Introduction and Bill Fallonu2019s Background

All right. Everybody get out your pad of paper, your pen, your pencil, your crayon, you're gonna want to take notes. I really hooked a big fish air and he's from florida.

So he's close to the ocean and the intracoastal William saloon. Most people know him as Bill Fallon. Bill has an amazing many decade career, but he is literally one of the world's experts on longevity and anti aging cutting stuff.

So we've talked about exercising broccoli and sleep and sauna and all kinds of amazing technologies. But we're going to talk now about what the future might hold to reverse your heart disease with the most advanced of technologies.

And you're gonna love this episode. I'm gonna love this episode. But since I do like to formally give people the proper introduction bill following along with Saul Kent founded life extension in 1980 or even in the late 70s to be a newsletter on health and longevity and people started asking about the vitamins they mentioned. So now it is a educational program and a massive vitamin company. He serves as technical director and his mission is aged reversal research initiatives. Hundreds of media appearances.

He's been on the Phil Donahue show. You gotta love that. He's been on abc news. He's been on many, many uh avenues of media and he's the author of books, including one that I've read recently, Farm ocracy, how corrupted and misguided medical regulations are bankrupting America and what to do about it, make sure you know about life extension dot com.

It's one of the most interesting websites. I've had the pleasure to contribute articles and uh I ingest many of their products every day. Welcome Bill. Thank you so much for having me on.

I hope we can have a fantastic conversation because there's a lot of information to disseminate. Yeah it's gonna be fantastic and people are gonna really understand the future is so bright. I mean I'm not the first to say if you're interested in longevity there's never been a better time to be alive than right now and the next decade and on and on. So you've had this long interest.

We're talking about reversing heart disease naturally and you know we're not going to focus with you on diet and fitness. I know you're a big believer in all of them.

And your magazine your journal comes out with great articles about lifestyle all the time. Again I'm proud to say I've been featured in your magazine before.

But let's talk about the tough cases. I'm going to just throw it at you cardiology. I've got a cholesterol of 800 I inherited from my parents. Familial hyper lipid e mia. I've got the ability to make too much of a protein called P. C. S. K. Nine and I need to find a way to correct my liver from putting me at risk of dying very young in life.

Of course this is all a hypothetical I don't have that condition Which we used to say was about one in a million. But we think it's actually more frequent now.

Uh and you can be a 12 year old and have a heart attack from what I just described. So, talk to us about something you're an expert on CRISPR technology.

Gene editing. I've got this bad gene and I want to get rid of it. How tell us what about the technology and what might hold the future? So I don't have to depend on medicines to control my cholesterol or even cholesterol dialysis called Apheresis.

What do you got for us? Well, in the future, CRISPR gene editing will enable us to go in and literally knock out the PCS canine enzyme that's going to create all of that excess cholesterol and keep it from breaking down the approved drugs out there.

Right path to the PCSK nine inhibitors.

CRISPR and Gene Editing for Cholesterol

Were proponents of those for people who are otherwise unable to lower their LDL and total cholesterol levels, and I have to say we've been doing this now for about 45 consecutive years, we've had people give us all kinds of recommendations as far as diet and supplements and exercise. But the problem is atherosclerosis is a natural progressive process and if you've got known risk factors, you need to target them even with therapies you'd rather avoid.

Now, once CRISPR becomes available, we'll be able to edit our genes so that our levels of all of the dangerous A genic risk factors will be brought into optimal ranges that we won't be faced with this epidemic that we have to face reality today and what we have today are our medications for people who are otherwise unable to control the level of anyone of 17-20 independent risk factors. They shouldn't put themselves on the medication.

Ask their doctor to look at that medication, look at the blood test result and get that optimized about as exciting as can be. In fact, you're making me think for a minute that in my medical clinic I have a poster of an artery with multiple daggers that represent different risk factors for atherosclerosis.

And obviously I lifted that right out of your magazine probably a good decade ago. And actually I've written on the outside additional ones that have come along like T.

M. A. O. And nine P. 21. You and I should work together and update that and make it uh even more of a ominous and scary picture. But let's circle back because the average person listening doesn't know much about CRISPR and I mean, how do how are we going to get to the liver and tell individual liver cells that inherited this ability to make way too much of a protein.

So your cholesterol goes to insane levels. Or maybe you only have one parent that's called Zegas Familial hyper lipid e mia. So your cholesterol is only 3 50 not 8 50 or 1000. How are we going to convince those liver cells?

