Introduction and Practice Overview

Hi everyone. I'm Doctor Sanjeev Goyal, and you're listening to the advanced Anti-Aging and Technology Summit. And today I have Doctor Daniel Stickler with me.

How are you, Daniel? I'm doing great. How are you doing? Good, good. Thank you so much for joining me for this hour. I'm really, honored to have you as a guest.

Maybe just for the listeners, I'd love to just. If you could just give a little background on on the type of practice you have, and and you have such a wide, varied, number of things that you're doing as a, as a, as an MD.

But, I think I'd be really useful for, for our listeners if you could. So I would say the best way to describe what we do is in complexity and performance medicine.

So we're, we take a, complexity systems approach to individual, assessments and planning, and we just use tons of data. I mean, data is, is the king when it comes to identifying personalized health.

And and we look at we don't look from a disease model. We look from a model. How can we advance this person into higher grades of human performance? It's not like.

It's not like it's you have to be an athlete or anything like that. I mean, we take people that, you know, are even on the sick side of, of healthy. And they and they progress forward as well, but they don't end at the point where they say, oh, I'm healthy.

You know, it's an ongoing process that we can constantly upgrade people into, new and exciting ways to live. So, I know that the, the whole kind of, brand, I would say if you're of everything that you're doing is called appearance, which means limitless, limitless life in Greek.

So it sounds like you're trying to really bring bring people to their highest potential. Is that right? Yeah. I mean, in science and precision, what we say now is that, we help people to actually, as a life of excellence and there's many ways to achieve that.

But that's what people are looking for. You know, a life that is worth living. Essentially, you know, how do we get there? What are the steps to create that in each individual?

And that's that's behind our entire ecosystem of our media company, our genetic company, our supplements store, all of it. How should a person who is, let's say, is listening to you now, tackle this, this issue like saying, you're saying limit, living to your highest life.

And so, what are the what are the categories that they should start to think about so they can put, you know, so they can try to figure out. Yeah. So we we have five paths, that we focus on.

First is the body and the, the body is our, our vehicle of consciousness in this expression. And you want a body that that will come online and do what your brain is desiring it to do.

So you don't want the body to limit you in that regard. You know, I say it's just like whether you want to drive a Ferrari or you want to drive a, a Jeep.

You know, it doesn't matter the choice you make, but that's when you make that choice. That's what you've got to focus on, on optimizing body. And we do that through medications, peptides, research, chemicals, technology pieces that we, we utilize and, progress people through higher and higher, aspects of their potential.

The Five Paths to Human Performance

And the the second piece is the mind and aspects of like that. We do brain mapping on everybody. And we do psycho physiologic stress profiles on everybody.

But, my mind is more around the concept of how you think. And what your mindset is. Maslow. And, you know, let me tell you, these, these five paths that we have, they were informed by the clients that we worked with for the past 20 years.

And these were athletes. They were CEOs. They were entrepreneurs. We've got some billionaires. We've got five billionaires that are our clients. And and we got to learn, really, what was the magic formula that they were all looking for.

And we found deficiencies in most of them that we addressed. But the the mind piece is really important. And Maslow, even addressed this and it's it's like, okay, you know, you can't have deficiency or you can't tap into potential.

And what he meant by deficiency was if there's a deficiency in, you know, health and safety, if there's a deficiency in love and relationships, if there's a deficiency in financial, and, and in, community, as far as recognition among peers.

And what we've encountered is that almost everybody that comes to us has some sort of deficiency. Oh, I don't have enough money. When I make enough money, I'll do this.

I don't have a love in my life or I don't even love myself. Is is another one that we hear. So we work with them to, really reap respect what they're seeing as deficiencies.

And, and it was a big thing for a lot of our clients to actually kind of get rid of that deficiency mindset because you don't think about, I mean, you know, if you have a man that's starving, he's not going to think of anything else but finding food.

He's not going to spend the time in the arts or philosophy or exploring just doesn't happen because that deficiency is there. And that happens with the other ones, too.

And one of the most common ones we see is money. And what I found it's really strange, is that it's like it's like 700 million net worth seems to be the cutoff to say, I don't.

