Unlocking the Secret to Longevity: Dr. Bill Andrews Talks Telomeres and Reversing Aging Transcript

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Opening and Telomerase Debate

First, let me say there is absolutely nothing that you can do in lifestyle right now that will induce telomerase expression. There's lots of studies reporting that you can for instance, like hyperbaric chambers.

They're reporting that you can induce telomerase and lengthen telomeres. There's a paper saying that exercise does that. But they're all they're all doing the assays incorrectly or they're misinterpreting their own results.

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Hi everyone, and welcome to Rad Cars, where we bring you the latest breakthroughs in super longevity, health optimization, and the science of reverse aging.

I'm your host, doctor Melissa Gil Peterson, and today we are diving deep into one of the most critical mechanisms of aging our telomeres.

Podcast Introduction and Guest Welcome

And who better to teach us about this and have this conversation than world renowned guest doctor Bills Andrews? He is a molecular biologist, longevity researcher and the founder and CEO of Sierra Sciences.

His groundbreaking work has revolutionized our understanding of aging by focusing on telomere lengthening process that could hold the key to extending human lifespan and healthspan.

Thousands of scientific studies have shown that our telomeres shorten, we age, and our health declines. But what if we could stop or even reverse this process?

Doctor Bill Andrews, you're the one who can shine some light on this. So we are honored to have you on the show today. Welcome. Well, glad to be here.

I always love getting time with you. And I really appreciate I know you're having a snowstorm out there right now, and so I want you to stay warm as you take us into the journey, as we really kind of start with the discovery of telomeres in aging, because telomeres have been studied for decades.

But your work has really, I would say, truly advanced to the field. Could you walk us through how you became involved in telomere research and why it's the potential key to longevity?

Well, it has to go back before even telomeres. The question has always been in my mind. I've been interested in aging my entire life. Why? Why do we age when our cells were made up of cells?

We're not like trucks sitting in a field that are suffering from wear and tear. Yes, we do have wear and tear, but we

have cells that can divide and replace those damaged cells.

So that's been something that I've even in high school when I was doing anti-aging clubs, that was a discussion that we talked about the most is can you just say you did an anti-aging club in high school?

Early Interest in Aging and Telomere Discovery

Yes. Oh yeah. Oh my gosh, we have to talk about that too. Okay. Keep going. So you're in anti-aging club. You're already thinking at a young age about this.

I didn't mean to stop your flow, but that is fantastic. Keep going. Actually, actually, the story you're watched the smallest, movie. The documentary that almost won an Oscar that, you know, stars me and Aubrey to Gray.

It clearly shows that my father was the one that got me interested in aging when I was only ten years old. I mean, he, like teachers, would send me home with notes on my shirt, tend to make sure that my parents would read it and said, your son is very interested in science and medicine.

You should nurture that. So my father, one day when I was ten years old, just came up to me and said, you know, since you're so interested in science and medicine when you grew up, you should become a doctor and cure aging.

Use the term cure aging. And he also said, I don't know why nobody's done this yet. So he had this perception that aging was just a disease and stuff like that.

So I've always thought so too. But yeah, no, so high school and and college, I was organizing anti-aging clubs and stuff like that. And this is like 1960s and 1970s, things like that.

So it's been a long obsession. But the big problem was why when we have okay, so the number one cause of aging is wear and tear. There's no question about that.

But why why does wear and tear causes a problem when we have the ability to have other cells to divide, replace those damaged cells, damage from wear and tear.

Yeah. And so that's always been a mystery. And then back in 1961, Leonard Hayflick announced that he had discovered that human cells only have the ability to divide a certain number of times.

So there's a there's a so something is going on making it so that our cells can only divide like at the most 100 times from the from in a can see. Well, once you're born your cells can only divide about 50 more times.

And after that they go into a phase called senescence. And it loses the ability to function. And suddenly we can't repair our damaged tissues and organs and things like that, because there's no cells there to divide or replace to replace the damaged cells.

