Opening on longevity and future productivity

You have to plan. You know, maybe it you know, you you know, I don't know, like, there's so many things that you would do. You can't live the life that your parents did because it does not go that way.

You can't really retire. You can't do all of these things because you have to assume that you're going to be in your mid 40s and 50s for, you know, 30, 40 years.

But on the other hand, right as we have that much experience in our careers, our wisdom increases in our physical ability to do things stays the same.

I think people's productivity in their 50s and 60s is just going to skyrocket. Welcome to Doctor Talks, the podcast where every episode leads to a healthier you.

Join us as we navigate the world of optimal health, uncovering groundbreaking strategies to conquer chronic disease. In each episode, we'll bring you the latest insights from leading health experts, medical innovators, and wellness warriors.

If you're seeking to transform your health journey, or if you're looking for answers to burning questions, you've come to the right place. Get ready to unlock the secrets of lifelong health and vitality.

This is Doctor Talks, real talk from real doctors on the issues that matter to you most. Welcome to another episode here of Rad cast. I'm your host, Doctor Melissa Peterson, and I am absolutely thrilled to sit down with a friend and a true trailblazer in the field of longevity science, doctor Sandra Kaufman.

She's a leading physician, co-founder of club SSM, and a bestselling author of Not Just One two and books three and four are coming soon.

Introducing Doctor Sandra Kaufman and her longevity work

You probably know her work of the Kaufman Protocol, where she shares her groundbreaking research that has redefined how we approach aging. Blending rigorous cellular biology with actionable longevity strategies for a personalized roadmap to living better, longer.

So get ready, because today we're going to explore her unique approach to longevity. Her insights on regenerative health and her vision for a future where living longer and better is within everyone's reach.

Doctor Sandra Kaufman, so good to have you here, lovely lady. Welcome. You are so amazing. That was a really impressive, preempt preamble. That was beautiful.

You're hired. Thanks so much. Yay! Happy to help. Happy to help. It's all you. I'm just reflecting you back to you, my love. It's. It's so great. It's funny when we get to condense it, right?

Because, you know, we were just chatting before the show started that, like, there's so many things. This. You and I have had the pleasure of knowing each other.

I think about 6 or 7 years now and and it's like it's the long game. We talk about in this, as longevity is top of mind for everybody now. You were an early adopter, you know, before.

It's as big of a buzz as it is today. And you've been doing the work on just putting things into practice. And it's fun to see the culmination. And I'm just curious because you've been in this for a minute and you're just kicking it into a

whole other stratosphere, has your own views on aging and longevity really influenced your work in your research?

Oh my God, yes. I mean, that's an understatement. I mean, when I started this, it was this hypothetical. I wonder if I can unravel cells, right? Can I possibly route through a billion articles that may or may not make sense, and come up with some trace of understanding to develop a longevity?

That wasn't even a word at the time, right? An anti-aging strategy. Way to tell you, I got called every name in the book, like Don Quixote or Chasing windmills.

You know, this is absurd. What are you doing? You're wasting your time. No one's ever going to read your book. It's ridiculous. Right? And it's gone from that to.

Oh, of course, there's a thing called longevity. Well, of course I'm a longevity physician. Like. Well, of course you can do x, y, z. What about the 17 other things that we want to do?

So now it's it's almost established. And now we're just looking for more of the minutia. So it is just incredibly quickly evolving science and a different way to approach existence.

Well, I love that. Oh my gosh. And we're going to talk about a different way of approaching existence because you know here on Rad cast, it's really about kind of can we stretch our boundaries?

Can we get comfortable in the uncomfortable? Can each of us think bigger? And what does that mean for us as clinicians and experts out kind of leading the charge as well as the enthusiast and making it applicable to us all as individuals and as a collective.

How the seven tenets were developed

And so I love what you're saying and what we're going to explore. And, you know, Sandy, when I think of your work, obviously here in the longevity realm, the hallmarks of aging became a thing in 2013.

Now, if people go even back much further, longevity is not a new thing. Anti-Aging isn't a new thing. We can think back to Fountain of Youth. Humans have always been looking for a way to say, can we live longer, better?

Can we look prettier? Can we have more energy? Can we have more stamina and vitality? Can we? All the things and we just now have a growing field of not just science.

I actually I call longevity the new human paradigm because it's not just about cells. Although we're going to talk about cells. It's about literally the ripple effect out to how we human differently and new, however, took those foundational hallmarks.

And I don't and I don't know, I'm, I'm let me back up. I'm not going to make an assumption. Did you first start with the hallmarks before you came to your tenants, or did you derive your seven foundational tenants on your own?

Let's like answer that first. And then I want to kind of take everybody through those core tenants as we build our bridge into a new future of exponential human.

Now. Sure. So what I did. So my background, once upon a time, I was a cell biologist, which granted it was cell physiology. And it was it was a long time ago.

But I started life as a cell physiologist. So when I started coming relating articles on cellular aging, I honestly, the article about the hallmarks was one of, I don't know, hundreds and hundreds of articles.

And I looked at and I go, that's an interesting list. I don't think it's all that great, but it's a list, right? I thought, I mean, I didn't know anyone in the business.

I really had no idea. And I wasn't looking at names on papers. I was looking at the papers. Right. Yeah. What is the real science? What's valid science?

What's not? That's valid science. What's repeatable is an article said one thing. You go, well that's interesting. If seven of them study, you go, well, now we're on to something.

