Introduction to Dr. Jingjian Shay and GInfinity

Doctor Jeffrey Glutton and we're discussing is always leveraging AI to outlive disease and live young for a lifetime. And today, I'm honored to have with me, doctor Jingjian Shay.

You can tell from his name that he did not grow up in the US, but, grew up in China, I believe. He can tell us about that. He's a PhD, however, and a founder and CEO and chief scientific officer of a great company that we use called G infinity.

And, he'll tell us a little bit about his history, but there in the, in the mix really with, tests that we use all the time for all of our clients to really kind of help us assess where they are in the aging process.

So with that as an introduction, Ching Chong, welcome to, welcome to the show. It's my pleasure to be with you, Jeff. Yeah. Great to see you again. So tell the audience a little bit about, you know, how you got started in this and, and kind of what you've developed.

So, I was, I have been a academic scientist for over 40 years.

From Type 1 Diabetes Research to Systems Biology

My research has always being about discovery and the implementation of biomarkers that, can help us, identify why individuals who are at risk of developing diseases in the future.

Okay. I learned years of focus on childhood, disease, type one diabetes. Childhood amnesia, type one. Okay. Yeah. The type of one that wasn't immune. Disease.

Primarily, in children. But when you study diabetes, you really, have to, pay attention to the whole body system because, medical complications involve, you know, almost every single organ.

That's right. It's a disease, for sure. So gradually, I really got interested in, discovering, solutions to, optimize, human health. Not just one particular disease or one particular organ at a time.

And I think you agree with me that, unfortunately, in the, in the medical system, doctors, who specialize. Yeah. That's right. We over specialized. The way over specialize the, great doctors for, the organs or tissues and they specialize in.

But very often forget about the very basics. In fact, importantly, to to the patient. Yeah. So, you know, over time, I, I became very interested in, systems of biology, which is, a scientific discipline that use uses what information available to us, to improve health, to, take care of patients.

So this is a really important concept. If you're listening to this, this concept of systems biology. So really, what he's saying is he started out looking at childhood diseases, type one diabetes, which was an autoimmune disease, and realized that it has so many, you know, systemic, impacts.

You start to think about health in general. And then the idea is that, you know, as specialists, we get so kind of narrow minded. And I would I would argue that on one hand, we're too specialized, and on the other hand, we're not specialized enough.

We don't know enough about the field that we think we know something about. And yet we also don't know enough about the general substrate in which all of this is happening.

Right. So we're kind of handicapped on both ends of it. I would say. But the interesting thing is that, you know, when you start to think about biology as a system, right, as opposed to a particular organ or even a single cellular organism, you know, to me it's a little bit more like a rainforest is kind of the analogy I like to use. Right?

If you've ever been in a rainforest, the first time I went to a rainforest in Costa Rica, I was blown away. I knew it would be wet and I knew there would be trees, but it's like, oh my gosh, there was life on top of life, on top of life on top of life, on top of life.

It's like. Standard. Life. And it's so interesting to understand that that complex ecosystem, has a delicate balance. And that's kind of how the body is.

It's a very complex ecosystem. It's not just an isolated organ or an isolated cell or an isolated disease.

Hallmarks of Aging Across Biological Levels

And so really trying to understand what are the what are the underlying substrates that really nourish, if you will, the entire ecosystem. That's really kind of what what we're talking about here, right?

Yeah, absolutely. I think that this is a very good, energy. And so, I think many people are familiar with, the hallmarks of aging initially April 9th, hallmark.

More recently, it's expanded to 12. But I have been thinking about this problem for, for a while. I actually came up with 30 different, cool markers of aging.

Yeah. I'll talk about. Yeah. The, aging management medicine, meeting just a, a few days ago. Right. You can put on this, 30 hallmarks of aging into six major categories.

You go from the macro level and all the way from DNA to, to, epigenetics to, to proteins and metabolites. Then you have to look at, at the cellular level, how the cell is a function.

