How 5 Days Can Transform Your Health Forever Transcript

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Introduction and Speaker Background

Hi everyone. This is Doctor Joseph Anton, your co-host for the Fasting and Longevity Summit. I promise you, today is going to be one of your favorite sessions because I'm with, no one else but doctor.

I know people who actually have led. May be more more fasting and longevity trials than anyone I know. Starting with water fasting and now with the fasting mimicking diet.

Doctor Hanna is, a prominent leader as a clinician and, and researcher at the leading system in Holland. It's one of the biggest, if not the main, you know, tertiary hospital system in Holland.

And, and he has been researching fasting for probably now close to two decades. Doctor had a study with water fasting and then the fasting mimicking diet.

And he had two focus is diabetes and cancer. And these are two, two out of the three top killers in the world. So you definitely want to stay tuned and listen to the discussion today, doctor, how not to do the full justice to your background.

I would love to, have you kind of talk about how you got into fasting in the research and, and then we're going to address the outcomes. Right. Action that.

Yeah. Well, thank you. Joseph. As you said, I'm, I'm a clinician, in the Leiden University Medical Center, and an endocrinologist, an internist, endocrinologist. And, I, I treat many patients as an endocrinologist.

I treat many patients with diabetes and type one and type two. And a long time ago, as you said, about 15 to 20 years ago, it occurred to me that that, you know, what we did in, in, in the office is treat people, with type two in particular with many, many drugs.

And many of them still, did not, adequately check their, their, control their, their glycemic load, glycemic and but I, I realized that, you know, one of the things that is, going wrong there is that, that we fail to do actually, in practice is is addressing the issue of food intake and, and physical activity, lifestyle in general, but food intake in particular.

And, and as of that time, I, you know, I, I, I'm not sure how, but I bumped into one of the papers of Walter, Longo. Is showing that that fasting could be of great value in, in cancer in particular.

And, I was intrigued.

Fasting Mimicking Diet for Type 2 Diabetes

And as of that time, I started and me and my coworkers and started doing clinical studies with, first one or only fasting in cancer, in particular breast cancer.

And later on, as the fasting mimicking diets occurred, and we, we started doing studies with, with the fasting mimicking diets and found some very, very promising, results. So, I my research actually, is fully, focused on the, the impact of fasting on health in, in patients with diabetes and, and breast cancer and, so, so yes.

It's, it's a very important and relevant issue. It what you just mention is probably the number two killer in, in humanity with, with diabetes and maybe and cardiovascular.

Number one related to it. And breast cancer is the number one cancer in women. So this is this is a very important discussion today. I want to get right to it.

Can you can you help us understand why the fasting mimicking the I'm going to start with diabetes. Why the fasting and became diet in diabetes. And I know there has been 2 or 3 trials that your team led in that regard.

And can we talk about the results and the magnificent actually, you know, health outcomes that that you've led in, in regressing the disease, helping patients needing less medication or in full remission, taking them off medication from diabetes.

Would you would you please describe the concept? Why the fast mimicking diet, how it works on diabetes, and where the outcomes of the trials? Yeah. So so what we did was we, studied a group of 100, basically, 100 patients with type two diabetes who were treated with, metformin and diet alone.

And so, early, early on in their disease and we, we randomized them to receive either, five consecutive days of fasting, mimicking diet each month or their regular, you know, a clinical, treatment.

And, and the fasting mimicking diet was provided in addition to regular care. And then we did this for 12 months, and we studied many, many things in these patients.

And one of them was, of course, their glycemic control and blood pressure and lipids. And what we actually found was that the, the group receiving the fasting mimicking diet for 12 months after 12 months had, used less medication, had better number one cause, while their blood lipids were actually, similar, statistically similar.

But there were some benefits in terms of, no statistically significant benefits in terms of lipids as well. And, so, so, in terms of their, their glycemic and metabolic control, the fasting mimicking diet was very, was very successful and was very useful for these people.

And this is probably because when you so the first thing mimicking diet is, as the name suggests, mimics the, the fast, the, the the impact of water only fasting and water only fasting has a profound effect on metabolism.

So it has a widespread impact on not only glucose but also lipid metabolism on immune. Your immune system and it it in in a way it resets metabolism in a very healthy way.