So honestly, the hallmarks were just a that's interesting, but I really didn't find it very organized or complete. Yeah. So what I did is as I accumulated and I say this over and over again and it's absolutely spot on, I would take post-it notes and go, oh, this person had this brilliant idea of, you know, cellular dysfunction in this one thing.

And it was a post-it note. Right. And I had hundreds of post-it notes around my office. God, that was my anesthesia office. Looked kind of ridiculous.

But over time, I would coalesce these piles. Right. Oh, all of this seems to be centered around DNA. Oh, all of this over here, Proteus days. And as the piles coalesced, they naturally fell into seven piles.

Yeah. And every now and then, there was one thing that you said, wow, you could put it here, or you could put it there, but based on the logic that I was following, it kind of fell into a place.

Like an example of that is autophagy. Right. Where do you put autophagy? And I decided that you, if you consider autophagy is recycling, right. When you recycle, you recycle when you're taking out the garbage or things don't work right.

So I put it in the quality control division. So quality control is is ten at five. In my world it's when there's things go wrong with your DNA, things go wrong with Proteus status.

Therefore you have to recycle them. So autophagy fell into that category. Could it have gone into a different category potentially.

Expanding the tenets with circadian rhythms and subcategories

But I liked the idea of seven well thought out categories because most people can remember seven. There's the seven pillars, there's a seven, there's the seven that we'd telephone numbers that were seven digits.

People can remember seven things and it just fell into those piles. So I want to know about those piles here in a moment. For anybody that hasn't engaged with your work yet.

Yet, before we go through the seven, have you considered or like, have you been tempted to add more tenants because obviously we started with the nine hallmarks of aging.

Now we have the 12 hallmarks of aging, and rumor has it there's more coming later this year. So is there this this have you found as you continue to look at the research, does everything still stack up in those seven buckets?

And or have you been kind of like, well, maybe we need to revise it and go to nine where are you at with that? Those are the beautiful thing about the tenants is that they're categories.

And what I have done is expanded the subcategories. Nice okay. Right. And tenants don't or the hummocks don't have that capacity. Right. It's very specific minutia in no organized sense.

And you know, kudos to the people that are work on it. But if you look at in terms of tenants, for example, I became absolutely obsessed with circadian rhythms.

Yes. Right. And how they change over time and all the various biochemical pathways, blah, blah, blah, blah, blah. And it's something I hadn't thought of originally.

Right. So you're say to yourself, well, is that another tenant or does it fit? And I decided that it's a pathway. Yes. So the original pathways were sirtuins AMP kinase and mTOR.

And now I put circadian rhythms in the pathway division. So I'm not adding to the tenants, but I'm increasing subcategories. I love that because it's interesting.

You know in my my own work, I mean, I think I became obsessed with circadian rhythms three years ago, two and a half years ago, I started to run it into our programs.

And I like how you're saying that because it's as as we uncover more and more and we see the interconnection of how all of these things are influence, you know, from the outer world to the inner world.

It it does. It's kind of like, well, where do we stack it? So I appreciate how you're finding the ways to increase the subcategories. So why don't you if you're willing I know you've answered this many times, but it's so important.

And I think our listeners are going to get a lot from from this. Take us through those seven core tenets. And then, yes, if you've expanded like adding in circadian rhythms, as an example, if there has been an expansion of a subcategory that you feel is noteworthy, we'd love to hear about that.

No. Yeah. No. Absolutely. In fact, yeah, there are a couple of them. So I will sort of augment as we go. So tenant one is what I call DNA alterations.

And originally this was telomeres. Right. That's extraordinarily important. And all the complex machinery etc., etc.. And then of course epigenetics. Yes. Right.

And at the time I go, wow, those are two pretty damn complicated things. But then recently I became obsessed with hetero chromatin right.

DNA, mitochondria, and cellular energy

There's you chromatin heterochromia and the association of as you age how you lose heterochromia and therefore you lose control over your DNA and how control of your head of chromatin is actually sort of in concert with circadian rhythms, blah, blah, blah, blah, blah.

So I decided that the your hetero chromatin falls into the category of DNA alterations to something entirely new. But I think as equally as important.

Right. There's an evolution in that category. Tenant two is mitochondria. And I think when I wrote the first book, I think I've had 3 or 4 issues with mitochondria. Right.

Low hanging fruit. It was NAD deficiency electron transport issues. You know, free radicals from, you know, from oxygen and their oxygen radicals escaping out of your mitochondria.

So failure of your Nrf2 system. But since then. Right. Oh my gosh. So you can throw in or two and three four and five three is the master regulator of your mitochondria.

And again that sort of crosses over because it's also in a certain category, right. But you add things in like the mitochondria, permeability poor. Right.

The poor is it sits it goes actually in between the matrix and the way inside and the outside of your mitochondria. That's like going a little pop off cells.

And as you are young, it flickers. Right. And so it's really a stress in the mitochondria. And as you get older it opens more and more and more. At a certain point, things that go in are supposed to or things that are supposed to stay and go out and vice versa.

So when this pore opens nad cytochrome c, all of these things pour out of a control and it precipitates cellular apoptosis. So by controlling the poor, you're controlling your mitochondria. And actually, in essence, you're controlling the life and death cycle of the cell.

So that's now in there. As well as the idea that, you know, we used to count mitochondria and say, oh, this is 100, this is a million. And now you say, well, there's one and it's a big microorganism within a system, right.

And it fizzes and it fuzes and all of that thing is very energy dependent. Right. And then you get rid of the mitochondria, which is my for you. And you create more which is mitochondrial biogenesis.

So essentially no, Hermie, there are seven subcategories under mitochondrial health. And so that's right. I know it's a lot, but it's interesting. But it builds right.

