Introduction to the Summit and Dr. Hong

Welcome, everyone. This is another episode of the Fasting and Longevity Summit. And the host, your host, Dr. Joseph Antoun, is a big, big pleasure today to have with us Dr.

Kurt Hong, who has been an expert in fasting for probably about ten plus years, both as a researcher and being the prime investigator of some of the fasting trials, but also as an application.

You know, he's the head of nutrition in Southern California, the Keck Hospital, and applies a lot of the cutting edge nutrition intervention into 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 my 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 of some of the impact on physiology and kind of metabolic diseases.

So I'd love for you to tell a little bit your background and your story coming into into where you are today. But from my standpoint, I always remember the 3.7. Dr.

Hong is a Harvard Medical School grad. He's the head of nutrition and he's a fit physician, but head of nutrition at Tech, which is a very unique, very unique setting where tech is the main hospital for University of Southern California.

And they decided to have a nutritional doctor team to help their patients. And in number three, I always deliberated for 4.9 or five stars. Feedback from his patients.

Everyone talk about him, about his care, about his, how much he's passionate, about what he does and how much he cares about his patients.

Dr. Hongu2019s Background in Nutrition and Research

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

Antoun. So let me kind of give everyone a little bit of my background. So 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 medicine residency, I decided to pursue kind of really one of my passions is really to kind of really understand the role of nutrition in clinical care.

To be honest, I remember during medical school and during residency training really, 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, you know, for diabetes, for heart disease.

And at that time, I remember reading some very early articles, you know, subtitles on the pioneer articles with Dr. Valter Longo. You know, at that point was mainly a lot of animal studies.

And we come obviously a long way in terms of understanding a lot of the clinical impact as well. But so I spent a couple of years actually doing a fellowship actually in nutrition at UCLA.

And afterwards I spent another four years actually getting a Ph. D., specifically understanding kind of nutrition and the pathology of diseases. And eventually I actually joined the faculty at USC Keck School of Medicine.

I've been there since 2012, and I've been really privileged to kind of be really involved, kind of firsthand, not only in clinical care, but I also do teach at the medical school, both at the medical student level, as well as work with the residency fellows.

But I think the one thing that's also exciting is I'm also kind of dual appointed as the faculty at the 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 of combined out with all of the very cutting edge research that's being done at the School of Gerontology.

And so it's great to kind of really get feedback from patients. You know, whenever we give somebody kind of nutritional advice and even when patients are trying to do fasting, you know, what's working, what's not working, there are a lot of sometimes confusions.

The, you know, is intermittent fasting, same as prolonged fasting. And it's good to kind of be there basically working with the patients one on one to kind of help them answer these questions.

That's fantastic. So if we want to, in a few words, help our audience understand why fasting is linked to longevity, why fasting is linked to health conditions, what does fasting due to the body that is so essentials that we're pronouncing these words together, fasting and longevity, fasting and medical conditions, fasting and patients fasting and aging.

Can you give us what is 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 of the early animal primates models, we know basically if the animals were basically exposed to periods of fasting, they just do better.

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

Why Fasting Supports Longevity and Health

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

And by giving your body that opportune knee, rather than kind of overwork it physiologically all the time, your body essentially think of it again, your car is going to basically last longer in terms of function than longevity.

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

Can you can you in two words, describe for us what is or why did we needed a fasting? What first, what is a fasting nutrition and we use this for this work.

For us, mainly fasting is what is no food. How come is a fasting mimicking diet what that is and why did we need or why do we need to fast with food? So one of the challenges is, you know, when it comes to making recommendations to patient is that, you know, there are a lot of information out there, there are a lot of supplements or basically recommendations.

That's really not backed by science. You know, just because something is mentioned on the Web or you can Google something, it doesn't really mean that there are any type of kind of really well documented, well published.

Human studies don't 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 always know that is that if we're going to 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 studies.

And I have known basically Dr. Valter Longo for many, many years. 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 the findings, putting some of the really exciting findings in this 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. You know, some of the challenges if you're only going to be fasting with food, are there ways where your body's able to kind of see nutrients can make it more practical to fast without just purely drinking water, yet at the same time physiologically get the same type of more prolonged than periodic fasting that you're able to kind of just do, which is water accessible.

So Dr. Hong 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 saying science has brought us a new technology to to nourish the body over five days, but at the same time, the cells physiologically and the body is from a blood standpoint and growth factor standpoint, the body things you're still fasting, although you're being Norwich.