Money is not an issue for me and they don't see some deficiency in it. Below that though, you know, I see I see people in that 500 million net worth value range that are still thinking they need more.

And, breaking that is a big deal. The, the third area is purpose. Finding a purpose, you know, does your life matter? I mean, what are you what are you doing?

And it doesn't have to be something everybody thinks. You have to have this lifelong purpose. And then, the entrepreneurs always fill fill out the the fill in the blank form.

When I get this, or I help people to do X so they can y, and that's just not the way purpose works. Purpose needs to be something that is some contribution to humanity in some way.

And we we use the Japanese ikigai to have a lot of people work through and find purpose. And sometimes they change, you know, you're not locked into a purpose that your whole life you're going to go through.

So we work with that. The fourth thing is, is peak experiences. This is something that I was shocked because, I mean, I, I experience almost every day, but it's also the fact that I look for it's like when you're buying a new car and all of a sudden you're seeing all that car everywhere you look, are is the same way, and gratitude is the same way,

and flow state is the same way.

These are all peak experiences, and we should be experiencing them on a daily basis. And we ask our clients, you know, when was the last time you experienced all?

And some of them it's years ago. And life is about, you know, more being it's more being in life and experiencing life to its fullest extent. And, I mean, this was the the deal with philosophers from the time of Plato and Aristotle who contemplated, you know, what is a life well-lived and, it progressed through one of my favorite philosophers, Nietzsche.

I was a, philosophy minor and undergraduate, and he was the one I focused on. And and he saw the potential of every man to be the ubermensch or over man.

And, he, he gets misattributed to being a nihilist, which he, he absolutely was not. But then you have in the early 1900s, you tell our de Chardin, who was a Jesuit priest who explored the same thing, and he came up with the fact that we need more being in life.

We need to be more experiential with life. And then Maslow, also addressed the same issues. So, you know, those peak experiences are really important.

I mean, when you're think back on your childhood, I mean, you remember gifts that you got, or do you remember trips and experiences that you had with your parents?

And that's what you remember. And we forget that and we forget how important those things are for us. And the last thing is love. Love is a major deficiency in a lot of people, and it can be a matter of self-love.

It can be a matter of community love. It can be a matter of relationship love. But most, most of the people we deal with have learned really well how to intellectualize love, and not feel it.

And we help them to open up, to actually feel love for the first time, which is a beautiful sight. I mean, and I was I was there three years ago, and cracked open and, just had some really amazing experiences.

I fell in love with my wife for the second time. And, you know, our relationship has just blossomed unbelievably since that time. I mean, most people would think after ten years, the relationship's pretty much, set where it's going to go, but.

But we actually were able to take it to amazing heights with that. And so those are the five paths that we work with. So we work with a lot of the psychosocial along with the medical and the body piece.

And and really consciousness. Wow. Okay. Yeah, that's that's pretty awesome. How, I'm just so curious about the, before we get into some of the other science and body stuff, but I'd be interested to talk about the love part.

Like, are these specific types of exercises that did to how does one Open Up love? It's a combination of things. I mean, I, I was first introduced to something called an in pathogen, which I won't go into what it was, but, and that was the real heart opener.

And then I later went through a, a what uma ceremony, which is San Pedro. And in that ceremony, I experienced empathy for the first time. I was a surgeon for the first ten years of my my career in medicine, general and vascular surgeon. And you can't have much empathy while you're operating on somebody just.

Or taking trauma calls or anything like that. You're just not. It's not healthy and it's not functional to experience, empathy. And I, I don't know if I shut it off then or I really never had it in the first place.

And so I chose surgery, but, that's the way it went. And so I could intellectualize empathy. I could say, yes, I have compassion for you, but I have no need to feel what you feel.

And, and in the what you ceremony, I had, this, this profound sadness that hit me like. I mean, it was like, it's like every bit of empathy I had suppressed my entire life.

Got dumped on me from a dump truck, and I had to feel it all. And, it was it was so sad, but so beautiful. And then afterwards, I suddenly could have empathy and, my wife was thrilled by that.

Our friends, they they've told me in the last couple years, they're like, you've really changed a lot. And and I think that's that's what really prompted it for us.

I noticed that you didn't put spiritual, but it looks like spiritual. Isn't there peak experiences like that? Sounds like that's our spiritual thing. We're very individualized piece.