Does so. So tenant three I briefly touched on sirtuins, of which of course we know there are seven mammalian sirtuins. The big ones associated with aging are one three and six.

And the good news is we have specific compounds that can upregulate all of those, which is extraordinarily important. And we know that they control most of all cellular homeostasis.

And so when people are just starting to age, getting fat in the wrong areas or being more inflamed than usual, they're not sleeping well, it's all circadian or serotonin drives.

So, you know, easy essential thing to start with if people always ask what to start with is your sirtuins. And then of course the AMP kinase pathway and the mTOR pathway, which is sort of, a sort of protagonist to each other, I would suppose, like they measure energy and do opposite things. Right.

Your AMP kinase measures energy, turns things off, mTOR measures energy, turns things on. Maybe not always in a good way. And there's the whole war about rapamycin.

Of course, I am anti rapamycin only because I don't think we're we know what we're dealing with yet. Right. And then you throw the. So the last one as I mentioned earlier, earlier is the circadian system.

And of course that's tied to the sirtuins one and six control your circadian rhythms. It's also driven by energy, which is incredibly important. And then, of course, you have your protein complexes that run your circadian rhythms, right?

You've got clock and B more one that put you to sleep. You've got period and cryptochrome that wake you up, and then you've got oro or Alpha and Reverb that sort of change the vacillations of those systems.

Anyway, that's probably a whole lot of me spitting out stuff that no one really needs to know, but essentially that those are the pathways. The longevity revolution is about more than just searching online for a few hacks, or any one of us moving our biomarkers in the right direction.

It's about coming together to learn, share, to connect and create the unlimited future we want. That's why you need to be at Rad Fest 2025, in Las Vegas from July 10th to the 13th.

Rad Fest the Revolution Against Aging and Death is proud to be partnering for the first time with Doctor Aubrey de Gray and Longevity Escape Velocity Foundation.

The form the single most comprehensive, advanced, informative and inspiring event on age reversal for a general audience. Meet the people you want to make forever with Rad Fest 2025.

Take advantage of lower advanced pricing now at Radford. Scott I love it. I think there's a lot of people that will enjoy understanding all that and listening to that, because it is quite impactful and relevant right where we at though we're love.

But more to go for. Yeah, tenet. Tenet four is what I call quality control. Yes, I love the idea that if you're selling a factory, things go wrong. Quality control.

So when things go wrong in your DNA, you have to fix it. I love this number because it's insane. You've ten to the fifth. DNA errors for sale per day, right?

90 some percent of those are single stranded. A basic. So it's like wannasee and lost. It pop off or get oxidized or glycated. Or or forget all the other crazy things.

Cyclic butane dimers. Sunlight melts your DNA together, creates CPGs. So that's why you get skin cancer and skin irritation, etc., etc.. Anyway, so you have two systems or actually have four systems to replace your DNA.

You've got the base excision, you've got nucleotide excision and then for double stranded errors you've got homogenous and homogeneous. And there's pros and cons to each of those.

And then there's mismatch repair when you're copying something and that's it gets screwed up. But anyway there are five DNA repair mechanisms.

Quality control, immune aging, and waste management

They get downregulated as you get older. And the good news is you can upregulate them. So that's DNA. And then in terms of protein regulation, each cell can make up to 10,000 different proteins.

And like in any factory, I consider them little widgets. And they're going to get screwed up. And we know that proteins work by three dimensional structure.

So the way they're specifically folded is extremely important because proteins work by you know, it's a three dimensional fit into a receptor or an association with another protein, etc..

So as soon as the configuration changes a where if it doesn't work, so the idea of keeping your proteins folded exactly the way you want, is then falls into the category of chaperons and he shock protein activators and all that sort of thing.

And the whole family of Proteus disease. And I love heat shock protein activators. Because I have discovered, right, everyone loves to sit in their hot tubs and or whatever and like, count how many minutes and what's the temperature and blah, blah, blah. I have found fantastic medications that are Berkey like your heat shock proteins.

So there's a way to cheat the system. And I love it. You're all about those good hacks. I love you, I love hacks, hacks. It's called repurposing of pharmaceuticals.

Yeah. So it's just optimizing. It's supporting. It's supporting the system. Working with working with. Yes, yes. Working with the tools we have. Yeah. You optimize ourselves.

Let's see, since I previously mentioned, autophagy is in the quality control category because it's just it's just recycling. Let's say that that is, five.

No it's not that's four. Five is your immune system that becomes your inflammasome. So this is the idea that all of your immune cells work incredibly well when you were young.

And then as you get older, they don't function well, but they become extremely inflammatory. And the inflammasome as monsters contributes to disease, cancer, blah, blah, blah, blah, blah. So that's very important.

Six is what I call individual cell needs. And it is the recognition that despite the fact that I pretend that all cells are the same completely, they are not.

And we want to be very cognizant of taking care of our stem cells, keeping them nice and healthy while trying to eradicate our senescent cells. And also understanding that a cell that lives a very long time, like a brain cell or neuron, doesn't turn over, that's going to have different needs than a liver cell that lives maybe ten, 15 years, or red cell that lives three months.

So all of those things, depend, you know, sort of will dictate the absolute lowest required needs for any one particular cell type. So that's individual it.

And then the last category is what I call waste management. Right. Because at the end of the day you have to take out the trash. And this is a combination of two things.

Mostly. One is like profusion accumulation. So when anything undergoes autophagy, and you're trying to take the last pieces of parts and recycle them, there's always a glob that your cell doesn't know what to do with it.

