Well, I think it was a brilliant idea.

So and I thank you. I have done your diet so many times. I lost count a long time ago. And you started off talking about sort of fasting during the day, which some people, I guess, call intermittent or time restricted eating.

And one of the things that comes up, you know, you talk about which I think is the most feasible, like you said, 12, 13 hours for fasting. So a lot of people think, well, I'll just eat late at night and then I'll fast through most of the day and then start eating in the afternoon.

Does it matter? Like when you if you do a 12 or 13 hour fest, does it matter which 12 or 13 hour window driving the 24 hour day you choose for that? And then there's like people talk about skipping breakfast, eating breakfast.

Can you give us some, you know, wise pearls on those kinds of issues? Yeah. So absolutely it matters right then. It matters because of the light dark cycles and that is because the sleeping time.

And it matters because of the breakfast. Right. So we I wrote a little introduction article. There is, I think three

clinical trials that were published recently in at least a couple.

They brought people into the hospital and they fed them exactly the same amount of calories by they shifted the calories from you can stomach them or you can start at noon.

And people they started in noon had a lower energy expenditure and showed more hunger even though they ate exactly the same. So I really like that study and encourage at least a physician in your audience to look it up. And because they're suggesting there are you know, there are clocks and there are there are biological reasons why breakfast seems to over and over and over seems to be associated.

People have breakfast with lower mortality, lower cardiovascular disease and lots of reduced problems. The other reason gallstone formation and gallbladder operation do not go up fast.

Let's say 13 hours. Now, there's probably nothing wrong with somebody wanted to go from A to B and the physicians say, you know, for two months, I'll put you on a 16 hour a day fasting, which involved skipping breakfast probably.

Okay. Right. But that's not what you want to keep for the rest of your life. So yeah. So an initial 16 hour like maybe. Okay, I wouldn't do it because I think you can get there with the 12, 13 hours plus the FDA.

But that's an option for those that are fans of the 16 hours and and yeah then keep the 12 hours stop eating to say 3 hours before a sleep time that seems to be important and number of studies now supporting that and and I think if you have to skip a meal as I've been doing for 20 years, I'll skip lunch and and maybe have a snack in the middle of the day.

And, you know, now we're using this in the trial in southern Italy. We had never tested it before. So we'll see what the results are. But we think that that's probably the safest way to go.

Well, I remember the first time that we met you said I'm breaking my rule for you. I'm having lunch with you. I remember that. What about snacks? I mean, people in our country, here in the U. S., and probably they do it in Italy.

Do you know, you go back and forth they love snacking. Is is that like harmful to eat hat snacks or is it does depend on what you snack on? Well, it certainly depends on where you snack, but also depends on on everything about you.

Right. So what age you are, you know, what's your BMI, what's your your fat percentage and what's your energy expenditure, etc., etc.. So I always say, you know, there is no rule because somebody may need to snack three times more.

And so people need to completely remove the snack, right? So if you're underweight or you tend to lose weight and you're not keeping up or you're malnourished, you need to snack.

If you're older, you might need to snack. But for most people, I say, you know, age 22 to 70, I would say 80% the probably because if you just consider in the 70 percentile, overweight and obese, then probably 80, 85% that are close to that.

Probably. Right. So then yeah, but probably about 80% of Americans could probably get rid of all snacks and and maybe, you know, keep breakfast and then one more major meal and maybe plus a snack until their BMI, body mass index, fat percentage and insulin resistance, etc., etc., etc., moves back to where they should be.

And the important thing about skipping large is the following, which we have seen we have four foundation clinics around the world and we see that if you skip lunch at the beginning, it's very difficult.

But eventually, after a couple of months of doing it, like in my case, it makes no difference for me whether I have

lunch, which is really impressive because as you know, this is about four or 500 calories in your day that you eventually can remove.

And that means that allows you to really enjoy the breakfast and the dinner and the snack. Right, because you're no longer hungry and now you have much more flexibility for the rest of the day.

Well, I listen to everything you said and just you know, I followed your advice. I actually don't eat lunch. So hopefully it's enabling me to have healthy longevity and following all these other policies that to me, their policies, you know, your recommendations.

Now, one thing that has come up in conversation in my community and people talk about this thing called autophagy and that certain types of fasting can cause this process to happen.