So we I remember we would talk about how could a cell, a human cell know how many times it has divided and how many times it can divide. And I remember thinking there's something like keeping score in a cell, like when you're playing pool with, you know, a pool table, you hit a ball onto the pocket and you take your cue is taking you reach up onto the wall and you slide this wooden thing from one side to another to keep score.

And we talk about things like that because there's something like that in the cell, because how could a cell have such a mechanism? But we knew enough about the biochemistry of stuff like that, that we we knew that it can't be just like a calculator inside the cell.

Cells don't have brains. They don't they can't think there's something there's some scoring mechanism that's occurring. But the best one that we came up with was ride tickets at an amusement park.

There's something like ride tickets at an amusement park. And so when a cell divides somehow automatically a

ticket is removed, and then a cell divides again.

Another tickets me so you only have a certain number of tickets and you can scientists can. If they knew what the tickets were, it could count the number of tickets and figure out how many more times a cell has to buy.

So the question is what, where and where could this possibly be? And so, you know, I don't know if you're interviewing Mike Rose, but I hope you are. But one of the things that happened was back in 1993, I was attending a conference in Lake Tahoe on aging, and Mike Rose and I decided to start a company together to try to figure out the aging process and to solve it.

And, so we stayed up all night planning it and things like that. What we're going to do is we came up, name was going to be called the Methuselah Project or project with this long, nice.

But then the very next morning, a guy named Calvin Harley. Although my father was at this conference too, he and I would go to these conferences together because he was so interested in the day.

Yeah. Early next morning, when a guy named Calvin Harley stood on stage and talked about telling their short, I knew it. Telomeres were everybody knows that tumors are damaged, even in a class in biology.

But he said that they shorten as you age when cells divide. And I'm thinking of like, oh my God, here's the right tickets, this is it. And so before he could even get off the stage, I asked him as anybody figured out how to prevent the team on the short, and he says, we have been working on it for years, collaborating with labs all over the world, and we have had no success whatsoever.

And I just said, hey, bring me on board. I'll figure it out in three months, okay? And, I mean, I had already a big history of successes in biotech all the way from human growth hormone reports and and tissue plasminogen activator and data surrounded just on and on.

Finding Telomerase and Launching the Research Program

So he ended up pretty much offering me the job on the spot. And three months and 17 days later, we discovered why it is that, human reproductive cells essentially germ primordial germ cells don't have to on the short end.

And that was because they have this enzyme called human telomerase. And so that was the launch. But going back to that conference, the very next right after that Congress, I went up to Mike Rose and I said, hey, I can't do this company anymore because I'm I just agreed to go work with a Geron corporation with Carl Harley and figure out the telomere biology plant.

But I brought my father with me. When I told my Colossus, I said, but my father would like to take over my role as president of the company. And to my I mean, I was not too happy about what happened next is Mike Rose got really excited about it.

Oh, great. Great. My father had very successful at starting other companies and stuff, and he was a well known television producer and had lots of success doing that.

And so he was all excited about that. And so my father and Mike Rose went ahead and started Project Methuselah, and I went to Geron Corporation and worked on telomeres and telomeres.

But that's that's pretty much how it started for me. I was not there's no way I was not the person that came up with the idea that telomere shortening is solving the ceiling or shortening problem was the solution to aging.

Calvin Harley published a paper, along with Richard Alsop, on the telomere theory of aging. And, of course, I didn't know about that paper until after I heard his presentation, but, that's that's just, you know, took over my entire life after that.

Because, you know, my problem, I was trying to solve the problem of why can't we we replace damaged cells from wear and tear, and suddenly telomeres solving the telomere shortening problem became the solution for that.

And almost all the hallmarks of aging are related to wear and tear. So I said, there's a good chance that solving the tumor shortening problem will solve all the hallmarks of aging for most of them.

And plus, I don't think and I think given what we do know about telomere shortening, there's no way we could ever successfully cure aging unless we, in addition to whatever else we do, we solve the telomere shortening problem, too.

So that's that's why my focus is on that. But I don't I actually don't consider myself a telomere biologist. I consider myself an anti-aging scientist who is right now focusing on trying to solve the telomeres.