Can't get rid of it. It just sits there. And it does what we all do throw it in the back and ignore it, right? People that know me will know that I refer to this as the kitchen drawer phenomenon, right?

Yeah. I mean, who's in your kitchen and. Right, there's a correlation between the amount of time that you have lived in your house and the amount of crap that's in the kitchen drawer.

Yeah. That's that's like perfusion. And then this looks great, right? I mean, we all have it, right? It is. Yeah. Yeah, we all try to keep it. We all have it.

You know, it's like the twisties from the from the bread that you'll never, ever throw out for some whatever reason. Right. Some person. There's a kind of doesn't work and same shit anyway.

And then the last thing in this category is like, Haitian, and this is a huge topic, right? So it's all the figures under oxidizing conditions, like like it, everything they become ag is blah blah blah blah blah, right.

And conveniently, I have a seven step program to defeat glycation, which I think I gave this lecture at Red Fest one year and they got mad at me cause they showed pictures of donuts and candy, along with the seven steps as to how to, you know, defeat it, block carbohydrate digestion and block some of the enzymes, you know, block do you production increase the you know, the digestion of eggs is killing them out of your system, etc., etc., etc..

Are you ready to redefine aging and unlock your full potential as a longevity leader at the Human Longevity Institute, our world class certification programs train doctors, coaches, and wellness professionals how to deliver cutting edge integrative longevity health solutions so people can live better today for longer, healthier, and more vibrant tomorrows.

If you're ready to join the Longevity Revolution, visit Human Longevity institute.com to enroll and become a practitioner today. Anyway, so in a nutshell, that's why you age performing so well.

And you know, as to our listeners, when you hear her say, etc. etc., etc. blah blah blah, I mean, Doctor Kaufman has been sharing this information globally for seven, six, seven years, you know, repeatedly in interviews.

And as much as I don't want to give the same conversation as you've probably heard from her in other places, it bears repeating, because and this is why, in all seriousness, I feel like it is so important is that when we understand that the lens of longevity medicine, if we look at, okay, longevity, this field that has emerged kind of an offshoot, really a progression from gerontology of is aging the disease.

Do we why do we age? Do we have to I believe that, you know, disease is really an expression. It's almost the symptom of, aging. It's not the disease is the problem. It's what is happening. Right?

And you're saying, here's a framework that shows us what's happening. And so if we understand that there is a direct correlation with the rate and pace of biology, logical aging, breakdown, dysfunction, disease in the body, you

know, and all of a sudden, if we can understand why we age and how to stop it, reverse it, rejuvenate the system, we can all of a sudden secondarily be reducing the rate and risk of all cause mortality and have a path to eradicate and or quite significantly diminishing the expression of chronic disease.

Longevity medicine as prevention and optimization

Meaning, I believe that when we have a system like yours and this is what we teach at the Human Longevity Institute to all of our practitioners, it's not about that.

We are silos and pieces and parts. It's understanding this dynamic, complex human system. And if we were to take an approach in medicine through your seven tenets, let's let's use it that way.

Now, there is a systematic approach to understanding how to actually not only address problems as they're coming up, but be more proactive and ahead of it to have a strategy to stay ahead of the breakdown, to optimize the the pathways and the functionality.

So again, instead of treatments always treating symptoms and problems, we can have a system cleans that up but goes way ahead to actually move into a restorative and regenerative type of approach to healing and health optimization.

What do you are you I know you're doing some teaching with your system. I know you're teaching some practitioners as well. Is that really the approach that you're taking through your system as well, to kind of say, hey, here's a unified way that we can really I believe you have a way that we can transform how medicine is delivered.

And I don't know if that's your intention, but to me, it's a unified system that can give all different types of practitioners a way of understanding, healing, health and thriving.

Oh, 100%. So to sort of reemphasize what you said, because you said that incredibly beautifully, I have to say, I was trained in Western medicine, as you know, most of my friends are, etc.

and the problem with Western medicine is that we wait for a disease to occur, and then we panic and we go, oh my God, how did this person get that? And then we treat them right.

If you take a step backwards, you say, well, cells become dysfunctional for various reasons and these seven categories that I just talked about, right.

We know that it is coming. Therefore we can anticipate the onset of disease. Therefore, if you profile acts against those, you will absolutely decrease relative risk and occurrence of any age related disease.

Not all of them per se. I can't you know, I can't stop a kid from having a horrible brain tumor because I just that's not but socially. Right? Correct.

Most age related disease is absolutely a function of cellular dysfunction that we can see and prophylaxis against. Yes. Therefore we don't get this disease is the argument that people have given to me is, well, why would I want to take drugs before I have a problem?

And the answer is, so you don't get the problem right? And it's all it's all depends on people's point of view. So, you know, I take 60 some supplements a day and now I'm up to 12 pharmaceuticals.

Right? I if I must look like some old dying person, if you looked at my pharmacy list, I right. If you take smaller doses prophylactically again you reduce relative risk of all of those things that you going to get eventually.

So yes, it is a prophylactic, sort of tactic to avoid aging and disease. So let's talk about, you know, we're using your tenants to have a path to look at what's happening in the system, specifically at the cellular level.

And there's kind of and you've talked about this a lot. We are kindred spirits on this. If we think kind of I always like to think upstream to downstream, outer world, inner world epigenetics quality the inputs is is literally communicating with and impacting the expression, so to speak, of the output or how the system's responding.

And, and so, as we, as we think upstream, downstream, other world, inner world, there's a course. Let's talk about your approach. When you started the system, you did the research.