And that is very good. So maybe you could just explain like what is autophagy and how does that relate to fasting or different types of fasting? Yeah.

So autophagy is a self-feeding process, right?

PCOS, Metabolic Health, and Clinical Trials

So essentially cells as they're starving, they turn their own components to for fuel and also for, you know, for example, amino acids, right. They they get the amino acids from inside of the cell and and they get older macronutrients from inside of the cell.

And so it's a very important process right. Then. And so we think maybe and it's hard to quantify, but we think it's maybe about 20% of the effects of fasting and fasting and it really represents this initial selfie process.

But then we've shown they're by far the most important part is this big program. And the program is a job to shrink you, right, including killing lots of cells.

And so, for example and so keys in the sixties head down to say my starvation stands right in the eye and you could never do this again. Right. For the rest of of the human future.

And so these shrunk and they shrunk. They lost a tremendous amount of weight. And then to the point that the heart became 41% smaller. Right? So 41% smaller heart.

I mean, this is really extreme stuff. But then we feed, you know, we fed that for 20, I think about 20 weeks and the heart went back to their normal sack rate.

And this is the beauty and the powers. So now we're showing in many different organs. We've shown they're ready for the gut, we've shown it for the pancreas, which we're beginning to show for the muscle.

We showed, for the nervous system. So the stem cells is banana only stem cells, but also reprograming, you know, the Yamanaka factors, for example, you know, the Yamanaka factors are these factors that have the job to restart the starter rejuvenation process of the cell and making a somatic cell into an embryonic stem cell.

Right. So these factors are naturally turned on by fasting. And so so there is this this program, this shrinks kills the cells cost autophagy turns on Yamanaka factors causes self-renewal of stem cells.

So it's just everywhere. And and why? Because, again, it has the job to shrink you and then we expend you and when a re expands these whatever organ. Of course most of these studies were done in mice you get it's hard to demonstrate this stem cell mechanisms in humans, but probably this is very fundamental properties of all organisms.

Right. So these very ancient processes. And yes, so then you shrink and then you have to re expand that. When

you expand, why not using your embryonic developmental programs to re expand?

So so now imagine the power of the heart shrinks by 41% and then re expand. So now we don't know is it 41% new heart or is it is it just smaller cells and we expand the cells or whatever it is?

It's it's a big part of the heart that is now sort of disappeared. And we expanded. And in that process, we see a very strong evidence of repair, replacement regeneration in rejuvenation.

Well, that is just phenomenal data. And one of the things that women with PCOS suffer from is fatty liver, nonalcoholic fatty liver. So I'm thinking about, you know, the cells, you know, the organs shrinking that organ is needs to shrink in women with PCOS, they have a panel, majorly enlarged livers with fat in it.

So what's the impact, if you can say, do we know in in animals or in humans the impact on nonalcoholic fatty liver disease and fasting mimicking diets?

Yeah, we are about to publish on that using MRI's so it's the paper is already accepted by a I, I could tell you it's not negative so that that's all I can say.

But yeah, yeah we are about to publish exactly about the statuses and fatty liver and yeah. So hopefully within a couple of months I be out there. Well I want to get in hot off the press to read.

I've been waiting for that because that is so key to healthy longevity for so many people and particularly women with with PCOS, because you can't live a long, healthy life with a poorly functioning liver.

As you know, everyone in health care knows and in terms of, you know, moving forward with looking at autoimmune diseases and cancers. Now, unfortunately, women with PCOS suffer from higher rates of both of those things.

So maybe just a few words on maybe future research and directions of where this may all go and how this could benefit not just women with PCOS, but like all of humanity.

Yeah. So again, the the strongest, the which now we're very confident about is diabetes, insulin resistance, diabetes, drug use. This is very consistent.

Autophagy, Organ Renewal, and Disease Prevention

Now at three or four trials, lots of patients randomized, you know, very well done. So we're we're I can't say it's final, but it's certainly pretty conclusive what we've seen so far.

So that's that's one for all the immunities, you know, it's still early. It's by far nowhere near there. But the trials are looking very promising. One, we probably a few years of all with multiple sclerosis, that is going to be another one, which soon four years to general multiple sclerosis.

And at some point I hope other universities will publish the ones and some of the rebel disease. And and yes. So we'll see. But but in mice is very powerful effects. Right.