How are we going to cut out that gene? I mean, how much can you tell us about CRISPR technology? What they're doing now is they're taking essentially inactivated viruses that literally enter the cell and they will replace DNA base pairs in a way that the genes that are causing you problems. They are edited out and then better genes sometimes can be edited in.

And it's been done in a way that has dramatically slowed aging in the animal model, live mice, in which aging is dramatically slowed and as it relates to particular medical issues. Once CRISPR is perfected, that will be the way medicine is practiced. They won't rely on pharmaceuticals anymore.

You won't even need vitamins from what we understand. The cells will be programmed to produce the vitamins that they need. As opposed you're having to swallow 40 50 pills a day, which is what I'm doing. So I'm looking forward to CRISPR putting us out of the vitamin business and enabling people to essentially be edited to be in a state of optimal health. You're only taking 40 to 50 vitamins a day.

You slacker. Well, I I can't well, there are some of the multi so I'm getting at least 100 different nutrients a day and I take a lot of medications. I do have issues with lipids, homocysteine. And so I I do anything that can get my blood test in optimal ranges And for the first time over the last 23 years, I've achieved the blood test results typically seen in the healthy 21 year old has taken my entire life to put together a program to do that.

And for people who don't do it unfortunately they do suffer angina. They do suffer coronary artery occlusion. So and I'll say you've written some amazing articles about your own health, your own lab values your own vitamin and

lifestyle support at life extension dot com. And people can go look up Bill Fallon.

It's one L. 20. S. Right. F. A. L. O. N. I have in the past made the mistake of having two hours there. So this CRISPR technology to to theoretically actually it's more than theoretically to imminently be able to shut off genes that are overproducing um compounds like pcs canine enzyme that can cause early heart attacks, early stroke early death or inserting a gene that your miss many people are lacking of genes so that for example the M. T. H. F. R. Methylation 677 gene maybe you want the normal version although it's not usually a lethal condition or imminently lethal condition.

So I believe there's a trial just launched in Australia. Again we often have to take this research overseas and we'll have listeners from Australia. And at least one human has had their CRISPR technology and I think the focus was severe cholesterol disorders is life extension involved in any research that could theoretically be gene editing or supporting it because you do have a foundation what we do, we're promoting the research, we're encouraging the research research we're directly funding involves Yamanaka factors.

That's a bridge before CRISPR is perfected and that study in Australia is fascinating. What's fascinating about it is they showed CRISPR worked in the monkey model and they were able to then transition that research into human clay Trial within a 13-month period of time so that the pace at which they are able to demonstrate efficacy and a primate and then move them into a human is virtually unprecedented.

That's what really excites us how fast developments are occurring. Now you just spilled the beans on the next focus to ask you about and you threw out a very interesting term, Yamanaka factor and I want to ask you about that and I want to set the stage again. Now I'm a different patient.

I've had a heart attack and my anterior wall of my left ventricle is full of scar tissue and fibroblasts. But I want muscle tissue. I don't want scar tissue and the heart doesn't regenerate like liver or like a chameleon's tale. The heart is very limited in the regenerative capacity. So tell us a little what those fiber blasts, Those scar cells that are surrounding my heart attack zone.

Um how they might be able to be teased back into developing as heart muscle cells and make my heart strong again, everybody who's had a heart attack. gotta listen right now. They should because step number one is to remove these things. In essence cells that make up that vibe Roddick tissue. Those cells are spewing at pro inflammatory factors. They're emitting protein degrading enzymes.

They will interfere with any regenerative attempt that you put into that patient, including using taurine, carnitine, coq, 10 magnesium, all kind of good nutrients can be thwarted because you've got these senescent cells that are obstructing any type of regenerative capacity that you're seeking to optimally encourage.

So the good news is there are compounds known as sin analytics that selectively remove senescent cells and I put on presentations showing that if you fail to remove the senescent cells from the damaged heart muscle wall, you can't get the repair process going because you've got more and more damage occurring as you're trying to build up the strength of that natural heart muscle tissue again.

So the combination of the Saturn ib courses in fi settin. The sin elliptic compounds should be a primary step and then start to initiate some of the more elaborate regenerative approaches.

Right And of course, dr Kirkland at the Mayo clinic doing actual human research.

Senescent Cells, Yamanaka Factors, and Heart Repair

Lower or remove these aging senile, we call them sin essence cells. Using a pharmaceutical combination you mentioned to SATnav and corset in these are ongoing human trials in lung disease in this case.