Love, Empathy, and Peak Experiences

And, you know, you could actually classify the spiritual in both, peak experience and love. But we don't we don't perspect anything under any, any particular, specific person or thing or religion or whatever it is as a, as a target from which consciousness arises.

I mean, you know, we feel like pretty much all of us are God. And, you know, when you become one with that and then you become the unity consciousness with everything, then you can't stay there, but you can glimpse that you can't function in this world if you're in that state all the time.

But you glimpse it and you understand it, or at least feel it. You don't necessarily understand it, but that that's a big deal. And we work a lot with people to to get into that state.

Well, so you know this, you know we're focusing mostly on anti-aging and this summit. That'd be really interesting to understand your what is your you know, your feeling about what can people do to, to, you know, slow down aging or potentially reverse aging?

I'd love to hear what your thoughts are on that, but you're understanding. So I've been in the in the aging industry, we we prefer turning at age reversal, or age rejuvenation as our primary topic area that we, we focus on.

And the thing is, it's not about, you know, immortality. And what I've found is that a lot of people in the anti-aging or age rejuvenation industry, whether they be researchers or philanthropists that are investing in it, they're living in fear.

They're they're afraid of dying. And while they have that fear of dying and that's a deficiency and they will not live. I mean, the, the philosophers used to say when they when they went to the temple or to Lucius, they would say, you would go in and you would leave the temple and knowing you would never die.

And it's because they experience the ego death, while they were there. And that's that's really what it is. I mean, you know, the the ego wants to hold on to the, the eye and the, the desire to continue on as this, but it's, it's without the recognition that consciousness actually resides outside of the body.

And I've seen enough evidence and, especially in the quantum, quantum, scientific space talk to a lot of, researchers in that area. And I was surprised at the number of them that were of the belief that consciousness arises from outside of the body, not as an everything phenomenon.

The neurons of the brain, but getting back to the age of rejuvenation. I mean, we have one of the probably most advanced age rejuvenation, protocols that we use.

But the idea is we don't want to give you, more years. We want to give you more life in your years and get, in that sense, extend life, living life, optimal life, peak experience, life for as long as possible.

And, that has been our target. And the idea is we rejuvenate the body, we rejuvenate the mind. I mean, it's

essentially age. Rejuvenation is rejuvenate it.

Rejuvenation of body, the vehicle. But there are so many other aspects. We work with everything when people come in, and in fact, one of our, our primary metrics is quality of life inventory.

And we're the most proud of how we do on the quality of life inventory from year to year. I mean, constant movement in a greater and greater quality of life that the clients are, testing on.

So, I mean, we use I mean, we use synergetic therapies, we use exosomes, we use, hormonal rejuvenation, we use peptides, to rejuvenate different aspects of the system.

But the medications out there, I mean, they're pretty, pretty spectacular. I mean, I did a talk on age rejuvenation in 2014, and at the same conference I came back and presented this year.

Actually at the end of this last year. And, I was talking about all of the theoretical, the nine hallmarks of aging and the and all the potentials that we have to to fix it.

And pretty much taking care or we've got, interventions for about six of the nine right now. But, you know, people are looking for this magic pill, for age reversal or anti-aging, and that doesn't exist.

It's not the way the human system works. Aging. A lot of people say aging is a disease, but it's not a disease. It's a constellation of processes that that progress along.

You know, they're not necessarily interrelated in, in a direct sense, but, aging has a lot more to do than just rejuvenating the body. And, and so we make sure that when people come to us, they understand that we're going to be working with them with everything.

And, we're pretty intensive with our, with our follow ups with them. We follow up every client once a month, on a video call. We monitor them all the time with biometric monitors like the Garmin watches, what we give all of our clients.

And, I can log in. I just had a client this past weekend that got Covid, and we can see that he was actually getting sick about two days before, although he didn't feel anything. But his metrics showed us that he was.

Which had. Which device are you, using or the one we give our clients is the Garmin Fenix six. This one. And, some of them won't wear it. I've got a couple that where the or aura ring, which is okay.

I've got one that wears a bio strap, which is also okay, but the depth of data we get is much greater with the Garmin. And, you know, we we rely on the Garmin because it's the dynamic of it.

