Opening and Guest Introduction

Think of your body as basically a car. You know, the longer we own the car, you know there are going to be small things that will break down and think of fasting as a way for your to almost like to reset, rejuvenate and recover.

And by giving your that opportunity rather than kind of overwork it physiologically all the time, your and essentially think about against your car is going basically last longer in terms of function and longevity.

This is the Longevity CEO, where we explore the science of metabolism, cellular renewal, and the future of longevity. Welcome, everyone. This another episode of the Fasting and Lungevity Summit.

And the host, your host Dr. Joseph Anton, is a big, big pleasure today to have with us Dr Kurt Hung, who has been an expert in fasting for probably now 10 plus years.

both as a researcher and being the primary investigator on some of the fasting trials, but also as an application. You know, he's the head of nutrition at University of Southern California at the Keck Hospital and applies a lot of their cutting-edge nutrition intervention into several types of patients or conditions.

And we're going to cover all this for you today. Dr. Hong, welcome to the Fasting and Longevity Summit. Thank you so much for the invitation. It's a pleasure of mine to be here today and hopefully kind of share some of my experiences in both research as well as clinical setting as it relates to fasting and kind some impact on physiology and metabolic diseases.

So I'd love for you to tell a little bit your background and your story coming into where you are today. But from my standpoint, I always remember three points about Dr.

Han He's a Harvard Medical School grad, he's the head of nutrition. He is a physician, but head-of-nutrition at Keck, which is very unique, very, unique setting where Kech is the main hospital for University of Southern California.

Dr. Hongu2019s Background in Nutrition and Research

And they decided to have a nutrition doctor team to help their patients. In number three, I always remember he had 4.9 or five stars feedback from his patients, everyone talk about him, about his care, how much he's passionate about what he does and how he cares about his patients.

But I'll let you now talk about the other side of your story and who you are and before we start talking about fasting and logic. Thank you so much for the kind words, Dr.

Anton. So let me kind of give everyone a little bit of my background. I graduated from medical school actually now close to 25 years ago, and I was actually trained originally in internal medicine.

But after the internal medicines residency, I decided to pursue kind really one of passions is really to kind to really understand the role of nutrition in clinical care.

To be honest, I remember during medical school and during residency training, we really did not get a lot of training when it comes to the impact of diet, how that is important, whether we're helping somebody to lose weight for diabetes, for heart disease.

And at that time, I remember reading some very early articles, particularly some of the pioneer articles with Dr. Walter Longo. At that point, it was mainly a lot of animal studies, and we come obviously a long way in terms of

understanding a clinical impact as well.

So I spent a couple of years actually doing a fellowship actually in nutrition at UCLA. Afterwards, I spent another four years actually getting a PhD, specifically understanding nutrition and the pathology of diseases.

Eventually, actually joined the faculty at USC Keck School of Medicine. I've been there since 2012. And I'd been really privileged to be really involved firsthand, not only in clinical care, but I also do teach at the medical school, both at medical student level as well as work with the residents, even fellows.

But I think the one thing that's also exciting is I'm also kind of dual appointed as a faculty at USC School of Gerontology. And it's fantastic to see kind of what we are able to do for patients in the clinical setting at the medical school kind combined out with all of the very cutting-edge research that's being done at The School of Gerontology.

it's great to really get feedback from patients whenever we give somebody nutritional advice. Even when patients are trying to do fasting, what's working, was not working.

There are a lot of sometimes confusions is intermittent fasting same as prolonged fasting. It's good to be there basically working with the patients one-on-one to help them answer these questions.

That's fantastic.

Why Fasting Supports Longevity

If we want to ensure words, help our audience understand why fasting is linked to longevity, why is fasting linked with health conditions, what does fasting do to the body that is so essential that we're pronouncing these words together, fasting and longevity fasting in medical conditions fasting, in patients fasting an aging.

Can you give us what is that secret within fasting that drives all these benefits? That's a great question. And I think there's still a lot more research need to be done.

But I. Think if you look at some of the very early studies on whether the studies were done in flies, in worms, and even some the early animal primates models, we know basically, uh, if the animals were basically exposed to periods of fasting, they just do better.

You know, metabolically it seems like their body's able to recover more. And there are definitely some age-related changes in pathology that tends to really improve just with fasting.

I think the simplest way to look at fasting is that, think of your body as basically a car. You know, the longer we own the car, you know there're going to be small things that will break down.