But I'm also working on other 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.

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Meet the people you want to make forever with Rad Fest 2025. Take advantage of lower advanced pricing now@fanfest.com. I appreciate it. Well, I want to hear about the other things, but I do want to first of all, thank you for this, for the foundation and and I really love I love the I love your journey.

I love knowing how this started. It's interesting, you know, when when James and I, we've had different conversations and for James, his journey started when he was young with his grandmother.

Right. I talked about how when I was ten years old. And it's interesting that you said you were ten. I remember just having and I don't even know why I had this thought, but I come from primarily Italian heritage, and it was a big family gathering, and I was just looking around and my family's very robust and they're filled with life and they're smoking and joking and they're telling stories and they're just, you know, just having a grand old time.

And I just looked around at all of them. They were beautiful, like just gorgeous. And like my, my great aunts, I'm like, gosh, I'm gonna live a really long time because I have great genes.

It's what I said when I was ten. And I'm like, where did that even come from? But there's something really interesting. How many of us that love this field seems as though there was some kind of spark, some kind of connection when we were in our early childhood years.

And I just, I just found that really interesting. I love the role that your father played in supporting, really supporting your journey along the way.

And of course, you know, we all get to benefit from that. And so you went to work within three months and 17 days, you actually discovered you found kind of that that next piece which was all around telomerase.

So talk to us about like who? And it was in those primordial reproductive cells. So it's an active unless we're in that reproductive state. So how has your work looked at really activating.

When do we activate. Do we activate. How do we activate more telomerase to potentially really I can't, you know, solve this telomere shortening issue like you've discovered.

Well, the first approach that we did was to first isolate the promoter that regulates the gene for telomerase. And try

to figure out what's what's repressing it, what's shutting it off.

And so we worked for several years on that, and we found a what we considered to be a lot of repressors, different repressors. But our candidates for repressors.

But when we would inhibit them, the gene still didn't turn on. And so we we did more research and we we concluded that there was actually multiple repressors, multiple types of repressors, binding to multiple repressor sites in the DNA motor, and that the only way we were going to turn the gene on was to inhibit all of them at the same time.

And so, we, we just there was like, we'd have to know that we knew what all the repressors were to do that. And so far we hadn't succeeded. So we decided to take a different approach at that point.

Was more working blindly, and that was to we developed an assay, high throughput robotic assay that would measure whether or not a cell, human cell grown in a petri dish, or at least a micro titer dish, was producing telomerase.

And so we could test for a thousand different cells, cell lines a day to see if any of them were producing telomerase. So we we set up this assay and we started doing our screening, and we started testing chemicals at random just to see if adding the chemical to cells would turn the whole machine on.

Now, a lot of a lot of things we already knew would do that, like histone deacetylase inhibitors and things like that.

Current Telomerase Activators and Research Limits

But the problem with things like just don't do cells inhibitors is that they turn on 80% of the genes in the cell. And so, you know, that causes all kinds of problems.

And and so we needed to find something that would be specific towards just the telomerase gene. So when the quickly finding like I want to say 60,000 different chemicals.

Now we tested 60,000 chemicals and we found about 100 that actually did turn on the farmers gene. And we started doing medicinal chemistry, where we started redesigning these chemicals to make them stronger and safer.

Because the chemicals I was doing random screening, they would oftentimes have side effects and things like that. So we started we we we tested another like, and these 300,000 different chemicals mostly which we designed, and we ended up finding close to 900 different chemicals that would turn on the telomerase gene.

But none of them turned it on to the levels that we needed the most, with the highest level we've gotten so far as we can get to tolerate to turn on to 16% of what is needed right now to stop tumors.

So turning on oh that at least slowed down the rate of tumor shortening because shortening the life seems like a tug of war. Yeah, adding people to the side of this lengthening, but they're still losing the tug of war.

So one of them one of them was considered very safe, has been through clinical studies and is now marketed by a few companies and stuff like that. But, the but but that's, that's where we're going.

We still have not figured out really what the repressors are. There's been lots of papers published saying that they've discovered the telomerase repressor, and in all cases, we've tested them and found it's not true.