You looked at what works, what does it how do you take the upstream prophylactic? Sure, there's medications, but what can also come before that? So if we're thinking lifestyle, if we're thinking molecules, if we're thinking technologies, what take us through what you've seen in your protocol.

How do we start to build a stack. And I know you can give us a more personalized approach if they go take your read your book and do the calculations.

But just again, kind of let's start one size fits best with just some of your best practices upstream. Downstream. What do you see across the board are some of the biggest needle movers.

When we think lifestyle molecules technologies what do you see. So so very interesting. So I design people not only supplements and drugs but what I call longevity pyramids.

Yes. Right. So the bottom of the pyramid and again it's based on the fifth grade food dynamic that we all sort of had to pay attention to years ago. That didn't actually make any sense.

But that being said, the idea is that the building blocks and the bottom of the pyramid are things you have to do every day. And this is sort of like the heart and soul.

If you can do this every day, you're going to be fine. So this is eating well, right. And the question then is how do you define eating? Well, people say, I do you God knows a million different diets, right?

Yeah. Intermittent fasting to God knows, you know, the paleo to this to that.

Lifestyle, supplements, pharmaceuticals, and daily routines

I'm a vegan, but I eat pork only on Tuesdays and this and I got no right. Everyone has their thing and I'm certainly not a dietitian. And everyone knows that donuts every day.

So I am not going to sit here and lecture anyone on their diet. But whatever it is, that's something that you do every day, right? Yeah. And then of course there is activity levels.

You have to be very active and research has demonstrated you need something for your cardiovascular system and then you need weight training. They do very different things.

For people that go, oh, I run a marathon every other day. Well, good for you. But maybe there's other aspects of your system that you're missing. So you need a very well-rounded exercise program.

I mean, you don't have to hire an expensive trainer. You just need to have a balance of both systems. Right? So I do one one day, another the other day rates, am I, you know, we'll ever win a bodybuilding beauty contest.

No, you will because you're amazing. But you know that the idea is you just have you walk them. You know, you just need to make sure you have a quality exercise routine right on top of that.

Then you get into the supplements. And in my world, you know, the the non supplements we need in the pharmaceuticals which some people are opposed to, I think they're wonderful because you know people say clean food.

Well these are clean molecules. They came fresh out of a lab. They are untouched. They are fantastic. We know what dosage you're getting. We know who made them.

We know what the side effect profile is. We are I mean, I love molecules plus some anesthesia allergies. So it's sort of what I do. It's your jam and then you add other things on top of that on a daily thing.

Right. I love light therapy. Yeah. Of red infrared lights. Little plug for bio light. They just sent me a red infrared light ultrasonic toothbrush. Ooh. Oh, my God, I love this thing.

Like, plus, you can, like, glow in the dark and your mouth kind of lights up. It's kind of fun, but nice where it feels amazing. Anyway, that's a little plug for them.

But anyway, point being is that there are things you can do every day that just are tremendous inputs, right? Yeah. And then what can you do slightly less frequently?

People a lot of my patients love me because I tell them to get a full body massage every week. Right. Increase blood flow to your muscle, increased blood flow to your skin.

The touch is good. The flexibility is good. You know, it's amazing for you. Then what do you do every month, right. As you know, I'm a huge proponent of exosome infusions.

They can give you things that you just can't get via any other mechanism. You know, you can sit here and have it. We can have our discussion about which exosomes and how to give them and this and that, and the other.

But clearly you want some sort of perinatal. There's amniotic, there's cord, there's placental. You know, as long as we're not chopping up small babies, I'm good with it, because that would be terrible.

Oops. I love you. I, I've heard the idea of people being very creative as to where they're getting very fetal tissues. So anyway, anyway, but they fish out the you know, the stem cells, put them in some sort of medium and then sort of milk off the exosomes.

And I love exosomes over stem cells because they have fewer surface markers. There's very little DNA in them. And the idea of putting in someone else's cells with DNA and the whole bit sort of like wakes me up a little bit.

Yeah. Me too. Yeah, but exosomes are very low risk. Yeah, they're are affordable and you can sort of do them on a regular basis and you can inject them into your I. V.

and they go systemically. You can put them in your skin, you can put them in anything you want to heal faster. And they're just so like so potent and, you know, have high efficacy.

I want to ask you a first question. I know you're still building the pyramid, but specific only to the exosome infusions or, you know, doing like the IVs or different, delivery methods.

So as you've been doing this and especially some of your work with club Exosome and bringing different patients through, what are you seeing in a more regular treatment regimen?

So if people really are following your pyramid recommendation and they are doing exosomes on a monthly basis, is there are you have you had enough time in working with these patient populations yet to to notice those who are getting them more frequently versus less?

Is there anything significant really standing out so far from a regenerative, biological age reversal standpoint? Tell me about your findings. So I have had so it's really interesting.

I have had probably, I want to say somewhere between 5 and 6 big dudes, like big muscular dudes, right, who have popped a bicep or tricep can something in their arm.

Right. And that mean. And the healing, it's just been terrible. It's for whatever reason, these are young guys, mid 30s, early 40s. I swear I can't tell them apart, but they all come to like, right.

And they're like, this hurts. Right. And and then they're terrified. And I pull up my needle and they go, oh, I go, no, I promise this is going to be okay. Right.

And usually I'll do one injection. And then a little bit systemically as well. Right. And then this guy came back to me after one who goes, oh my God, I've never felt so good.

I think after two the pain was down to like 10%. And by the third one, it's like it never happened and that it had been bothering him for like a year.