And think about fasting as a way for your to almost like to reset, rejuvenate, and recover. By giving your that opportunity, rather than kind of overwork it, physiologically all the time, your body, and essentially think of it again as your car, it's going to basically last longer in terms of function and longevity.

That's fantastic. And you've been the primary investigator on the first ever fasting-mimicking nutrition trial on benefits and risk factors of aging and preventing some of the chronic conditions.

Can you in two words describe for us what is Why did we need a fasting? What first, what is a fast nutrition? And we hear this word is for us mainly fasting is waters, no food.

How come is fasting mimicking diet? what that is? and why did you need or why do we to fast with food? So one of the challenges when it comes to making recommendations to patients is that there are a lot of information out there.

There are lots of supplements or basic recommendations that's really not backed by science. Just because

something's mentioned on the web or you can Google something, it doesn't really mean that they're any type of really well documented or well publish human studies.

And I always say just because something works in rats, it doesn't mean that physiologically it's going to translate to some of these benefits to humans.

So one of the things I know that is that if we're going really basically recommend something to patients that we feel very comfortable with, not only from an efficacy but also from a safety point, we need to do these basically human study.

I have known basically Dr. Walter Longo for many, many years.

What Is a Fasting-Mimicking Diet?

And one of the things that we started discussing back in 2012, 2013 was that, you know what, is there a way to really translate some of findings, particularly some really exciting findings in his animal study, to basically practically design a human study that can basically determine whether or not, again, we're seeing these benefits.

And I think the challenge becomes, you know, there are a lot of different types of fasting. You know people talk about intermittent fasting, some of the challenges if you're only going to be fasting with food, are there ways where your body is able to kind of see nutrients, kind make it more practical to fast without just purely drinking water, yet at the same time physiologically get the type of more prolonged and periodic fasting that you are able just to do with just water fast alone.

So like what you're saying is, you know, people can skip a meal and do intermittent fasting. That's probably feasible, but to go on a prolonged fasting, which is what two or three days, all the way to five days.

You're seeing science has brought us a new technology to, to nourish the body over five. But at the same time, the cells physiologically and the bodies as a, as, uh, from a blood standpoint and and growth factor standpoint, the body thinks you're still fasting although you've been nourished.

Is that the purpose? That's exactly kind of what we're trying to do is that imagine you are able to get the best of both worlds. You're able nourish your body at the same time your bodies able physiologically or at a cellular level still see being in the fasting state.

And I think part of the reason why that is important is you kind almost have to take a step back to kind understand physiologically. when your body kind of starts to go through the fasting process.

And there are published data showing that, you know, short-term fasting, when you just don't eat for 12 hours, 16 hours or basically you can go low calories just for a couple of days out of a week.

You may get some metabolic benefit. Some people, they may lose a little bit of weight and they make kind get benefit when it comes to noticing that their cholesterol, even their blood sugar kind to get to a healthier level.

But if you really want to get that cellular rejuvenation, being able to repair cells, you don't get it until you get to that fasting state where it's beyond 48 to 72 hours.

And as Dr. Antoine was saying, the challenge of that is, I would say most people, myself included, wouldn't be able live off of water for any longer than 12 to 24 hours, And that's the secret part.

It was so, so what you're saying is the first two days we lose weight. We have a metabolic response to fasting, which is great. A lot of intermittent fasting has helped a lot.

You know, achieve some metabolic objectives, but then crossing to day two and three be where the stress is high and the cell stop rejuvenate as a response.

Clinical Trial Results and ProLon

This is where people fail to water fast and therefore we're helping them with the fact that we make a nutrition so that they can go through the process and reach the five days and the seven-day tribulation.

Can you tell us in the randomized clinical trials that you led at USC and at the Keck Hospital, what was the fasting-mimicking diet, and what were the outcomes of that study?

Yeah, I'd be happy to. So this was a study basically that was published about six years ago. And it was really the first big randomized studies. This was the control study where basically we randomized 100 patients basically to a fasting mimetic regimen versus more of a traditional diet.

We wanted to really answer kind of three questions. Number one is, how doable is this realistically? Are there a lot of patients who drop out? What is the compliance when we did the studies over a period of three months?

And then the other question we really want to answer is physiologically, metabolically, even if we see a response, is it something that's prolonged or the second you stop doing the fasting, do some of these benefits kind of go away?

So let me kind of answer the question again in three parts. So we were really, really surprised how many patients they find it pretty easy to do this.