We can't reproduce their data. When we talk to them. They say they can't reproduce it either. But but they have that one time. Yeah. Well, it's like the publish or perish.

Yeah. It's just the yeah I guess people the published papers just so they can say they have a lot because it helps them get grants, but too many, too many times papers get published that nobody can reproduce.

But yeah. So so that's what that's where we are right now. The number one goal right now is to find the funding to continue that research, which cost essentially $2 million a month.

Wow. I mean, that's a big price tag. And it's a, you know, it's a it's a moonshot, meaning you're you're doing big work that fundamentally would do exactly what your dad told you you should set out to do.

Right, which is to cure aging women. Let me say this. I mean, right, the moonshot comment, if I could quote James Crow. Yeah, we're already there. Yeah, yeah.

So that's the way to think about. 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. I love that. Yes, it's not like this is some crazy far off idea, meaning you are a big thinker.

So that's what I was meaning by that. And thank you because I agree, I believe, I believe we are at a time that it is all here and and that the funding like keeping it all going.

So there's kind of this balance of, you know, there's still more to go. So you've made the foundational discoveries. There is a compound that is available that you said that's it helping some.

It slows. It doesn't stop fully, but it does slow. So it will activate that telomerase. So two things. First, are you able to tell us what that compound is or is that something that's is it a pharmaceutical. Is it a nutraceutical.

Or is it something that we can easily access. What what is it. It's I don't market I don't market product. I would just say we have pharmaceuticals and nutraceuticals.

Okay. Our most potent nutraceuticals are going to be launched in early April by a company called Touchstone Essentials. And our most potent pharmaceutical is only been approved for skin skin care so far, in the skin curriculum and is marketed by a company called One Truth 818.

Okay. That's. Yeah, it's they've taken to clinical studies and stuff like that. Them. Great. Okay. So it's exciting to know there's some things coming to market.

So question. And I know we've I've I've kind of bent your ear on this before. Let's talk about lifestyle. So what what are things that we as individuals right now should be thinking about that we could do either more of or less of that would potentially support.

Can we can we activate telomerase activity. Can we help to slow down the shortening again through some of our lifestyle choices, habits, environmental design.

What's your what's your thoughts on that. Well, there'll be several phases of answering that question. But first let me say there is absolutely nothing that you can do in lifestyle right now that will induce telomerase expression.

There's lots of studies reporting that you can, for instance, like hyperbaric chambers. They're they're reporting that you can induce telomerase and link, telomeres.

There's a paper saying that exercise does that. But they're all they're all doing the assays incorrectly or they're misinterpreting their own results.

And I'm the inventor of most of the assets that are the tests that are done to test for activity. If if anybody ever sees

a study reporting that they have a, light therapy or drug or anything that uses telomerase, they have to look for what's called a telomerase trap ladder, which is the only assay that really means anything.

And if you don't see the trap ladder in the study, it means they don't really have an activity because that's the first thing anybody would do. And a lot of times they try to do it and they don't get a trap ladder.

So they resort to other methods and which are broken which which don't really work correctly or not.

Lifestyle, Inflammation, and Telomere Maintenance

They're not reproducible on, but they publish them. Okay. The other thing, the other way they do it is to measure telomere lengths. And again, the only really good way to really know that your telomeres are getting longer is to do what's called TRF analysis.

And if they don't publish a TRF analysis result, that means their tumors aren't really getting longer because they are again resorting to other techniques that give false positives.

That is a lot. And again, I'm I'm the inventor of most of these. I know from hands on experience in that that. Right. So let me ask you a question. I'm curious is that so like true diagnostics for example, in their in their biological age testing they do look at telomere attrition.

So is there is the way that they're reporting and giving data on telomere length. Is is it to the appropriate standards. Is it something that we can have clinical relevance with or is it still not.

Are you familiar? I don't know if you're familiar with or not. One of my favorite companies on the planet. Yeah, I love Ryan. The whole team is great.