And that I hear that story over and over and over again. I had a lady at Club Exosome the last time. No, two times ago. Yeah, two times ago. And she had had some sort of arm cancer as a kid, and they had done radiation.

And so now, you know, 20 years later, muscle loss, skin wasting, like just just very atrophic. And she's. And it hurts. So I went up and down the arm and bilaterally gave some exosome infusion or, injections.

She sent me an email, like two weeks later. Her arm had not felt that good in like years. So so I think for pathologies, it is absolutely reparative and regenerative.

Are you? I, so I don't want to forget this question.

Exosomes, regeneration, and peptide discussion

Are you also pairing any, peptides like BPC 157 or ATP 500 or anything like that? No, just yeah, it's exosome clinic. So with that. So when I have my private clinic right, we, I put people on protocols and exosomes if they want them.

But a lot of people fly in either to Vegas or one of my clinic sites just for exosomes. That's all they want. So I am not. And it's it's really amazing that therapy alone is so powerful.

Okay. And and as of right now. So of course it's so powerful I'm curious and and you may not be doing this yet or maybe it's evolved. You know again that with is there any significant difference of the let's say and this might be hypothetical, but I'd be curious maybe on a future conversation, somebody that's had the bicep tear or something like that, that they're doing the exosomes and then the one that's doing the exosomes with potentially BPC and TB 500 as an example.

Is there any significant difference or have you heard of it from different practitioners out there? Because I know you also train some practitioners. Just curious on that.

Yeah. You know, I, I don't know the answer to that. I do not do a ton of peptides because I believe that they are second tier in the longevity world. Okay.

I think that if you optimize your cells, they're going to make exactly what you need without having to augment it. So and optimizing cells, what you're finding is one of the most efficient ways is going to be through exosomes.

Well, no, I mean it's it's a it's it's a tier system. So first the was let's do everything we have to do every day, and then we're going to the, to the once a week into the, once a month.

So yes, we're still on that journey. I apologize I took a certain class. That's fine. And somewhere between month to six months. Right. False. The peptides and I consider those like like it's it's it's it's like coloring in the spots that nothing else hits.

Right. Because usually between the drugs and the supplements you can optimize pretty much anything. Right. So for example if I get some 40 year old dude whose testosterone was low and I optimize the cells, it pops right up to

normal because I've made the cell do what it's going to do.

Right? Right. But if a 70 year old guy comes in and I put him on a protocol, I can budget, but I can't return his testosterone levels to normal. So, right.

So maybe we go into some sort of augmentation for that, or some sort of augmentation for growth hormone, or for muscle or for this or or any of the sort of peptides.

But I can sort of second dairy to the optimization system. I don't start there. It's it's just an add on system. But I think actually something far more powerful than peptides.

And, absolutely, because of obviously their regenerative nature and peptides are going to be just there is systems are also signaling. Well, the stem cell signals.

And then the zone starts to really to do the work, so to speak. Right. And the the peptides are signals for, for our listeners. So they're just going to help to increase.

But naturally would would be going on. So I, I agree I like them is more of an optimization standpoint. But I'm curious just again kind of off script, but you're bringing something up.

Let's talk for a moment about some really chronic cases. So there is a part of the up part of what's so fun and longevity medicine as we get to go into all this rejuvenation and regeneration optimization.

And yet three out of four people are still stuck in very real right now dysfunction, you know, chronicity to some degree and real health complications.

So what about people that come in, severe autoimmune or they've got massive mold lines or something like that, like they're really chronic. They've been dealing with some bad stuff for a long time that they just really haven't been able to get much correction on.

Have you had that patient population come in to your longevity pyramid, and you've been able to modulate and restore function for them relatively quickly?

Or what's your experience been with that, if at all, that you're going to hate my answer and the answer's no. No. So I, I really leave that up to the functional medicine docs.

To be honest with you, I am not a primary care physician. I have no interest in, you know, trying to fix someone with significant lyme's or this, that and the other.

That's not. Well, I do have two patients with lyme's and exosomes does seem to be helping. That being said, but I, I do not like chronic disease. I that is not my thing.

So generally speaking, I will send someone to a primary care person first and or a cardiologist if they've significant heart issues, get them optimized and then I will take care of them.

Yeah, I am not going to. I just don't have a clinic or the interest in seeing people on a regular primary care, like ask basis and trying to figure out some very complex, detailed problem.

Right? Well, like you are really good at that. That's not me. It's and it's tough. It's a tough but knowing that. So when I think when I zoom out I look at instead of getting in minutia, I still think about the, the, the actual cellular biology and the real science in your tenets.

Right. So if I look at your seven tendons as a framework for patient care, that's why I was kind of asking because because it is in there like the roadmap is in there of how docs can really build a foundational pathway up to optimization, using longevity medicine.

But I also respect what you're saying. So it's just this was more a personal conversation. I'm curious, what's just some of the approaches, because I know you've worked with so many different people out there, and I think it's, you know, again, whether it's the layperson or the practitioner that's listening to us right now, I know there are so many people out there seeking and searching.

And I think one of the questions becomes, okay, wait, when do I dive into longevity medicine? And if longevity medicine and regenerative medicine really holds the potential to be the medicine of the future, so to speak, what happens if I am sick?

So, like, how are you seeing this role of longevity medicine and where it fits in the overall arc of just really transforming health care as we know it and creating and, you know, just greater expressions of, of health and thriving across the masses.

You know, that's a very good question. And unfortunately, as you know, as a physician, if you take a reasonably normal person, right, no real health problems, no real family history of health problems, they're going to do reasonably well.