Reducing the out immune cells and and promoting the the stem cell dependent regeneration of different in different organs, whether it's the oligodendrocytes in the spinal cord or the intestinal stem cells in the intestine.

So in mice is very clear ability to sort of even reverse, at least in part or a portion of the mice that without immunities reversed the immunity in people. We'll see.

I mean, this is not an easy task. And then cancer looks very, very promising. Now, maybe ten clinical trials published. My book is coming out in a couple of months in the United States, is in on cancer and fasting and fasting, mimicking diet and the longevity diet.

And, you know, what do you do to prevent cancer and to treat all kinds of cancers? It is a long book with a lot of oncologists, including oncologist from from USC City of Hope and Andersen, etc., etc..

So we're is it's been a lot of work and lots of European and Italian and colleges. So so I think that I encourage people to get a copy and we have chapters where each each cancer and now, you know, the preclinical.

So the mouse data and the clinical data for it for each cancer. So and I think we have many, many different type of cancers in the book. So yeah, I encourage people that are interested to get that.

Well, that'll include me. Now one other area that women with PCOS and women and of course men as well experience and it's just devastating to quality of life and that is dementia as well as emotional issues, depression and so on. So how about that?

Is there any hope that you can reduce the incidence of dementia, Alzheimer's or other forms of dementia, vascular dementia by doing the fasting, mimicking diet along with a longevity diet?

You know that. But what about brain health? Is there hope for that? Well, I mean, we already know we've known for a while that diabetes nearly doubles your chance of developing dementia.

We already know that, that you can do a tremendous I mean, doubling rate, I think is 75% increase in the risk if you had diabetes previously. So and we also know that if you postpone aging by about five years, you could cow Alzheimer's in half.

Right. If you get slowed down biological aging, let's say 5 to 10 years, you could count Alzheimer's. You know, now we know there's a new paper from this group in it's a study of millions of people, this group in Norway, and they published last year.

And they show that just about helpful. What I described is that longevity die no fast the nonce lots of things you know no mention of all protein levels.

But just how or whether describing every it's like a mostly vegan nuts and that whole grains and no red meat no processed meat. I mean so let's say your health, of all the things that I recommend that's associated with 30 years of life expectancy increase is start at age 28 to 9 years.

They start at age 63 to 4 years, they start at age 80. So that already tells you that you just did that. Health, the association is no proof, but certainly the association is with major delay or reduction in the chances of developing dementia.

And but now if you do the whole longevity diet with the fasting week in diet, then I really think that, you know, for lots of people, this can be the difference between dying of Alzheimer's and dying of, you know, another cause or certain and hopefully natural causes, meaning like there is no disease, you just end up being very old and dying.

Well, I asked earlier, like, Are you too young to start thinking about healthy longevity? And this actually 100% answers that question. Absolutely not.

Everyone needs to think about their health starting, like you said. Well, you can start in childhood when you're the parent of a child. You should start trying to get them to eat healthy foods, you know, not the processed garbage that so many kids unfortunately consume.

But for most of the women out there watching, many of them are going to be watching this in their in their twenties. In their thirties. You're not too young, are you?

You need to get on this right now because PCOS is a you know, unfortunately accelerates the aging processes and doing all the things that Dr. Valter Longo here is telling youis going to help you now.

And in the future. So everyone is excited to learn more and to follow you. You know, you have all these research articles coming out. You have a new book coming out.

So how can they follow you and do you have a website? What can they do to keep up to date with all of this amazing data that you're creating and all the research that you're doing?

Yeah, I think well, we have a professor Valter Longo Facebook page, the Create Cures Foundation. We have a clinic in Los Angeles that helps people, whether they can afford their app with all kinds of advanced stage problems.

You know, with cancer and and diabetes but also PCOS and yeah. So then createcures.org is the website and people can that are interested can can come there or contact them and and then the books you know their longevity diet and then you book on cancer that is coming out awful in the next two or three months.

Well that's fabulous. Everyone is going to sign up and follow you and read these books because quality of life, like you said, longevity, living old, being frail.

That's not the goal. Having a quality of life to actually do all the things that you do that you want to do and so on is is so critical. And I can't thank you enough.

Dr. Valter Longo, Premier expert in longevity, thank you so much for joining me on this episode. Thank you for listening. Great work.