Yeah. I mean, he's he's he's a but so one of the reasons why I like true diagnostics is that they don't rely just on telemetry. Right. They put a multiple number of different biomarkers of aging and stuff.

And so I think that his data that Ryan has shown at conferences is like that correlates best with aging than anything I've ever seen. So I, I consider telomere length measurement to be too difficult to do to really get consistent results and stuff like that.

So even though I'm, I believe that telomere length plays a role in aging, I believe that maybe other things are better measurement of telomere length, and that includes DNA methylation and IG like oscillation, which I think those change as a result of telomeres.

So less but but you know, your question was what can people do now. And I was just going to answer the first one is that yeah. Number. The most important thing is to decrease inflammation, decrease anything that causes wear and tear.

Now normal operations of cells of tissues and organs we just normal things you can't slow down. So normal operations of what are called the front line cells in your organs cause them to die off from wear and tear on the average about once a year.

Okay, you can't reduce that, but you can. You can accelerate that among all kinds of terrible things like smoking. And, it includes increasing oxidative stress and increasing inflammation, which will cause the wear and tear to speed up.

So you can reduce those and get it back down to the basal level, like once per year. Now. So when you lose frontline cells on your organs on average of once a year, that that does mathematically puts you at a maximum lifespan of 125 years.

And when you calculate it mathematically, and that's because, you know, the wear and tear of losing cells once a

year and your cells only have the ability to divide 50 times after you're born, that's, you know, you're going to not make it past 125 and nobody makes it that far because of of poor lifestyle choices and poor genetics that all accelerate that that process.

But yeah. So, so decrease in inflammation. I highly recommend the al cat test. Alka. Which is something I do once a year because everybody's different.

Everybody's different. Foods cause inflammation in different people in different ways. Our cat is a test that allows you to be able to test whether or not you are.

A certain type of food will cause inflammation in you, and if it does, quit eating that food. And that changes every year. And, then again, everybody's different.

So so I get tested every year, and I make certain that I don't eat the foods that are causing a lot of inflammation. And, and I get to get my inflammation markers measured every three months.

And they're always undetectable. I just make sure even though I run every single day, a lot of people say running is something I run an exercise every day that says that causes inflammation, but not if you do it right.

You know what has been fun? It actually decreases inflammation. But yeah, so so that's that's the thing is like exercise correctly, eat correctly psychologically maintain a healthy psychological status.

You know, it's those are those are all the kind of things that you can do to slow down the aging. So I'm very curious you or thank you for that, by the way.

So you just shared that mathematically we we can our, our end, our lifespan is 125 mathematically. And of course, a lot of the work is to say, can we lengthen that?

Can we go beyond that? And as you said earlier in our conversation, you, along with Aubrey Degré, were in the movie The Immortal List. So what? So there's science and there's personal philosophy.

Share a little bit of both with us about what you believe really is possible in going beyond 125. How soon do you think that could be with what you have access to, with what you see in the literature and and where do you hope personally to be able to go?

Since this has been a lifelong work for you? You're you know, you're in movies called The Immortal List. So I want to hear a little science, a little philosophy of what do you really think is possible?

And extending beyond 125, how far can we go and when? Well, I think the best way to get close to 125 is listen to everything Albert Gray is saying. I mean, he's he's doing everything that I'm not.

I mean, not because I disagree with him, but it's like, why do what he's doing when he's doing it, you know? And I look at Aubrey the Gray as a person who's trying to cure my aging.

So I'm supporting Aubrey in every way I can, you know, same to for, you know, Liz Parrish, Sandra Coffman, Greg Fay, Mike West, Mike Rose, these people are the people that are really doing the best there is to really solve the aging process.

But as I said, no matter what anybody else does, the exception would be Liz Parrish, because she is working on, lengthening telomeres to no matter what else anybody does besides what Liz Parrish and I are doing will never, ever, ever exceed 125 unless we also solve the two on the shortage problem.

Incidentally, there is one reported case of somebody living to be 122. There was a woman named John. Comment. He smoked like a chimney and things like that.