Limits of longevity medicine in chronic illness

But you can take that reasonable person and you can extend their life and their health span 20, 30 years using longevity medicine. Yeah, right. But there's a population of people that are just not doing well from day one.

Chronically ill patients. And the problem is that their cellular biology is just different. Be it's, you know, subunit change in their mitochondria with mitochondrial failure leading to this, leading to that leading to the other.

And the problem is that their cellular physiology can be extraordinarily different from other people's. And so I don't think our we the idea is the same.

Let's optimize their mitochondria. But the system isn't going to be the same, because if I can optimize things and theoretically make it worse. So. Right.

So if you take someone to severe auto immune deficiency and you give them exosomes, you make them worse. Yeah. I mean, so some diseases are helpful or helped by longevity and some are not.

Right. So this is no cure all. But it is a fantastic tool for most people, but not all people. I think this, this warrants a moment, a call out moment for our listeners is that when you heard Doctor Kaufman just say, you know, somebody got autoimmune exosomes can make it worse.

The reality is, if somebody if you're if you are somebody that's on any type of of, you know, suppressant, you've been doing things to dampen the immune response.

So it's not an overactive response. And then you bring in molecules B they exosomes, a lot of people are doing a lot with peptides, but all of a sudden help to signal and work with an immune response.

All of a sudden it can wake things up and it can exacerbate, it can become more pronounced. And all of a sudden you could feel a lot worse before you would feel a lot better.

And so this is why, of course, we, you know, Doctor Kaufman, myself, Human Longevity Institute, there's multiple groups out there that are training practitioners to understand the nuances in patient care, because it's exciting to hear this stuff.

I think on the one hand, you know, it's we are at such a beautiful time further along than we've ever been in medicine. And just really what can happen as we are using these principles.

So I even think about your tenant with certain, you know, circadian rhythms, just understanding 24 hour light dark

cycles and signaling from, you know, all of a sudden, what type of signals are we getting into the brain and into the cells and the clocks in the cells from those light cues?

And what could that what does that mean to metabolic function and mitochondrial function. It matters. Right. And so so meaning there's it's all it's all out there.

It's in the sciences. And I think we are over the next decade we're going to really see a refinement in conventional health care moving into a more integrative.

And again, if we dare say a longevity type of approach, because the end game is we can curate greater states of health, aging is optional. We don't have to just be in a chronic state of dysfunction and disease.

And to your point, we have pharmacologic. We have technologies, we have exosomes, we have a lot at our disposal which can can help us, truly live a whole lot longer, a whole lot better.

And so I just want to thank you for being one of the trailblazers out there. We have a lot more to go, you know, but every day we're in patient care. We learn more, we know better, we do better.

But I am curious. We've got a few minutes left. Doctor Kaufman and I know you talked to a lot of people. You see a lot of things out there. What you say are some of the biggest myths or misconceptions about longevity, as we're kind of sitting here right now, kind of going, well, maybe it isn't for everybody.

So what are some of those myths or misconceptions about longevity that you are frequently encountering? From, again, feedback from people buying your book or out in the field and how do you address them?

That is a huge question. Oh my gosh. You know, like we should have started with that. You know, it's really interesting. So for example, right. I am right now in a normal hospital with normal people, and I was talking to one of the secretaries in the lunch line and, she was whining about something that had to do with aging.

And I look around and I go, you know, I said, when you want to stop aging, you just let me know and I'll help take care of you. And she looked at me like my head was spinning around from The Exorcist.

Right. So one of the misconceptions is that it's all crackpot science and that we don't know what we're talking about, and it's nuts, right. And then the other thing that I hear all the time is that the people don't differentiate between life span and health span and the idea of longevity medicine.

They think that they're going to be old and demented and sitting in a wheelchair with traffic, you know, at 120. And that's yeah, that's longevity, but that's shitty longevity.

Like, we want to instill the idea of healthspan doing what you want, being physically active, mentally capable as long as is possible. That's the idea.

Myths about longevity and healthspan versus lifespan

And I think people don't get that necessarily that once you once you've, you know, gotten into People Unlimited and read says clearly those people already know these principles and I'm sure that they are huge proponents of spreading that information around.

But I still run into that every day. And it's incredibly frustrating. You know, or words are really funny. I'll be sitting on an airplane because I fly all the time, like, you know, working on some chapter or presentation or something.

Inevitably, what are you doing? A longevity physician and people like you either get really excited or terrified. It's really funny. And and I think that's a great place for any of us to start.

Right? What what does it elicit within us when all of a sudden we think like, okay, wait a minute, like, this is really

interesting science, but do I actually believe it's possible?

You know, Sandy, I've heard you say that your number is 120. Obviously aspirins out there saying, hey, 180 Aubrey. Dr. gray years ago was saying the first person to live to 150 is definitely already born.

And of course, if we talk to Jim Strohl, you know, here within the rad community, he's in the Nautilus and he's like, if that's all that we're doing, like, we've got a whole lot more that we can do even beyond that.

And I think step one is also is looking, being willing to turn the mirror on ourselves and, and lovingly get curious about our own beliefs. Where do we limit potentially our own potential?

Sometimes it's easier to think that it's not possible, than maybe getting curious about, well, gosh, what does become possible? So where do you think with the science you're seeing, the work that you're doing?

Where do you think we're at right now in kind of, extending healthspan and lifespan? Like, do you think we're going to see many more people easily making it to 120?

How close are we to Astbury at 180, do you think in our lifetime we're going to even be able to go well beyond it because we are going to hit longevity escape velocity?