It's not, you know, any absolute value that's of, of importance. So it's just cutting out a bit. It's called the Garmin. Sorry. The Garmin. Yeah. We give we give our clients the Garmin Fenix six watch.

That's okay. Yeah yeah. Well okay. Very interesting. I've never heard of that. Does that like RV as well as an RV? It does, but it's, RV through pulse plasma plus mammography.

So it's not quite as accurate, but they used, first beat technology to do it. And first beat is probably the top, the top curator of this, biometric technology.

A lot of companies use their, algorithms, but, we also, I mean, we also use the first beat bodyguard, which is, and a two pad EKG with a wire between and we have our clients wear it for three days, and we log, we have them log everything they do.

I ate, then I went to bed. That time. I worked out at this time with the weight training. And so we get essentially 300,000 heartbeats along with the hrb to see what's happened to them over the three day period.

And with each activity they do.

Age Rejuvenation and Biomarkers

I you know, I notice that you're, you have quite a expertise in epigenetics and, and so I'm just, I wondering what, how are you, are you monitoring these patients or the clients.

At that level as well. And, and what are your thoughts about what are the best measures of looking at aging? And we we've used epigenetic age is one of the criteria that we look at.

But we've also used glycan age. We we use brainwave patterns to determine age. We use body composition and, muscle, density to, to work with aging. So we don't have one specific metric, but the one that the clients focus on is really the, the epigenetic age.

And, and full disclosure, I'm, I'm on the scientific board of, of true diagnostics, but it truly is, one of, one of the ones that we always go to. One of the main reasons, too, is that they not only do they have the largest epigenetic, chip, which doesn't mean anything.

I mean, we only know so much about epigenetics right now, but they're they're using it to do machine learning over time by asking people who sign up a lot, a lot of questions.

And so we're able to start really doing research on that, which is really cool. And we give them the reports when they come out. So their their data is contributing to helping to further them along.

But what I was saying we used to do, we used to do, immune aging and we did it through, T-cells, CD4, CD8, CD 95 and we did that through the pathology lab at UCLA.

And it was not an available test. It was available for research. So we could, we could use it that way. But that was the way that we determine immunologic age.

Now, true diagnostics actually has that. They call it the, the extrinsic aging versus the intrinsic aging. And so everybody does intrinsic aging across the board on epigenetics.

But this is, the only company I know of that's doing the extrinsic aging of the immune system as well. Yeah, I so yeah, I'm just let's chat about that.

So I've, I've noticed that a lot of my, my clients that the extrinsic age is significantly lower. So if it is if it's lower across the board then this is just not the maybe the the level is not correct because how can it be lower than for everybody?

Or are there people with higher levels of extrinsic age? I've had a couple of people. But again, you know, I deal with mostly high performers. So we typically have pretty, pretty healthy people.

Although, it seems like Ironman triathletes have very advanced age when it comes to epigenetic age. But that is also because some of the markers in their, aging are.

Are actually beneficial. And you get those with exercise. And so they, it's like the epigenetics of predispose people to heart disease or predispose people to cancers.

They're actually used as an epigenetic age. And, you know, if you're worse on those, you're you're actually better on aging for some reason. But when it comes to the, highly intensive athletes, they tend to be marked as older.

Based on that. That's why I really prefer extrinsic age overall. That's what I've been using, as is my yearly metric. And most of my clients and, I just, you know, the, the intrinsic age, even though it's more consistent with the age of the person, in general, it's the immunologic age, which I think is probably the most important aspect of, of longevity.

So yes, it's you're saying the extrinsic age is more important. That's what you're monitoring. Yeah. Is that right? Okay. And then I've had a lot of patients, you know, checking with the obesity.

They have an obesity score. They look at, I think four different genes, methylation of that. And almost everybody there are three out of four or 4 to 4 in the higher, even higher risk of obesity.

Is that what are you seeing with your with your patients and why is that. Yeah. I think they're still trying to fine tune that obesity risk. One, because I've seen a lot of people that were nowhere close to obesity that, that had that and, you know, it is epigenetics, but we're also only looking at a small number, methylation points.