So there was a lot of weird things kind of made, didn't make sense. But now there's a lot of reports coming out that I've looked into and, I think they're believable and that's that.

John comments. Daughter took over her life after Jonathan really died and keep inheritance taxes low or something like that. It was it's the and apparently there was some John come out was getting some money from inheritance from some different case.

And so her daughter pretended to be her, and it was actually her daughter that died not at 122, but when you added up the two together, it was like 122.

So I don't think I don't think anybody's actually lived to be 122. And and Natalie Cole, I don't know if you're interviewing her, but she's she's somebody there was a person really the number one speaker at conferences that I used to really enjoy, a guy named Stephen Coles, who would talk about the, the super centenarians and who they are, how they're doing and stuff like that.

And then he passed away from cancer. Biggest upset of all time. And now Lee has taken over his role.

Longevity Limits, Funding, and Future Breakthroughs

And so, probably to get a more accurate about things about what's going on with Gene. Comments, real story. Natalie would probably be the best person to address that, but I think there's a good chance that the actually, she didn't really look at the 122.

Yeah. So so for right now. Well, personally once, once especially with Liz's work. And I just want to give a little plug right now to Rad Fest, to our listeners, you know, if you want to get to listen and learn and connect with these amazing minds and researchers at the forefront of the field library bill, Sandra, Liz, they will all be at our ten year anniversary this summer in Las Vegas.

So go ahead and check the show notes below. You'll want to make sure you grab those tickets. And then the following year, there's going to be a big longevity March aging march on Washington.

So there's just a lot of amazing things happening with the coalition that's, you know, really people coming together, experts, enthusiasts alike to say, all right, like we there's there's got to be a way we know more now than ever.

And I do love Aubrey's his work, and I love what we can appreciate about closing the gap between Healthspan lifespan and longevity. Escape velocity coming in there.

Because every year we can kind of slow that down. And in essence, you know, gain youth biologically. Even if we chronologically progress forward, we are we are creating greater states of health and health span and function, and the system that will keep us in a more vital state while the science catches up.

And so I'm curious if you had to make a guess, and we're not going to hold you to this bill, I promise. But where do you think? Especially with Liz's work.

How close do you think we are to actually kind of solving this, this telomere issue? Because if, like you said, hey, we're not going to get past 125 if we don't also get to the bottom of this telomere issue, like if we really don't solve it, like we can do all these other great things, take all the supplements, do all the fun stuff, but we're not going to really pass that threshold.

Aubrey would tell us, you know, that that's going to be possible. And of course, he's been saying that for so very long. Right? The first person to live to 150, when he started to tell us that about, what, 15, 20 years ago.

So this idea that we will pass, that kind of breakthrough, that sound barrier, how close do you think we are to that actually happening? I think we could have a cure for aging 1 to 3 years.

Okay. I mean, that's that's way ahead of what everybody else is saying. But yeah, I think Aubrey would agree with what I'm about to say because he often puts it later, the number one obstacle to curing the aging process is sufficient funding.

Okay. And that's I mean, we put put $200 million into Aubrey's hands or my hands or lose perish his hands or at Sandra Kaufman. Greg face. I mean, all of us.

It we it wouldn't take long because we know the science. The science is actually pretty straightforward. We just don't have the amount of funding that it takes to actually get this work done.

And, you know, yeah, we all have no problems finding investors, right? These are all interested in quick financial returns on investments. And so succeeding at doing things that give them quick return on investments.

Then they want to sell your companies. Right. And and then you lose your intellectual property and you can't not cut, non-compete comp contracts prevent you from continuing your work.

And this is one of the obstacles that we all face. And so what what needs to be done is we need to find source of funding that has that doesn't restrict our science, doesn't change our focus.

And that's that's really the big obstacle right now. But I think that, if we had sufficient funding, I, you know, by I am a scientific advisor for Liz Parrish is company and I know a lot about the stuff she wants to do.

Well she can't do because of lack of funding and, and not let's say not insufficient funding. Right, right. I just I want to create a whole department in my company.