And I think this can be understood in, in view of our evolutionary history. So in, in in our evolution, you humans always there were always periods of food scarcity.

And we had to survive these periods. Our whole physiology is meant to, you know, not to eat every day, but to survive periods of, of food scarcity. So the, the, the metabolism turns, in times of, of fasting, mimicking diet for five days in metabolism completely turns into a metabolic state that is meant to survive, that is healthy and this state actually, continues to, to be there for sometimes asked sometime after to fasting.

And therefore, if you use this fasting mimicking diet every month for five consecutive days, it appears to have a very beneficial effect on, metabolic control.

So we were actually very enthusiastic about the data because, the patients needed less medication. It felt better, in general. And, lost some more weight than the, than the people, in the, in the control group who received regular care.

So it was in, in, in these terms, which is very successful, trial. And as you alluded to, Joseph, we looked at more things. For example, we looked at visceral fat and, and heart felt.

So our heart is, is, surrounded by by fat tissue as well, to some extent. And that fed tissue has bad has a bad influence on heart function. And what we found is that both visceral fat reduced more than, in the intervention group than in the control group.

And so that meaning that the people who received the fasting mimicking diet lost some visceral fat as compared to the controls and also lost heart set.

And this is also a very beneficial effect of the diet. And finally, we we looked at liver fat. And as you probably all know, liver fat is very bad for your health, not only for, liver health but also for general health because liver induces inflammation and, so we found a strong reduction of liver fat in response to the dietary intervention, and that probably we didn't measure that.

Yet. We may do that in the near future, but that probably means that, not only the liver becomes more healthy, but the general health is improved because inflammation is down.

So I think what we found in this particular trial, is that the use of the fasting, mimicking diet is very beneficial for people with type two diabetes.

Well, this is amazing. I want to dig a little bit deeper into some clarifications. Well, first of all, you're saying that the the fat around the heart and the fat that some people accumulate in the liver in this comes with weight gain and with aging, they were reduced in the with the fasting mimicking diet, what we call the visceral fat.

Yes. Yeah. Absolutely. Yes. And and this is probably a feature of fasting that it goes after what we call the visceral fat, the fat around the central organs, which is the real bad fat for people listening to us today, what we call as doctors, the visceral fat is the fat that you carry around the organs, and this is the fat that induces to really bad things and increases inflammation and induces insulin resistance, which is the essence of the mechanism of the evolution of diabetes.

In, in in your body. And doctor, how do there's a lot of diets and lifestyle that can also help reduce fat in the body? Can you tell us, besides that insulin resistance?

I know we as doctors, we care a lot about muscle preservation. And, we started caring about cellular rejuvenation to reverse the bio age of the body. Can you talk about how does the fasting mimic why it's so special and particular intervention versus, versus other diets?

Or now the GLP one craze also that we're seeing everywhere, whether the. Yes, it's an interesting question. I think, it, it turns out that for some reason and to be honest, I do not quite understand why this is, but for some reason, the fasting mimicking diet preserves muscle tissue while, if you, if you restrict calories continuously, which actually happens when you use this, these steel one analogs like, semaglutide and, and others, then, you know, these drugs actually, reduce appetite and, they, they, they make people eat less and so continuous calorie restriction somehow, that you lose fat, obviously, but you also lose muscle tissue.

And, and this is much less when you use these, these periodic, fasting, mimicking diet cycles. And this is important because muscle is a huge sink is very important for for metabolism, in particular glucose metabolism.

It's a huge sink for glucose. And so the loss of muscle tissue in response to calorie restriction is a thing that you do not want. And it appears that the periodic use of a, the fasting mimicking diet does not cause are much less loss of muscle tissue.

It particularly induces loss of muscle fat. And then also and this is also something that, I'm curious to know if anybody understands this, but I think we need to do more research in this area. Why?

In particular, in effect, visceral fat is lost. It appears that the visceral fat mass is somehow the more dynamic storage type of fat than the subcutaneous.

So if you, Yeah, if you if you use very little, calories, then this particular fat people appears to, be become smaller for some reason. It's, interesting to study and how this works in terms of hormonal, you know, regulatory systems that control glucose and fat metabolism.