And, you know, are those methylation points throughout the body or are they just in the white cells that we're gathering? Are the skin cells that we're gathering because every cell type in the body has a different epigenome.

There's some that are consistent patterns, especially when it comes to, to like the, the DNA, the strand methylation versus histone modifications. I mean, epigenetics incorporates so many different things.

I mean, it's it's incredible how extensive and complex the, the system of epigenetics are. But, you know, we we teach our clients on epigenetics. So we do a genetic read for them out.

And, you know, in the genetic read they may have an MD for an ApoE e, whatever it is. But we also emphasize the fact that, you know, that's they're not they're not mutations.

They're they're variants that have occurred to give you benefit in a certain environment. And you're no longer in that ancestral environment that they were selected in.

And so you just adjust lifestyle. And then we know ways that through epigenetics we can upregulate or down regulate certain genes, even turn some off and it's, it's really a, a process where you have to learn the research of what they're showing in epigenetics, because we don't have a test yet that will give us, you know, those those epigenetics.

Plus we'll have to test every cell type to understand that. But when you look at the research, I mean, we see pretty consistent findings. Just like fish oil. Fish oil is a classic one.

You know, people say, oh, should I take it or should I not take it? Same week we get an article that says it's good for you as well as bad for you. And this is what most people miss is when we do human nutritional studies, there is such a diversity of organisms that are being studied in that, I mean, and even even like, what's the best diet?

You can't give an answer to that. I mean, you know, unless you're sequestering away in a dungeon, you know, several hundred people living in the same environment and then, and then feeding them the exact same food over that time period versus a control group, and it's just not possible.

And even then, it's not going to be close. I mean, the, the nutrition studies that are done in rats and mice are usually done in monoclonal lines. These are genetically identical mice that are raised in an identical, laboratory environment.

So they get their results there and then saying, well, you know, a mouse is not a human is is a big aspect of of understanding research. So what we focus on is looking at the research and epigenetics that is done on, on humans and analyzes outcomes to predict gene expression changes, not necessarily to go in and target it.

Although there are some that actually look right at the, epigenetics of different organ systems. And they see what's happening, like fish oil, you know, you have massive upregulation of all these metabolic, beneficial, metabolic, genes and downregulation of a lot of inflammatory genes.

So I tell people, I said, focus on the epigenetics of this and not on these these crazy research studies on, on this diverse population. You mentioned glycan age.

I'd love to hear your thoughts on on that and how, how much use are you seeing that are seen. People have different changes with their glycan needs based on their, lifestyle changes.

Yeah. You know, haven't we just added like an age last year. So we haven't even had a full year of follow up with it yet? It looks good from the research. And, the company, like an age.

They, they report a lot of stuff from. I think they did something with the British Biobank. Or the UK Biobank was where they found they correlated most of their data.

But what I found is they glycan age is significantly lower than epigenetic age in people. I mean, it can be like a 49 year old that's 20 years old by glycan age.

So I'm not sure of the relevance yet. We're still we do it. But we're also putting it together with everything else that are markers of aging and seeing.

Is it an accurate measure or is it consistent? Right, right, right. And, are you do any type of telomere testing and what's your thoughts about, telomere testing?

We get asked that a lot. And I mean, 65. Yeah, I used to use, life length, just because I like something that gives the shortest telomeres.

Exosomes, MicroRNA, and COVID Discussion

I can remember I think it was, Bill Andrews that said we had a room full of dynamite. You don't want to know the average length of the fuzes. You want to know the ones that have the shortest length.

And, that that always hit home with me. And so I've always if if somebody requests telomere testing, I always use life length just because, they do get that shortest grouping.

But we're finding now that telomeres may be more of a, consequence of aging in some cases, even though some of the research suggests that it is. And there's a there's a big contingent of the, age rejuvenation group that is looking at telomeres as not quite as valuable as we thought.

And, you know, it's like it's a marker of aging. It shows aging. So it's like having gray hair, you know, that's a marker. But it's not causing aging.

So we're not sure right now. I mean, there's some cells in the body that never lose telomere length. There's some that will maintain telomere length throughout their life, like the gut, cells.

I mean, they just continue to add to their telomeres as they continue to survive. But there are others that the telomere length is rate limiting for them.