My, my, I've got 10,000ft² of lab space right on the wall behind me on the other side of the wall behind me. And I just want to create a whole division, just focused on getting all the stuff that Liz Parrish wants to get done.

Yeah. You know, and gene therapy. But the biggest problem gene therapy right now is it's not safe to go to high doses. Right. So you know is are the doses that are being used now sufficient.

And I score things by what I call the Betty White test. I mean, somebody's got to go from looking and feeling and behaving 85 to looking and behaving and feeling like they're 25 and nobody's ever passed that test yet.

Yeah, but I think I don't I don't know if telomere length and telomeres can do it all by itself. Right. And there's no yeah I don't think that's groups.

Right. Go ahead. We we just have to get the funding to be able to do all of them, you know, all together to, to get us past 125. And I do I think that's what that's the opportunity.

That's also the question. And it's also the cost because there's the cost to you all in research to want to, you know, R&D. Then what will that ultimately look like to the end user.

Right. How do we democratize these elements. So it's kind of good better best freemium to premium. What how do we starting like knowing what we're working on.

But then kind of that casting to say how do we do this thing and how do we do it in a way that could be at scale that that the majority can have access to?

Which is why I always do ask about lifestyle and things, because there are things that can be done now that will slow that process down. And, you know, that's more of a statement versus a question.

But I do have a question. I just want to kind of my, again, might be philosophical, but just your thoughts on when we think about aging. So this idea of cure aging is more on the hey, let's stop that, that break down this dysfunction disease process that will take us out of this body.

Right. Like let's let's go ahead. But the real process of aging begins the moment we're conceived. And so it is this constant, like you said, wear and tear process.

There's always a building up and breaking down within the body and in the cell from moment one. And so I'm curious, you know, is it is it being discussed in some of these research communities?

Are we really looking at interventions that would be appropriate? Because I think this is one of the the moral questions we get to ask, right? At what point do we start where. And we don't know yet.

These are more things that probably we don't know. But when do we start certain interventions? And do we start in older chronological age, like a longer life lived and work back?

Do we see the greatest benefit if we were to drop this in to somebody in their 60s, and are they going to get the greatest gain or and and we'll see it and we'll know it.

Or are we looking to really think about what we actually want to start these interventions more in our 20s or 30s? Do you have any any thoughts or research around that of how we might think about what's coming to market or when we should be doing interventions and what's really going to be most in our best interest to enhance longevity?

I get asked that question a lot. My answer is that your mother should be providing you with something to stop the aging process from the day you're conceived.

Okay, so it's like even before you're born, you need to be doing something to, prevent the wear and tear, or at least the the inability to repair wear and tear.

Personal Longevity Routine and Closing Remarks

And, now, now, of course, FDA might say, you know, pregnant women shouldn't be taking these things, so it doesn't hurt to take it later, but I there's no the sooner you start, the better, okay?

There's there's nothing. I mean, yes, if if we're like, 80 years old and suddenly somebody comes out and discovers something that reverses aging. Yeah, that would be something definitely to do that you probably would have been better to do it before you got to be 80, because now you have accumulated a lot of mutations, some, in, you know, in neurons especially, which are very difficult to, replace when they get damaged.

And by the way, I mentioned I was working of the things. That's one of the things I'm working on. Inhibitors of, I'm working on trying to inhibit the inhibitors that are preventing neurons from being remade when they're destroyed.

But the that's a whole nother subject. And I'm doing it with, in collaboration with another company, but, the yeah, it's like the sooner the better, the sooner the better.

It's like, as you said, the day you start aging, the the day your conceived. Yeah, yeah. Well, there is a lot to come and we will be excited for the new research that you're bringing out for the research are continuing to work on to keep our eye on everything.

You know, that that you've got your fingers. And I want to ask you a personal question as we get ready to wrap up. Bill, I know you mentioned running a little bit ago and your wife just had a big achievement in the running world as well.

So what is your actual personal longevity protocol? How do you what's what's doctor Bill Andrews kind of mapped living as long as possible as well as possible on a daily basis?

Well, yeah, I, I, I'm a runner too. I run every single day. In fact, I, I recently just checked and I'm something like in 30 500th place in the world right now for the most consecutive days running.