And you also have to think about how cells communicate with each other in so close by. Whoa whoa whoa soon remote. And these through secreted proteins like, you know, cytokines and chemokines and hormones and, and so on.

And then you also have to look at the, at the tissue level and how the tissue function, how the organ function functioning. And for the next two categories, you have to think about how our body interacts with the microbiome, to bacterial viruses, a major part of our body.

And the final one was no one really thinks about is how our body interacts with the external environment, environment and air pollution and all this stuff.

So really, what you're talking about here is kind of looking at these hallmarks of aging and kind of building them from the ground up, right from the molecular level inside a cell.

So then how cells communicate with each other to then the tissue level, what's happening at a tissue level, then into a more of a organism level, and then the symbiotic nature of, of our human cells with the bacterial cells that populate us.

Right. And then and then how we basically engage with the outside environment. Right. So there are basically hallmarks of aging that occur at all those different levels.

And you know, there were initially nine and then it went to 12, 13, 14, I think we're up to 16 that we're kind of working with. You can go to 30. But the idea is that a hallmark of aging is actually characterized as a both a phenotypic expression of aging.

In other words, it's kind of like you can have a genetic predisposition for a nose, right. But the phenotypic expression of that is what your nose look like.

Right. So so you have the phenotypic expression of aging. Right. But then you also have the fact that these expressions of aging are actually accelerating aging simultaneously.

So there's an interplay between the expression of aging and the acceleration of aging. That's how those hallmarks seem to work. Right. So he's in the middle of kind of looking at all of those.

So so with that vantage point, what have you developed. So we have developed a number of biomarkers. These biomarkers cover but aid to major categories, that are important to, the aging process or for anti-aging, medicine.

And so my whole career, focus on identifying the root causes of major diseases more recently, particularly for aging related is is this, root causes? Some of them are common in, many people.

I talk, talking about name that includes, for example, inflammation. And everyone's talking about inflammation. I don't need to spend the time on it. Yeah, and everyone's to talk about, you know, sugar, blood glucose control connection.

Right. But are a few that are very important.

Biomarkers for Aging, Oxidative Stress, and Senescence

Fewer people will talk about it. The first one that I want to emphasize is oxidative stress. Right? Oxidative stress is extremely important, especially for Americans.

You know, we we live in the US. So, yeah, I think that, if you look, if you compare oxidative stress level in Americans versus the Europeans and same genetic pool, let's just look at Caucasians.

Right? 80% of Americans have a high oxidative stress. 10 to 20% of Europeans, if you look at all ethnic groups, it's almost the same. Yeah, America, we live in the environment.

We have, the lifestyle that, really induces high oxidative stress. That's right. Oxidative stress, mitochondrial dysfunction, these, major areas that I believe doctors need to pay much more attention.

You know, I have an of data in various, diseases conditions or just in so-called healthy, aging, individuals. Some even important that people, including doctors, not paying enough attention in my opinion.

Yeah, I, I agree with that. I think, you know, when we talk about inflammation, we talk about inflammation, right? As inflammation, as being an accelerant of aging.

Well, why is inflammation so bad? Well, inflammation is bad because it basically increases oxidative stress in the cells, right? Yes. That's really why it's a bad actor.

And then we we basically have lifestyle choices, whether it's lack of exercise, sedentary lifestyle, poor dietary choices, processed foods, you know, too much sugar, carbs, whatever it is, all these things accelerate that inflammation, which then accelerates that oxidative stress.

So they're all linked together. And a lot of those things are controlled by lifestyle choices, which is maybe why Europeans are healthier. They're out walking in the Alps and doing things and hiking or whatever else.

Right. But. As a plus as a food, I mean, Americans eat so much, you know, I'll try, you know, process the food. That's right. So Europeans, I think they have a much better choice.

I, I leave the influence for four and a half years. Okay? I think most of the Europeans have a much healthier

lifestyle. In, in, for the choices, you know, exercise, we we need to educate the, the American population much, much better.

Let's, you know, I'm actually, you know, dedicate not all my time to working with the doctors and working with, consumers to tell them about the importance of the choices that they make.