Yeah. The, I may shed a little bit of light on muscle preservation because we we did two clinical trials, that we did one clinical trials in young male adults, as you know, young male adults, they have a lot of muscle and they can swing muscle mass fast.

So we wanted to understand how why the fasting mimicking diet preserves muscle mass. So that's a big as you mentioned. And for everyone listening here today we're talking muscle because this is where the medicine a little bit failed is muscle is the engine of burning carb in the body.

Muscle Preservation and Visceral Fat

And what you want is when you're reversing your diabetes to live a healthy lifestyle, you don't want to lose muscle because this is what keeps burning.

The carbon keeps you out of diabetes. And that's the essence of why we're so we're so focused on muscle. And this is where the GLP one and the seem like the tides.

I mean, the studies are showing 20 to 30% of the weight loss is muscle loss. And this is not something we want with fasting and with the fasting. Maybe actually if you do water fast you lose muscle.

This is a big, distinguish between water fasting and the fasting, mimicking. Right. So we looked into why the fasting mimicking diet helps preserve muscle function and mass.

And what happens is that, as you know, doctor, having fasting and the way fasting is different than any other calorie restriction is it's a stress. It's an acute stress over five days. Right.

One of the stress hormones is growth on. And so so when you're doing the fasting making that you have a high growth hormone in the body. And for the three we're doing autophagy and rejuvenation.

So you have a muscle rejuvenating with autophagy. And then the fasting and making that you have growth hormone telling the muscle to grow with water fasting there's no nutrients with the fasting mimicking that there are nutrients including proteins actually from plant based sources.

Plus that we create many spikes of insulin after the soups. When people get the soup, especially at night, we create a mini spike of insulin. I, growth hormone is spiking naturally with fasting.

So there's two signals for the muscle to pick up, the nutrients and to be preserved. And as you mentioned, rightfully so. From the beginning of this session, he said, look, this is an evolutionary defense mechanism in and this is what happens when you're fasting.

Humanity lived with food scarcity for, as you mentioned, tens of thousands of years. And so what the body does when there's no food, it says, okay, I'll break down this fat to nourish the brain so that you stay up and you don't faint and you seek food.

And I've increased growth hormone. I'll protect the muscle. I'll invest into the muscle mass so that you keep walking in order to find the next food, fruits or vegetables.

So it's the stress of fasting that preserves the muscle. Obviously, with the fasting them again, there are nutrients coming through the muscle. Lastly, rejuvenation and autophagy.

This is the third pillar of how it works on diabetes. Right. And this is where this is where traditional medicine didn't do enough. And diabetes it solves one root cause which is insulin resistance.

It didn't solve muscle, it didn't solve cellular rejuvenation. And the bio age of the body. And this is where the fasting mimicking night is working on all three three root causes and helping effectively, patients.

I think in your trials, you're showing two thirds of patients will decrease a dose of medication or a full medication within six months of the fasting mimicking day.

There's just 30 days of nutrition, right? Five days month, one, five days, one, two, three and four and five and six.

What we did just 30 days of the fasting.

We can find two thirds of people are dropping a dose or a food medication. And, and thankfully, this is all coming from, from your labs and from your clinics, in, in late in, and got published in, big journals, and also in Germany, the big centers in Germany as well, with doctors to large that has published a six month effects as well.

Yeah. Yeah, yeah, they were very I mean, their results were very comparable to, to ours actually. And and so, so it is confirmed by several labs now and I must say your, your story about growth hormone, it sounds perfectly plausible.

It's, it's a very, it's a very plausible explanation, I think, as an endocrinologist for the preservation of muscle tissue that we observe in response to the fasting mimicking diet. Yes.

Interesting. I wasn't aware of that. So it's one of the, it's one of the obviously biggest investment that with with doctor, you mentioned Doctor Valter Longo, who's the kind of the grandfather of fasting and the fasting mimicking diet is how can we bring the fasting mimicking light to the clinics, to doctors, to patients, to help them induce what we call a regression, meaning less medication or remission?

Needing no more medication with the fasting begins I then I really appreciate keeping you need and and and and researchers such as yourself that actually brought that science and the truth to the world is now changing.