What a Fasting-Mimicking Diet Is

Is that the purpose? That's exactly kind of what we are trying to do is that imagine you're able to get the best of both worlds, you're able to nourish your body at the same time.

Your body's able to physiologically or at the cellular level still see being in the fasting state. And I think part of the reason why that is important is you kind of almost have to take a step back to kind of understand physiologically when your body kind of starts to go through the fasting process.

And, you know, there are published data showing that, you know, short term fasting when, you know, when you just don't eat for 12 hours, 6 hours, or basically you can go low calorie just for a couple of days out of the week.

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

But if you really want to get a cellular rejuvenation, being able to get your cells, to be able to repair cell, you really don't get that until you get to that fasting state.

Whereas beyond that 48 to 72 hours and kind of is kind of what Dr. Antoun saying the challenge in each of that is, I would say most people myself probably included, I wouldn't be able to just live off of water for any longer than probably 12 to 24 hours.

And that's the sickle cell. 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 of people, you know, achieve some of the multiple objectives.

But then crossing to day two and three where the stress is high and the cells that rejuvenate as a response to the stress, this is where people fail to water fast and therefore we're helping them with the fact that we're making nutrition so that they can go through the process and reach the five days and the cell regulation that actually getting

us keeps us in the in the randomized clinical trials that you led that you see in the tech hospital, what what was the of the fasting mimicking diet?

What was the outcome, what was studied, and what was the outcome of that study? Yeah, I'd be happy to. So this was study basically that was published about six years ago, and it was a big really the first big randomized studies.

And this was a control study where based vaguely we randomized 100 patients basically to a fasting mimetic regimen versus more of a traditional diet. And we wanted to really answer kind of three questions.

Number one is, you know, how doable is this realistically? Do 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 this something that's prolonged or the second you start 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, you know, how many patients they find it pretty easy to do this. So, you know, yes.

You know, there are some patient who may notice a little bit of fatigue or they may notice a little bit of hunger when they're first doing the initial cycle of the fast mimicking regimen.

And really that's what the cycle involves, is 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 kind of nourish your body at the same time.

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

Clinical Trial Results and Patient Outcomes

But more importantly, some of the benefits we saw at the end of the 90 days, even when they stopped the intervention, when we kind of analyze the data at the six month mark, a lot of those benefits continue to persist physiologically in that.

What was the name of the product that you use? So this is basically prolong or that basically the fasting mimetic regimen that is basically by albuterol.

And for those who when they read the results of the trial, which Delta was a published ad it. This is actually published in Science Translational Medicine.

I think it was internal medicine fasting mimicking diet, right for risk factors, aging and age related health conditions if I remember correctly. Have you Google fasting, mimetic diet, Google my name and actually put down cardio metabolic 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 the first studies show to show that clinically this can work. And since that time, there have been many additional clinical trials that's been conducted that's.

And can you talk about how you as a practitioner in your own clinic at the hospital, how do you use prolonged or other fasting, intermittent fasting regimens with with your patients and some of the results that you have experience?

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

They've heard from somewhere, Google, from family, friends that, you know, fasting may be something they're interested in. So we would discuss with them, number one, make sure that they're all right, good can to make sure they are no object hunter in the shins.

And for example, the contraindication is for somebody who pregnant or who is under the Hooley is not somebody that we would want to consider testing policy for any of the you know they are potentially candidates for fasting once basically we feel like this is something that may be beneficial to them.

You know, we kind of really discussed with them, you know, what have they tried before? You know, a lot of people, you know, they may very try, you know, some sort of time restriction and they've noticed that it kind of works by really hasn't made much of an impact in terms of their metabolic panel.

And it really kind of want to take it to the next step. You know, they've heard about kind of fasting mimicking regimen, but they're not quite sure exactly how to do that. Yep.

The time restriction you're saying is the 16 hours, meaning skipping breakfast. This is what they tried to do and they want to go into more of a deeper effects.

Deeper benefits. Yeah. So a lot of times people will do, you know, 12 hour fast or even up to 16 hours fast sometimes. And, you know, some people may mean that basically they skip their breakfast and, you know, one of the challenges becomes, okay, well, there are also a lot of data showing that at breakfast it's actually important for you to actually eat. And they are kind of conflicted.

While how do I get that 16 hours but yet still get that breakfast? And this is where for patients where we kind of, as you alluded to, want to take it to the next step to really get that 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. And that's again in what kind of patients come to you or requesting the fast mimicking diet or you proactively talk to them about it.

What kind of what kind of purpose and what kind 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 the conversation and discussion, you know, I may suggest, you know what, I actually think this is something that may be beneficial and they become curious and we kind of talk about the detail.