What's your opinion on it? So good question. Do you have to think about what we know and how old the people are that are trying? Yeah, right. So as an example, if I knew so I didn't I didn't know anything about anti-aging or longevity until I was 45 when like some thought entered my head that said, maybe I can figure this out, right?

But I was already 45 years old. What? You know, it's a now I'm 56. I'm thinking that had I started a decade ago, like actually full blown longevity, maybe one 3140.

Right. But so if you think about it, let's say I started full blown at 50 ish. Yeah, right. And let's say a normal person would die in their 80s roughly on average.

Right. So let's so let's say I took that 35 extra years and maybe I doubled it a bit. Right. That puts me in the 110 120 category. So for me, I think that's a reasonable amount of time.

Right. My children, however my 18 year old is on a longevity protocol. Yeah. Right. Her possibilities are going to be amazing. You know considering what she's already doing, what has yet to be discovered.

We're getting closer and closer and closer. And I don't think, you know, people talk about the, the, escape velocity is sort of being a linear, you know, it's saying it's it's not.

It's parabolic. You make strides, and then every year they get, I think they're going to get smaller and smaller and smaller as we dig into the absolute minutia.

So I think it's going to not be as fast as I say Peter Diamandis wants it to be, but we will get there in our lifetimes. No, in my daughter's lifetime, maybe right three generations from now.

Absolutely. I love it. And so as we get ready to wrap up today, Beyond the Science, because you have done so much to solidify a framework of validated science that can help to get there, and future generations to have a roadmap to get there.

But what are some of your personal, you know, your personal philosophy or practice that you believe is really essential for making longer life not just possible, but profoundly fulfilling?

So that's an excellent question. So I think that's actually two questions. So question one is what do I do personally. And I live by this general war rule which is live for today but plan for tomorrow.

Right. So living for today, you try to experience everything you possibly can and you try everything new that you can, and you go on life adventures, right?

And you put yourself out there, and I take so many damn drugs that I shouldn't take. And I have overdose and tried to kill myself by accident a few times.

Don't tell my kids. You know, I have gone out there trying to find things that would be helpful. I mean, the joke is I'm going to die trying to live forever, right?

Because that's what we do. Yeah, right. But that's the you have to live today, right? At the same time, you have to plan for tomorrow. So let's assume we do make it to 120.

I'm telling you that retirement at 65 is not looking good. Yeah. You know, you have to plan. Yeah, maybe. You know, you you know, I don't know, like, there's so many things that you would do.

You can't live the life that your parents did because it does not go that way. You can't really retire.

Personal philosophy and planning for a longer life

You can't do all of these things because you have to assume that you're going to be in your mid 40s and 50s for, you know, 30, 40 years. But on the other hand, right as we have that much experience in our careers, our wisdom increases in our physical ability to do things stays the same.

I think people's productivity in their 50s and 60s is just going to skyrocket. It's yeah, right. And what's interesting is people that I know are retiring at my age.

Right. And I'm like, how could you possibly do that? Like life is too much fun. Let's explore and invent and discover and write books and do this and do that.

So I think it's sort of like there's this whole framework of don't get obsessed by living forever, because you have to enjoy it today. Yes, yes. Oh no, that there's like the right today and tomorrow like so it's sort of a continuum.

Oh I love that. And the way you just did that today and tomorrow. So this also this this expansion contraction, meaning it's breath, it is the breath of life.

It is. And also not either or. And I just love the way you have wrap that up for us. It is. Yeah. Live today. Plan for tomorrow. It it is a well not I that's just that's so profound. So.

Oh it feels good. It feels good. Let us all let us all find what fulfills us. To just want to remember. Let's just live today and plan for tomorrow and then live more fully today.

So we have more tomorrows. Doctor Sandra Kaufman, where do you want to have it? Of course we'll be in the show notes. Tell us where to find out. All the things about the amazing, incredible, impeccable. You.

Where do we want to go? Kaufman. Protocol. Doctor Sandor kaufman.com. Where do we go? Yeah. So? So it's actually Kaufman protocol.com. And, every time my college kid goes on break, the website gets souped up, so I can tell you she's on break right now.

So the good news is, there's all sorts of really cool stuff on there. Now, there's a consult service on the there's now an app on there that I wrote, but it didn't.

It was a real app. And then it got issues with the subscription service. So now it's a one time press the button. It'll tell you exactly what to take every day.

So that's kind of cool. She put that on there. She built me merch like, you know, merch. So if you want to be, I'd be

wearing Calvin Protocol t shirts.

Happy to get you one. Heck yeah. All sorts of fun stuff. And you're coming. Lectures are coming and all sorts of new stuff is coming down the pike. We didn't even get to scratch the tip of the surface of the iceberg.

You all. There's so much that Doctor Sandra Kaufman's up to. You will continue to see more here. More, as she is out there leading the way more books to come, more international reach, more education, more real world.

Amazing. Just as you can tell in this conversation today, she she practices what she preaches. She's not afraid to go out and try it. She's not afraid to live it.

And today I hope you leave this this episode not being afraid either. Go live. Go tap into your aliveness. So as always, go be bold, stay curious, and truly say yes to experience more aliveness today.

Thank you for tuning in to Doctor Talks. We hope today's episode has enlightened and inspired you on your path to optimal health. Each day is a new opportunity to make choices that empower your well-being.

For more insights and strategies, subscribe to our podcast and visit our website w ww di doctor Talksport.com. Stay connected, stay healthy and join us next time on Doctor Talks.

Real talks from real doctors on the issues that matter to you most.