That's right. So you've you've developed a test that actually goes through and measure some things that we don't have really any other way to measure.

You're measuring things like intracellular NAD levels. You're measuring, things like Clotho, you're measuring certain inflammatory cytokines that are associated with aging.

You're also measuring things related to the ability of the body to handle oxidative stress. And DNA damage. And, and, and you're also measuring a marker that looks at oxidative damage to the DNA.

And also senescence, cellular senescence and. Cellular senescence. Right. You have a marker in there that's actually giving us, a sense it's not a perfect marker.

You and I, I've talked about this is not a perfect marker, but it does give us a sense of what the senescent cell burden is in the body. And that's super helpful to actually get a sense for that.

Yeah. So, yeah, we have, you know, the number of unique biomarkers that, if not to too many people, are able to, to measure. That's right. That's great.

You know, nothing no biomarkers. It's a perfect way for you. Biomarkers are perfect. That's right. You a work in progress I think the biomarkers we, now measuring two provide very important information and they are actionable.

You can use them to identify deficiencies and more importantly, you can use them to monitor the success or of success for the various the services that, people are engaged in.

That's very important. Yeah. So let me give the audience just an example. Were we were on a call today with a client of ours out of Florida. We're here in Texas, but people that, you know, fly in to work with us.

And he's 35. He works in construction. He has two young kids. And he was noticing that he just didn't feel as good as he used to. Right. So you said, well, he's only 35.

I mean, he's not really he's not really impacted by aging at 35. But in actual fact, he came over here, we did some testing. We uncovered quite a few things for him that were opportunities.

And one of the things was we looked at your aging S. O. S. panel with him earlier today, and his intracellular energy levels were actually quite low, which was interesting.

Right? So if he doesn't have NAD, he lacks the ability to do DNA repair. He lacks the ability to make energy efficiently in the mitochondria. He also had a higher level of vertical exocytosis and senescent cells than we would have anticipated in the 35 year old.

Right, which was interesting to see.

Klotho, COVID, and Lifestyle Effects on Biomarkers

He also had more oxidative stress and he had a very low closeout level. Right. So it was a very important protein because both those made in the kidneys, to some extent, I think in the liver and the brain, but it has a lot to do with, brain health, vascular health and kidney health.

And you want to have high, close, low levels. So we looked at his genetics. We measured the genetics of close

over all of our clients also. And he has the perfect configuration for close.

So only 25% of the population are heterozygous for this at this gene. And it turns out the people that have a T and a G they're heterozygous, right. They actually have the capacity to make the most close.

So now here he is with the best genetic configuration. And yet his closer levels are very low. Right. Yeah I think I'm going to tell you some, some very new data that I've not told anyone yet.

So you. Your. Audience, your audience is the first to hear new. Yeah. Okay. I think the closer is, protein that's very responsive to your health condition.

Yes. What we have seen is very deficient levels of coastal in cancer patients. Yeah. Where is high proportion of cancer patients have deficient. Coastal.

We also see coastal deficiency in individuals who hi. Who's recovering from Covid. Go over. The syndrome. And that is remarkable. Now to myself, you know, my coastal neighbor was pretty decent.

Not not as as I'm 62. I don't expect it to be very, very high. But I was, in the middle of the, optimum range. Three months ago, I, I had Covid, and then I met myself.

I imagine myself every months. Yeah. I also basically went to the undetectable level. Interesting and interesting and and now I'm, I'm getting the baby again.

I mean, they are kids to get it through, so levels up again. It's not easy, but it can be done. You have to deal with the health conditions. Mean and healthy, again.

And those who never will gradually recover. And we do have some supplements that getting help with the process. But it's not perfect yet. Yeah, well, there, there, just the Clotho is spelled clo t clo. So.

Yeah, if you're listening to this or you want to look it up, it's kalo t ho. And it's a really fascinating protein. And, you know, it's kind of like telomeres get shortened by Covid also.