And have you used at 65 in your practice or what's your. I tried to 65 myself and my wife for two years. And we just didn't find much of a objective difference in testing over that time frame.

Okay. So we just we just too much I just saw a study that came up that there was a change in, in the number of CD8 CD 28 cells that people using T 65.

But yeah. And that's potentially valuable. And it's got to be a large enough study. You know, because these studies cracked me up with the way they, they summarize things.

There was a study that came out not too long ago about NMN in and then high dose in them in was, leading to greater insulin sensitivity. But that was the statement.

But this was a study with like 11, 11 participants that were taking the drug and then 12 controls. So it was not a big

group, and it was post-menopausal women, I think, that were diabetic and there was some other criteria which was just I mean, it's just a ridiculous criteria.

But then you look at it and yes, it was statistically significant, but was it, all that significant all together? I mean, it was a ten week study. And yet most of the markers of aging didn't change other than this insulin sensitivity, as in weeks, should be enough to show if insulin sensitivity activity was improving.

We would see changes in other parameters within the body and it wasn't seen. So, you know, it's a sensational headline everybody gets excited about starts taking in a man but not understanding what this study actually was.

Measuring. Right. You mentioned that you use exosomes in your practice. What type of success or change do you see like a, do you see changes in immune markers or are you measuring those things or epigenetic changes or something?

We don't see anything, in particular. I mean, we don't have something that we can measure to say that it's it's making a difference because it's part of our whole program.

I teach biologics for age management, medical group, and I do a lot of research on it. And I've just been more impressed with the exosomes because I think what's happening is when you get stem cells, the stem cells are secreting the exosomes is where the benefit comes from.

So I think going straight to the exosomes, which are cell free and will circulate around the entire body, you can give it intravenous, you can give it subcutaneous and rejuvenation.

I mean, there's a ton of of, plastic surgeons that are injecting exosomes, all around the face and getting really amazing results. But again, it's not one thing.

I mean, you know, we use we use like oral rapamycin along with rapamycin cream on the face and then it and morning they use GCC copper on the face, along with all these other things that we're doing.

So we can't really attribute one in particular to creating the outcome. Interesting. I was just curious about the exosome. Your thoughts about, how do we know that the growth factors are being secreted, you know, through these that are in the exosomes are the same in different exosomes, like how does one out of the these are helpful growth or growth factors versus not.

The goal is to get useful exosomes. So the company we use they they derived the exosomes from fertility clinic. So it's amniotic fluid exosomes. So you get a little bit of the child's, a little bit of the mothers in the, in the mix.

And so typically the people who come to me are much older than than those exosomes and exosomes really mean they carry the micro RNAs, the mRNAs, all of the stuff that that tell the body to remain that we're young and healthy.

You know, these these micro RNAs that circulate around the body are just fascinating. As my my favorite area of research right now, how they actually change, they there's a company out of, Korea that just, patented a, a micro RNA that can rejuvenate beta cells in the pancreas, with type one diabetics and, that seems pretty impressive.

And they're, they're looking at doing it through, m RNA injections and people people are really concerned about the, the Covid vaccine and they're like, it's untested.

But you know, we've been injecting, messenger RNA for since the late 90s in people. And we know how they work pretty well. So, I wasn't concerned. I didn't want to get the Covid vaccine, but I had so many of my clients that were paranoid.

And then they would ask me and I'd say, yeah, I haven't gotten and I just don't think I need it. And they were like, oh, so you don't believe in it? And I was like, no, no, not that at all.

So I said, I'm just going to have to go get the Moderna so I can tell people that I took it even though I didn't really think I needed to, but, it, I felt it was safe enough.

And I said, I'm going to go ahead and do it. Right? Right, exactly. Yeah. I've had one of the Pfizer doses so far as well. Do you think that there's just quickly just shifting to Covid?

Do you think, you know, people are seeing this kind of a long Covid and, you know, perhaps this there's a prolonged inflammation happening. Do you think there's something specific to Covid or there's just this is happens in many viral infections.

And this is maybe we're just more looking at Covid. Yeah. It's it's just something I like about this. But real unknown right now. Josh Nettle Dorf is a good friend of mine, and, he's just a brilliant writer and researcher.