We launched that program a few months ago, and it's showing amazing results and changing the lives of patients like like no medicine has done before. Yeah, yeah, I think I also think that it, it is interesting.

As for me as a clinician and for patients with diabetes in particular, because because this has this has no side effects. This has you know, the only thing is that if if you do this, consequently, if you follow the diet concept currently some, some people, you know, they they get a bit, a bit weak, they, they feel a bit weak after a couple of days, and some people get a headache and we warn them beforehand that this may happen.

And many of them, it's it's not that there's, there's in our study, there were very few people who actually stopped doing the diet because of the because of the side effects of the, of the intervention.

And it's it's, it has no serious side effects whatsoever. The only thing and that's something that I would like to warn, clinicians who now consider treating their patient with, with this, fasting, mimicking diet, if they, if people use insulin or, sulfonylurea derivatives, they're stimulating indulgence in some secretion.

You have to very be careful, of hypoglycemia. Yes. Because, as soon as people do this, and you have to do lower the dose of insulin and assume there it is, because otherwise they will certainly get a hypoglycemic event.

So that's something to take good care of. If you consider this, for your. Yes. And and to remind patients here, doctor, how to what is in the fasting to begin it is what is it made of?

You're saying no direct side effects, etc.. Some people think it I mean fasting, mimicking with preservative with a chemical or that 100% plant based natural.

Just to remind everyone. Yeah, it's basically it's plant based. It's very it is composed of very natural foods and it has, it has no sugar virtually, virtually.

No, no, refined carbohydrate has fiber rich complex carbohydrate and very little protein, and some healthy plant based fats. That's basically what it's comprised of. And and, and so, so it's a it's, it's a very basically it's very natural that diet.

And okay, I would close the diabetes chapter and, and go to the cancer breast cancer chapter. Why, why? And endocrinologist was inspired with testing with fast significant diet and breast cancer were first water fasting.

I think you were one of the first to test even water fasting. Yeah. In in cancer. What what is the mechanism? Why we're talking fasting and cancer. Can you help people understand what what are the benefits of building a fast when you have cancer, which is contradictory a little bit.

Right. Cancer patients, they're like, oh, I lose weight. Side effects of chemo. Why would they? And doctors the first reaction of doctors, especially, cancer doctors, maybe not so much breast cancer bigger, but breast cancer gain weight typically.

But in general that picture that people have that, oh, I get to be more nourished when I have cancer because I may lose the weight. And can we talk about, you know, what is what is that myth and what is the science behind using fasting with cancer.

Yeah, yeah, it's it's, you know, it's interesting that, you know, I saw many years ago, I saw the first papers, again from from Walter, showing that that, fasting.

Fasting. Actually around chemotherapy in, in animals with cancer did two things in it.

Fasting and Cancer Therapy

Had a very, positive effect on, or a negative one out, however you want to, express this, but it, it slowed down the growth of cancer cells and simultaneously, protected healthy cells against the toxicity of the chemotherapy.

I was very much intrigued by that. And it's, it's, phenomenon. Walter called, Different differential stress resistance, which. Thank you. Differential stress resistance, meaning that the fasting actually, renders healthy cells, protected against all kinds of toxins, not only, chemotherapy, but also heat and, radiation and, and that's because the, the cells sense, the lack of nutrients and the lack of nutrients is a stressor for any cell.

And whenever a cell, sends a stress, it starts protecting itself, itself against that stress. But also against all, all other types of stress. Basically, it's a very widespread biological phenomenon.

And, and so it activates antioxidant systems. It and it also activates autophagy, which is, this distress of, of, of nutrient, lack of nutrients. It also it activates autophagy, which means that the cell actually starts using cell debris, cell, components that are not functional as a fallback fuel.

So these healthy cells strongly protect themselves against the toxic effect of, of the chemotherapy. While the cancer cells, the cancer cancer cells are mutated, they cannot slow down their metabolism.

They cannot switch to that protective, state. And they are more, sensitive to the chemo as opposed to the to the healthy cells. And that's why, Valter says said, well, this is the reason probably the reason why the, the fasting is so, beneficial for these animals with cancer.