Right. Kind of re lengthen. Right. So these these these infectious diseases are these challenges that we face in life can have major impacts on health markers like Clotho telomere length you know things like that.

But it is possible to build them back. One of the things that that we understand is that, resveratrol. Right. A particular form of resveratrol called PC and resveratrol, which has a very high absorption rate, can actually help to relax and close.

So at least that's what the data is suggesting. The other thing that's interesting about it is that closer levels are shortened by resistance training or lessened by resistance training, and actually increased with cardiovascular training.

So we have most we have a lot of our clients doing a lot of cardio. Right. We want to build muscle and they all build muscle too. But cardio really is great for building clothes.

So even in people that have underlying kidney disease we can build clothes. So if we have them doing cardio. So if you've found other things that that improve clothes. So the are the number of ways that can, build a custom, so, you, you want to reduce inflammation.

Again, inflammation is involved. Actually coastal controls, the infinite cemetery pathways. And so it's very important to get across on levels up to reduce inflammation.

Oxidative stress can, reduce across on levels as well. So you want to reduce oxidative stress I mean whoa whoa. And these are kind of now in the network right now we're in a major system.

You cannot dissociated. Whoa. And it's important root the causes one from another. So you basically the bottom line is you want to do, a comprehensive, test to figure out what are the issues, and you have to tackle them in a good way.

So that's what I'm what I'm I'm preaching what I, I'm, I'm preaching nine words now. So nine words. Nine words. The first one is called a toe to toe to chow.

Okay. Comes with oh, is how is. Oh yeah. Oh, yeah. Well, sometimes you can call it how sometimes, oh. Okay. Oh, you. Got the child protein and. The. Yeah. Yeah.

And not have to, another, time with the talk. Oh. Stand for test X and optimize. Okay. I love. That know. So. So you want to test to come up with actionable, solutions?

Testing, Personalization, and the TALO Framework

You want to act in a precise, way and personalized way. And then after the interventions, you will want to retest and to optimize. So this is the iterative process that you repeat again and again with that and what your program is doing.

Right. That's right. So in addition to Tal I have £0.08 words. Okay. And the first one that I talk about quite a bit is proactive. Proactive. Okay. So you, you you want to, start as early as possible?

But it's too early and never too late to act. My, my eight year old daughter, has started, a longevity program. Right? My four my four year old is getting started as well.

Okay. That's great. So, unfortunately, meaning what about a 25% of, young children, for example, deficient in never. If you don't have optimal engaged you.

Everything else is messed up. I mean, I can I can tell you so so my my eight year old daughter is suboptimal for the so well, supplementing with, you know, the supplement, vitamins obviously.

You have to supplement, you know, one thing that I really don't understand is that we supplement the infant, for vitamin D, and then for toddlers, we do nothing.

We do nothing. Right? Exactly. We do nothing. I mean, 70, 80% of Americans are deficient in vitamin D. You can you can pay $5 a month, to get your to optimize why 70 to 80% of Americans are still deficient in vitamin D in such and rich country.

Yeah, it's all information. Yep. Education. That's why I always come back to education, not just to education, to the general public, but also education to the doctors.

We have to start with the doctors. We have to start by educating them about the optimal levels, of various, methods. And I mean, there's a huge debate, even just I was to take a vitamin D example.

I mean, they give us a grade and then 12.5, we go, okay. Well, well, yeah. That's a but this one K yeah. This gentleman we saw today was low in vitamin D right.

It's not surprising. It was also low in vitamin K2. He he he lives in Florida. He works outside came in very low in vitamin D. So if you're listening to this and you think, yeah well I'm out in the sun, I get sunshine, I play golf, I play tennis.

Think again. Because really it's it's interesting you don't convert, sunlight into vitamin D the way you did it when you were 16. And so you really need to have your vitamin D levels up around, you know, well over 50, maybe 70.

So, you know, we tested tens of thousands of people for vitamin D. Yeah. We only found one person who is who

has the optimal vitamin D levels. And who is not a taking, supplement.