Yes, there are some patients who may notice a little bit of fatigue or they may noticed a bit hunger when they are first doing the initial cycle of the fast-mimicking regimen.

And really, that's what the cycle involves. You're going to do five days of a particular combination of nutrients that allow your body, again, physiologically to be in a fasting state, but yet you're still able to nourish your bodies at the same time.

Then you have 25 days where you just try to stay a healthy diet. But what we recognized was that most people, they're able get through the three cycles.

More importantly, some of benefits we saw at end of 90 days, Even when they stopped the intervention, when we kind of analyzed the data at the six-month mark, a lot of those benefits continued to persist physiologically.

And Dr. Hang, what was the name of the product that you used? So this is basically ProLong, or basically the fasting mimetic regimen that is by Alnutra.

And for those who want to read the results of the trial, which journal was it published at? This is actually published in Science Translational Medicine.

factor of aging and age-related health conditions if I remember correctly. So if you google fasting mimetic diet, google my name and actually put down cardiometabolic disease risks that particular article and that article has been really quoted many many times in a lot of the other studies.

It's really kind of one of that first that you show to show that clinically this can work and since that time there have been many additional clinical trials that's been conducted.

Fantastic. Can you talk about how you as a practitioner in your own clinic and at the hospital, how do you use Prolon or other intermittent fasting regimens with your patients and some of the results that you have experienced?

Yeah, so, you know, fasting is one of the most common questions that will come up because, even for patients who are relatively healthy or, patients with early signs of pre-diabetes, they do realize that they have certain risk factors from metabolic disease.

They've heard from somewhere, Google or from family and friends that fasting may be something they're interested

in. So we would discuss with them to number one, make sure that the are a good candidate, and make there are no obvious contradictions.

Once basically we feel like this is something that may be beneficial to them, you know, we kind of really discuss with them. You know what have they tried before, a lot of people, they may have already tried some sort of time restriction and they've noticed that it kind works but it really hasn't made much of an impact in terms of their metabolic panel.

Using Fasting in Patient Care

And they really kind want to take it to the next step. They've heard about kind fast and mimicking regimen, but they're not quite sure they have to do that.

Yep. The time restriction you say is the 16 hours meaning skipping breakfast. This is what they try to do. And now they want to go into more of deeper effects, deeper benefits.

Yeah, so a lot of times people will do, you know, 12 hour fast or even up to 16 hour. Fast. Sometimes, some people may mean that basically they skip their breakfast.

And, one of the challenges becomes, okay, well, there are also a data showing that breakfast is actually important for you to actually eat and they are kind of conflicted.

Well, how do I get that 16 hours, but yet still get their breakfast in. And this is where for patients where I kind of as you alluded to want to take it to the next step to really get the physiologic response or the benefit when you're able to do more of a prolonged fasting, we really talk to them more about the details of how to implement the fasting mimicking regimen.

Fantastic. What kind patients come to you or requesting the, the problem faster than we can die or, or you proactively talk to them about it. What kind of, what kind purpose and what kinds of results have you seen?

So great question. I would say probably about half of the patients that bring it up to me as something that they're interested in trying, the other half I actually kind of just as part of a conversation and discussion, you know, I may suggest, You know what?

I think this is something maybe beneficial and they become curious and we try to talk about the detail. And I will think generally speaking, The results have been very positive.

Any type of intervention, even nutritional intervention. There may always be a small population of patients. whether it's due to compliance or physiologically, they just may not get the same results.

But I would say majority of patients, I think one of the biggest plus is that, you know, a lot of patient when they're trying to lose a little bit of weight or metabolically they don't necessarily want to go on medications for their pre-diabetes or for the blood or high cholesterol.

A dietary and nutritional intervention is probably the safest approach. The one thing I tell patients is this is not just a short-term intervention. Think of this as almost like a lifestyle implementation where if you feel like you're driving a benefit, you should continue doing.

I think one of the subjective benefits most people don't talk about is they really notice that energy-wise, after they've been implementing the prolonged, the fast-mimicking regimen for a while, there's actually quite a bit of improvement.

There's a lot of discussions about even coming from religion and then from a lots of philosopher about the fasting being the doctor from within, but also being that full rejuvenation of the spirit and the body.

And a of, you know, patients, come out saying we have better energy, the focus, mental clarity, our sleep quality. So all of that package is important part of death rejubilation journey.

Yeah, absolutely. And this is something which I would actually talk to the patients about. Yes, as a physician, I love to see your lab numbers get better.