And it actually reduced, and slowed down tumor growth while it protected the animals against, the side effects. Now, we decided to do the same thing in, in humans.

And we with because, because just because the biological mechanism, behind the effects of fasting appeared so well conserved in evolutionary terms. So we thought, well, it would be very strange if the same mechanisms, that were, that were shown in mice and other all kinds of other animals as well, by the way, would not be operative in humans as well.

So, so we did this first trial and actually, showed that, a very small trial in women with breast cancer and we, we, we we didn't look at, tumor growth by the way we looked.

But in this first trial, we looked at side effects of chemotherapy only, and we did not statistically, show that the women experienced the less, side effects than what we did show in the very first trial.

Was that the and, the DNA damage in lymphocytes was, strongly, reduced by the fasting the the DNA damage induced by the chemo. So this was a sign, to us that, it did that, the chemo, the, the fasting actually did the same thing in humans as was shown in, in animals.

And this this first trial was a reason to do a much larger trial, randomized trial in, in women with breast cancer, where we, treated them with, not with water, only fasting, but with fasting, mimicking diet prior to three days prior to, chemotherapy.

And on the day of chemotherapy itself. And we looked at two things. We looked at, it was a pretty large trial, and we, randomized to, 100, approximately 130 patients or, we randomized them to receive a either, fasting, mimicking diet or healthy dietary advice.

Around the chemo and what we could show very interestingly, we thought was that, again, there was not a significant effect on side effects. So there was a little bit less side effects in the, in the intervention group, but it was not statistically significant as compared to the intervention to the control group.

However, the, the, the radiological and so MRI response of the tumor, and the pathological response of the in the biopsy showed that, fasting, mimicking diet had a, it made the, the effect of chemo stronger in, it's the fasting mimicking that actually, reinforced the effect of chemo on tumor growth.

So there was a very positive, binding, and, so, so we were very hopeful, that it would also, extend lifespan. However, the study we did was, not powered to, to study, at lifespan.

And so the, disease free lifespan, and, it turned out we just recently submitted a paper that says that there is no difference in, in lifespan after five years, five years survival.

However, there's many, many, pros and cons and things to say about this particular finding. I think, first of all, because the study was not really powered enough to show, statistically significant difference.

And also, it turns out that, overall survival also in the control group was surprising, only, high. So there were virtually no deaths in the not even in the control group.

So it's, so. Well, we we decided we must publish this. But, but there is, we are, awaiting the, the referees, comments. And we we are curious because there's lots and lots of things to say about this particular finding.

And thank you for explaining that, doctor. Not to people. It's. I want to I want to help people understand why. Why was why when you say using the fasting mimicking diet right before chemotherapy like so for these you studied four days before and then it starts G minus four, minus three, minus two, minus one.

And the day of the chemo why. What happens. What happens to people during a fasting making by before cancer. You explained that it protects the normal cells of the body, takes them into autophagy and you you alluded it by sensitize the cancer.

This is what the pathological response rate you're talking about. Did you see any you talk about immune protection. Did you see any immune infiltration?

And did you see any any potentiation of the immune attack on the cancer cells? Well, we we we did, look into that, but we're not we're not, ready with the recent with the results.

So I'm not sure we, we did, study the immune invasion in the, in the biopsies, actually, and this was done in collaboration with, the I saw them in Milan, in Italy.

But we we are still awaiting the results. I didn't, at this is something that we, I expect, you know, I expect them back in the next month or so. I'm not sure when. Okay. Yeah.

So I can't I can't answer your, your question. Okay. Interesting. Because in mice I remember they were the study that inspired this showing and protection of the immune system.

You mentioned the protection of the DNA of the white blood cells and then potentially a sensitizing immune attack on cancer. Interesting to see if that happens in humans as well.

So yeah, next time we talk, hopefully those results will be out and we can release those. By the way, we found in the in the so in the larger randomized trial, we also we confirmed our finding in the, in the first pilot, study showing that the fasting and fasting mimicking diet also, reduced the DNA damage in lymphocytes.

So that was an indication that, that the fasting mimicking diet as well as the water only fasting intervention and protected healthy cells from, from from damaged by chemo.