And, he posted a blog just the other day where he, I mean, he's he's a little bit on the conspiracy side that it was a, lab made virus, and he has some pretty good, you know, evidence to support what he's saying based on the virus, itself.

But, it's one of the going theories is that the spike protein itself may be the culprit in in a lot of the Covid, not necessarily the coronavirus, but the spike protein on it.

And, the spike protein gets cleaved from it. There's some people thinking this may be actually like a prion disease, and that's what's causing some of the chronic, chronic problems with it.

I haven't seen I've had a lot of clients that have had Covid, and I haven't seen anybody get into that long Covid. I mean, I've had people that had respiratory issues for about three months.

But beyond that, haven't seen the neurologic issues that people are reporting. But I think a lot of people are also attributing symptoms from other things as, as long Covid and right now, we don't have a diagnostic criteria for it.

So there's a lot of people talking about it, but does it really exist and what does it look like if it does exist where it's just unknown. Do you think that, the vaccine could prevent I mean let's say any like do you think any, any activation for immune system, is it the exact same from the vaccine as it, it's from actual Covid or do you think that the Covid it's it's actually shots from around.

I mean, I just took the vaccine a couple of weeks ago and, right after I took it, we got we got, test kits for, the IgG and I, GM and my wife, who chose not to take the, the vaccine.

And, I tested her and she was positive for both. Again, we, we were trying to figure out and were together 24 seven. So I if she had I've had to have had it and and we're trying and trying to figure out when it was we had symptoms.

And, you know, I could recall a day when we were moving out of an office and, and I just felt severe fatigue, low grade fever. But it lasted a day, and that was that was it.

And it was like, that's the only thing I can even come close to saying was symptomatic of anything.

Future of Rejuvenation and Closing

Interesting. You were mentioned at your interest. You're one of your big interests is micro RNA. I'd love to hear from you. What are the things that are just making you excited about this whole field?

I mean, you're involved in so many different aspects, of of age, rejuvenation and such. So if you could maybe just take take us down. What? Some of those.

I mean, the, the age rejuvenation itself, the, the exponential, knowledge that we're getting is unreal. I mean, I've

never seen stuff accelerate at the rate that it's doing here.

I mean, it's it's like the internet in the late 90s progression, that occurred. You're seeing this in aged rejuvenation. Unfortunately, most of the governments are still focused on aging in place, like the national, Institute on Aging in the US.

Their focus is how do we help seniors to age in place? And we're like, you know, forget that. Let's let's look at how we can rejuvenate them so that they don't have to age in place.

Let's put some money towards that. But I think it's less than 1% of the NIH budget is funding age rejuvenation studies. And so, all the age rejuvenation studies are being funded by, the, the millionaires and billionaires out there that are interested in the outcomes of it.

I mean, they're not looking for a big payoff necessarily. But they they want to be know, not only involved with it, but be the first, first to get the things that are best, the best on the market. So.

Right. But you know, microRNAs, what I think is, is going to be a key area. You know, we know all about the Yamanaka factors that are rejuvenating in the body.

But they they kill you within a couple of days. So they're refining that and they're finding that, you know, taking serum from young blood donors and infusing it in.

And they did this with, pre dementia patients. They found that they improved with, with that. And we, we know through para biosciences we hook old rats circulation to a young rats in the, in the old rat rejuvenate.

So there's something some messenger in the blood that is doing that. And we think it's micro RNAs and because microRNAs are these they're like, you know, so exosomes are like mail packets that are sent all the way, all the way through the body to every cell to let cells communicate with each other and there's a profile they're looking at now that is a profile for youthful expression, because a lot of people are on the bandwagon now of thinking of aging as a programed process in the genetics, which is the place where I believe it occurs to.

So it's a matter of reprograming the message, that's being sent out. So I think microRNAs are going to be be huge with their potentials. Well, work in our viewers go to get more information, learn more about the work you're doing at the clinic and and, yeah.

What what what would be the best place they can go to? They can access, our main website, which is appear on API Pro and Zoi zoa.com. And they can access anything, from that point.

I really appreciate your time today, Daniel. Thank you so much. Phone conversation. Okay. Bye.