But beyond that, subjectively, just want you to feel better and feel like this something like you're driving the benefits. What are some blood markers that you would test before and after or that have been tested in the clinical trial or in your patient?

What do you typically do in a test, before or after doing the fasting medication? Yeah, so just with any type of either dietary recommendations or even you're going to start somebody on the medication, you know, we want to make sure that, the patients are being monitored appropriately, not only for efficacy, but also for safety.

And which also means that we wanna make this is somebody where, all their major organ functions, their kidney functions their liver functions are normal.

They are not dehydrated. You know they don't have a significant hormonal imbalance that's going untreated such as a kind of a low thyroid function.

Monitoring Markers and Treatment Cycles

Now, I would say majority of patients, if they are seeing their primary care doctor regularly, hopefully we have some updated labs, at least within the past six months.

And I will say, majority patients once we make that decision, okay, even if your cholesterol is borderline high or your sugar is bottom line high, or more and more patients are even looking at inflammation markers, such as CRP is kind of is maybe border line This will be a patient population where once, let's just say, we sort the patient on a fasting regimen, We definitely want to see whether or not those metabolic parameters also improve over time.

Last question here on what is the regimin? Like if I come to your clinic and you want give me the ProLon, how many times per year should I do it? Or what kind of profiles would do with less or more?

So I think if you look at some of the very early studies, we do know that at the varying minimum, you need to do three cycles. And again, the cycles are you do fast five days basically of fast-making dietary regimen followed by 25 days of still healthy eating and that constitute one cycle and you want to repeat for three cycle consecutively.

Where we've seen in some of the more recent studies is in the patients with higher metabolic risk. These are maybe patients basically with more severe metabolic defects where their cholesterol is much higher, or basically patients who have autoimmune diseases or patients carrying a lot more extra weight.

They may benefit from actually repeating all the way up to six cycles. And then afterwards, there are some people where they would do three cycles and they take three cycle off and then repeat it again as starting in month seven.

Or there're some patients where the find it more practical for them to do the three initial, almost like induction cycle, and do these cycle every other month, like a maintenance regimen.

And the cycle is a box of prola which is five days only a month. Then five day the next month and five the third month And people love just the convenience.

It's clearly the label. People like the fact that, you know, they really don't get hungry, just basically just consuming the food from the box. And I think really, if you really look at the science that's been dedicated to kind of what goes into the design of a food, it's just been really amazing.

There's now, I, think around 32 clinical trials on the fasting-indicated nutrition. I know that Stan first stepped in in

University of Miami and Leiden and Heidelberg, and they're all now testing the fasting-limiting nutrition.

And this is why we wanted to have this summit, is to bring fasting to people to understand that this as a full rejuvenation of the cells and metabolism is going to be really beneficial in keeping the body healthy and staying healthy for a longer period.

I appreciate you being the primary investigator on the very first fasting probably nutrition trial ever in history, that has unlocked I remember very well, 2016, 2017, this is where the Google search on fasting exponentially went up.

Future of Fasting Research and Closing Remarks

And the Nobel Prize in Medicine on 2016 was on the rejuvenation of the cell with fasting, a process called autophagy, right? When the cells re-juvinate, we saw the self-heat or autopagic.

So the science translation medicine article and the benefits of ProLon, then Nobel prize in medicine coming on fasting and cellular rejubilation together.

made fasting a huge movement. And I think now the statistics show that around six to eight percent of people in the U. S. do practice fasting. It's probably the number one diet.

We wanted to unlock to people through these videos and through the summit the value of fasting and its fasting nutrition. Before we depart, Dr. Hong, any other final words you want to mention today or you wanna share with our audience?

I think this is an exciting time for not only clinical fasting, but also kind of just fasting research in general. I can think over the next decade, there are a lot of active ongoing trial looking at fasting in patients with other kind metabolic diseases and autoimmune diseases.

And I thing the one area there studies that have been published almost every other month are kind looking fasting even in basically secondary kind treatment of adjunct therapy in cancer as well.

So kind of really stay tuned and I think, you know, the recommendations five years or 10 years from now can actually be even more exciting. So I guess, my final message is that again, for basically anyone who'd be interested in fasting and learning, understanding the physiology, to clinical impact of fasting, definitely we look forward to all of you kind looking in more details through our website.

We appreciate you very much and thank you for the work in the field and hope to see you on the second summit. Thank you very much. My pleasure.