So to conclude today that, you know, I mean these are we talked about diabetes, one of the top killers of humanity. We're talking about breast cancer, definitely number one in particular in women, you know, in women's health.

How do you see that shaping up the future of health care? We always say food is medicine, but then then we don't really need it per se. Like when you go to doctors, they don't prescribe nutrition and medicine.

How do you see the future of health care in light of the findings of the trials around the fasting mimicking diet? Well, you know, I think I think we need to do more research that that's for sure.

But, on the basis of what I've seen, in animals, for research in animals and also the things that we did in humans and many other labs. Now, also, study the impact more and more of, of fasting and fasting, mimicking diets in, in cancer.

And the results I've seen, I'm sure that the that fasting is a, is going to be a useful intervention in the treatment of and by I my prediction would be many types of cancer, not only breast cancer but other types of cancer as well.

And, and it's it's, you know, as an adjunct of other therapies, it may, you know, in the end, it may turn out to be a tool to reduce, for example, the dose of chemo or other, cancer therapies and thereby also not only reduce side effects but also reduce costs.

And I think it's an interesting and again, it's an interesting intervention because it has very few and it certainly doesn't have serious side effects.

Also not in in these cancer patients, there were no serious side effects at all. So as opposed to all types of drugs that we prescribe. So I think it, it it's it lifestyle intervention in general should be part of, of, of clinical practice.

Future of Clinical Practice and Closing Remarks

But this is a, this is a, in my view, the, the, the fasting and fasting mimicking is a, a a very easy to, to apply intervention for, for I, I my feeling is for many types of cancer in the in the future of medical practice.

So I have good hopes that this will be part of, of clinical practice in the, in the near near future for, for not only for, for cancer, but also for, for diabetes.

And, and my guess would be for other types of disease as well. Yeah. Do you feel the data is there is is there, diabetes? Cancer? Is there a lot of some diseases and needs a big randomized trials.

And I know there's a lot of researchers around the world still studying that. Do you feel that diabetes as an on the chronologies just do you have enough proof and satisfaction to add the fasting we begin by to the practice and and if so, how do you do it?

Well, I think, in diabetes, there has been a long tradition of, as stent studies, with calorie restriction and, and also,

periodic calorie restriction, not by fasting, mimicking diets, but by, by and by and low calorie diets containing lots of sugar and other stuff, which is not good for people.

So, I think that given that and many of even dose interventions, turn out to be, beneficial for people with, with, type two diabetes. So I think with the data we have today on the impact of fasting, mimicking diets, which are, in my view, much more unhealthy for people with type two diabetes than calorie, calorie restricted diets that contain lots of sugar.

In some cases, I think, there's enough data to, say that it helps in people with with type two diabetes. And in my, my personal practice, I, I tend to advise people to, to, to restrict to periodically restrict their, calories according to the fasting mimicking principle.

On a regular basis, you know, to improve their, their disease. And the point is that, it needs to be, taken up and it needs to be incorporated in guidelines.

And, this is something that, you know, has to be, supported by by professional, communities. And this is something because, because fasting and lifestyle intervention in general is, is is not, is not, something that, that we are trained in.

So it will take some time, I'm afraid, before this type of intervention will be incorporating guidelines. But I'm sure that you know that it will. In the end, it must.

Thank you, Doctor Hannah, for for today. This is, I on behalf of a lot of patients now benefiting from the fast making diet for what we talked about. I want to thank you because you've you've dedicated a lot of time to do research for the last 15 years on fasting and fasting, mimicking diet.

And I can assure you that a lot of people are benefiting from that. And I want to thank you on their behalf. And hopefully more more trials to come, more truth to come.

This is a big change to use food as medicine. And and as you mentioned, we're we're we want to have enough solid proof and, and and shape policy and shape insurance and guidelines to so that becomes mainstream.

I think, it's becoming a big eye opener for a lot of doctors. This is what brought me to this field, what brought you to this field? And hopefully many other physicians start consuming lifestyle medicine, diabetes type two at the end of the day, mostly as a disease of aging, lifestyle medicine and muscle loss.

And this is why, the benefits we're talking about here. So I want to thank you very much for your time today and for everything you do to change people's life.

My pleasure. Thank you. Thank you.