There you go. Okay. One person who pretended was solitons, right? My maybe some maybe somebody listening to this feels like they're the lucky one, but that's like winning the lottery of sorts.

So what's your second P word? My second word is, and then what goes through? So, predictive. Yeah. Pre preventive. Yeah I precision. Okay. Peroneal, which you mean, holistic.

Okay. Prioritization. And the final one is persistence. Yeah. That's what I put I thought about the first one point proactive and I talked about the nasal one persistent because these two words primary knee actions or will of the patients.

That's right. You know, we take care of that. If they don't have the will to do the right thing, forget about it. It's not going to work. I got two other weepy words for you.

Yeah, one is preemptive. Yeah, it's kind of, Yeah. The kind of a proactive. Assuming that I sort of, to empty words. Well. Right. Yeah. Kind of kind of, in the same to similar.

Proactive Longevity, Vitamin Deficiency, and Education

That's right. It's the thought process of getting away from reactive. And then you can think about proactive, which is great. But being preemptive means that you're really out there hunting for it.

Right. Oh, okay. Right. I wasn't debating was this deal for empathy? Why should I propose? And I. I'll tell you the other. Part of being the, native us now, you can used to be a guy.

I do not quite, No, no, no, you you, you explain to me. That's good. Okay. So then the other the other word is purpose. Purpose? Yeah. Right. Because if people don't have a sense of purpose about why they're doing this, right, and nobody is going to do it right.

And so because it does take time, attention and resources to make it happen. So I would add purpose I preemptive and. Purpose you added to them. So well you increase from 8 to 10. So okay.

That's great. You know the, the other words tools that you let's go talk to them. And me, as a scientist, we can provide to the patients. That's right.

We can do it. Precisely. We can do it in a personalized way. But we we have I think I've been able we have the tools now to extend the both the health system and lifespan big time.

I mean, you know, the the fourth one. But we got to educate into the public system. So they take the actions need to we must take the appropriate actions and work with the professionals, even the want to achieve, the outcomes.

I think I'm encouraged. I think more and more people are actually, starting to think that this is possible. What's interesting is I had the occasion to interact with a couple of, physicians that are in traditional practice, and just in the last week, over a couple of situations.

And what was interesting to me was that when I brought up to them things like peptides and regenerative medicine and looking at things like they no longer looked at me like I was, you know, coming from planet Pluto.

Yeah, yeah. It was like, oh, yeah, we've heard about that, right? We've heard about that. And, you know, that's interesting. So I think my point is that I think consciousness not only amongst the people that are, you know, very enthusiastic about this area of longevity and health optimization, but even across the general populace and even into the medical community, that's still tied up in the traditional systems.

They're starting to actually kind of come around to this in a way, and I find that very encouraging, really. I, I totally

agree with you. I actually have the privilege to, work with men in doctors who, in more traditional medicine disciplines and they want to, get into natural and aging medicine.

Precision Medicine, Physician Adoption, and Closing Remarks

That's right. I talk to, many of them. I help them, many of them to set up in their new, practice. You know, I, I'm primarily an educator in my career.

Right? So, I really enjoy, working with, doctors who are trying to get into this, you know, natural beauty in which nature and medicine, discipline and anyone in there and listening to, to this conversation and reach out and I'm happy.

Yeah. To do whatever I can to to help you. Exactly. So the name of your test is the aging S. O. S. panel of people are trying to find it, and it's infinity.

It's spelled j I and f I, and I try to infinity almost like infinity with a j in front of it. Right. So that's why it. And it's the aging S. O. S. panel, if you're interested to sort of track that down and see what your close eye levels are, or see what your ability to handle oxidative stress is, or your energy levels for that matter.

So Ching Chong, thanks so much for being with us today. I think it's always fascinating to talk with you. Interesting information about close those, sort of variability with, chronic inflammation, acute inflammation, things like that.

So I appreciate you sharing that. Yeah. Yeah, I really enjoyed, the conversation. And, as always, thank you very much. My pleasure. All right. Thanks so much. Thanks.