Amazing run over. I haven't missed a day of running since April 9th, 2020 when I forgot to run that day. But so it's like, coming just coming up on five years without missing a day, but I like run at least two, two miles a day.

And then on top of that, I also exercise, but I in both cases, I never, never push it. I never make it so that it can cause stress or inflammation and stuff.

So I, I run at least an hour a day, you know, or miles a day. Sometimes I can do that in like 20 minutes. But the I, I also work out with weights and stretching and stuff like that for an hour a day.

I also focus on my foods that cause inflammation in me. I believe that a lot of us have inflammation from foods that we not even aware of. And so, you know, it's important to get tested for.

I mentioned the our cat test before. It's not a allergy test. It's a sensor food sensitivity test, which is very different from allergies. And so I would recommend getting those the you know I I've, I've, I've been able I've, I've done a lot of work myself where I've had phlebotomist taking blood samples from runners during ultramarathons before, during and after ultramarathons and trying to correlate those with different things.

And, you know, including myself, I'm an ultra marathon runner, and I've done the blood work myself on myself. And, you know, it's like I can actually run 100 miles and not have any inflammatory response whatsoever if if I do it right and that's enjoy it.

Just keep it fun, enjoy the view. You know, just, don't focus on trying to break some record or something like that. Yeah. I mean, the the record that my wife, my wife just set the world record for the longest lived.

And I don't like using the word oldest, longest lived woman to ever complete what's called the World Marathon Challenge, which is she ran seven marathons on seven continents and seven days.

She just finished a week ago. She still recovering, but she did not go fast. Oh, she was just focusing on being the longest live person to ever do it.

And so she took her time. She enjoyed it. And she's tired. I don't think she's wrecked her body at all from from doing the thing because of the fact that she didn't race to be crossing the finish line by a certain time.

And yeah, falling on the hands and knees, throwing up like a lot of runners too. Yeah, yeah. That's that's. Yeah. So that's, that's one thing that's important. Yeah.

And not just running is endurance exercise. The kayakers, kayakers just kind of have as much benefit to kayaking as a runner is going to have from running, bicycling to, walkers.

So it's just endurance exercise. Just keep it fun. Make it an adventure. Not not a, something that's a hardship. Yeah. Beautiful. And I think that's one of the best pieces of advice.

Make it an adventure, not a hardship. Make it something that is enjoyable to you. So whatever you decide to do every day, my friends, I hope it brings you joy.

Doctor Bill Andrews today has been a fantastic conversation. Thank you for sharing your personal journey. Thank you for sharing your research, your work, and just helping us to have a greater finger on the pulse of what is coming.

We'll be sure to put links in the show notes below about those companies you're involved with, and some of the things coming to market that will help us to be able to move the needle a bit on telomerase in our system.

And slow that rate and pace of biological aging, because I'm excited, I believe that we are living in the time that we're definitely going to break that four minute mile. We're going to go beyond 125.

And I'm sure your work is going to be a part of it. So thank you for your contributions. It's fantastic. One last comment. Yeah. Everybody should go to Rad Fest, especially now that is combined with the Longevity Escape Velocity conference with Aubrey de gray.

It's like they're not competing with each other, joining each other. This is really the best two conferences getting together, and this is going to be the most exciting rad fest ever this year.

So you heard it. Doctor Bill just took the words right out of my mouth. So if you want to get to meet amazing people just like him, you want to get to sit down and learn from the best.

You want to collaborate. You want to be a part of it. Please come join us for the ten year anniversary again. Links will be in the show notes below on how you can get those Earlybird tickets.

Again. Doctor Bill Andrews, thank you so much for your time and for your knowledge. It's been a pleasure. Thank you. Yeah, and to all of you. Our guests continue to be bold, stay curious, and continue to express your greatest states of aliveness.

Until next time, I'm Doctor Melissa. Thanks for tuning in. Thank you for tuning in to Doctor Talks. We hope today's episode has enlightened and inspired you on your path to optimal health.

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