And I think generally speaking, you know, the results can be very positive. But I think with any type of intervention, even nutritional intervention, you know, there may always be a small population of patients, whether it's due to complaints or physiologically they just may not get the same results about the majority of patients.

I think one of the biggest pluses that, you know, a lot of patients, 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 their high cholesterol.

Using Fasting in Clinical Practice

You know, a dietary and nutritional intervention is probably the safest approach. And, you know, the one thing I kind of tell patients that this is not just a short term intervention.

Think of this is almost like a lifestyle implementation where if you feel like you're driving a benefit, you should continue doing. And I think one of the subjective benefits most people are talking about is they really notice that the energy wise, after they've been implementing the kind of a prolonged, the fast mimicking regimen for a while, there's actually quite a bit of improvement.

Is a lot of discussions about even coming from religion and then from a lot of philosopher about the fasting, being

the doctor from within, but also being that true rejuvenation of the spirit and the body.

And a lot of patients come out saying we have better energy, the focus, the mental clarity, our sleep quality. So all of that package is important. Part of that urination journey and 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 our subjective, Ali, I just want you to feel better and feel like this is something like is that your 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 and after doing the fast mimicking impression?

Yeah, so just with any type of either dietary recommendations or eating, you're going to start somebody on the medication. You know, we want to make sure that, you know, the patients are being monitored appropriately, not only for efficacy, but also for safety, and which also means that we want to make sure this is somebody where, you know, all their major organ function, 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. Now, I would say the 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 would say the majority of patients once we make that decision, okay, even if your cholesterol is borderline high or your sugar is borderline high, or more and more patients are even looking at inflammation markers such as CRP is kind of is maybe born on a high.

This will be a patient population where one such as, say, we start a patient on a fasting regimen. We definitely want to see whether or not those metabolic parameters also improve over time.

And last question here. And what is the regimen like? If I come to your clinic and you want to give me the pro line, how many times per year should I do it or what kind of providers would do it?

Less or more? So I think if you look at some of the very early studies that we do know that at the very minimum you need to do three cycles. And again, the cycles are, you know, you do five, five days basically of the fast making dietary regimen, followed by 25 days of, you know, still healthy eating and that constitute one cycle and you want to repeat for three cycles consecutively, where we've seen in some of the more recent studies is in some of the patients with higher metabolic risk.

You know, these are maybe patients with basically with more severe metabolic defects where their cholesterols are much higher or basically the patients with autoimmune diseases or patients who are working a lot more extra weight, they may benefit from kind of actually repeating all the way up to six cycles and then afterwards there are some people where they do three cycles, then they take three cycles off and then repeat again starting in month seven.

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

In a cycle is a box of Prolog, which is five days, only a month, and then then finally the next month and then five days is certainly right. And people love just that convenience is 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 the food, it's just been really amazing.

Is now I think around 32 clinical trials on the fasting mimicking expression.

Future of Fasting Research and Closing Remarks

I know that Stanford stepped in and Miami and leaned in and Heidelberg and they're all now testing the fasting, mimicking version. And this is why you wanted to have this summit, is to bring fasting to people to understand that this is 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. You've being the primary investigator on this very first fasting, growing nutrition trial ever in history. And that has that has a lot I remember very well 2016-2017.

This is where the Google search on fasting exponentially went up and the Nobel Prize of Medicine on 2016 was on the rejuvenation of the cell with fasting, a process called autophagy.

Right. When the salaries of kinase itself e or autophagy so the the Science Translational Medicine article and the benefits of ghrelin. Then the Nobel Prize in Medicine coming on fast and cellular rejuvenation together made fasting a huge movement.

And I think now the studies show that around 6 to 8% of people in the US do practice fasting is probably the number one diet. And, and, and, and we wanted to a lot of people through these videos and through the some of the value of of fasting the fasting nutrition before we end Dr. Hong any other final word you and you would have mentioned today.

What do you want to 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 think over the next decade there are a lot of active, ongoing trial looking at fasting in patients with other kind of metabolic diseases and autoimmune diseases.

And I think the one area there are studies that are being published almost every other month are kind of looking at fasting even in basic a secondary kind of treatment or adjunct therapy in cancer as well.

So again, it's really stay tuned. And I think, you know, the recommendations five year or ten years from now can actually be even more exciting. So I guess, you know, my final message is that, again, for basically anyone who will be interested in fasting, learning, understanding the physiology, the clinical impact of fasting, definitely we look forward to all of you kind of 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.