But you know, they're going to extend over to my my field heart disease your fine company makes a vitamin called c analytic activator. It's a vitamin so you don't need a prescription and people take it once a week if they do their

research and want to add this to the program, it is a vitamin I added to my program. But let's go back to that term.

Yamanaka factors. Dr Yamanaka won the Nobel prize in 2012 by describing four factors that could take this scar, sell this fiber blast and what can it turn it into? At least in the Petri dish?

Hopefully one day in the human. What can we do to that scar sell it can actually regenerate it back into the embryonic states into an induced pluripotent stem cell.

And the virtue of the Yamanaka factors is there available off the shelf? They can be purchased by researchers not to put into your body but to be put into let's say peripheral blood mono nuclear cells that you remove.

This is research for funding right now to essentially take our autologous cells that are old, rejuvenate them back down to a youthful state. Multiply those and again adding Yamanaka factors in to keep them growing younger and then re infuse those into a patient who needs to have systemic regeneration because they're gonna damage heart and their elderly. They've got other problems too.

So the idea is to induce systemic regeneration including that damaged heart which is their primary concern and I believe this has gone all the way and please correct me if I'm wrong that there actually are some human, maybe one human condition.

I think it's an eye condition where there have been the inducement of these pleura potent stem cells that then can go on to become healthy young I cells to restore a damaged. I correct me if I'm wrong about that, that there is some research in humans. Davis and Clarence Harvard proved that last year that he was able to use Yamanaka factors to essentially reverse glaucoma and do that in such a way that mice that were blind, they were able to restore some visual field and he was able to show a regeneration of the optic nerve.

So that was a major advance published in a couple of journals and got some media coverage. But so often people read about something and they forget about it, but we don't, we remind people like you're doing right now right.

So I did guess jump ahead a little bit that that wasn't a human study, You corrected me, it was a mouse study. But so again, for those heart attack survivors who are told your heart is weakened and you need medication and you need a defibrillator and maybe, you know, you might even be a transplant candidate.

We can look forward to at least the hope that we may be able to take cells out of our body, induce them back to a more immature state that then can be induced to become new heart cells. Isn't that isn't that amazing?

That's what's being done. They can either do it as induced pluripotent stem cells that can differentiate and diversity any cell or focus on progenitors cardiac cells to give the patient a big dose of cells and go right to the heart and regenerate that heart muscle. But again the signal itics very important reduces an ssl burden put into rejuvenating factors and you may get some nice results.

Now, bear in mind we've been advocating high dose coenzyme Q 10 and magnesium taurine that for many, many decades and a funny little anecdote, a medical doctor friendly medical doctor. He says what are you doing to my patient?

And I said oh no did something happen? He said no. I told him he was going to be dead three years ago and he keeps coming into my office now eventually he did die of congestive heart failure.

But we kept him going many more years beyond what the prognosis was. And it was because he was following the entire nutritional protocol. He was following what we suggested and others and and got some nice results.

So we were able to do a lot today to give people extra time. We're looking to give them a lot more time. Yeah. I think every serious patient in my clinic has been taking CO Q 10 for you know well over a decade. But you guys really set the standard because I do believe life extension dot com was the first to recommend CO Q 10 is basically you know, and a vitamin you can buy from life extension and many other manufacturers but it's basically a critical

component of a heart support program. What 30 30 years ago you recommended this back in 1983. We published an article in our newsletter anti aging news about the benefits of CO Q 10 for the heart, the brain, the kidney, it's systemically beneficial and then people were having a challenging time finding it. A couple of companies were offering it but they weren't easy to find there was no internet back then.

So what we started offering it along with now right now hundreds of companies offer it now. The key though, if someone has congestive heart failure is they need to initially take some very high doses for the 600 mg a day for at least two months, build up their serum CO Q 10 levels. We'd like to see them if they have heart disease well above 66 to 7. That range where normal person is okay with two or three. But to regenerate the heart muscle very high levels and then once they achieve those levels they can usually back down.

Co Q 10 is fat soluble stays in the body for a while. But for some people they take 100 mg a day and they need a lot more because of their underlying condition.

Yeah, I completely agree as a clinician that uses between four and 600 mg routinely. And as you mentioned quest Labcorp these large uh Lobotomy companies, Life extension you can get a blood level of CO Q 10 and in a serious condition called congestive heart failure. You should do that.

But I doubt 2% of card biologists in America know that there's a blood test and that you can actually adjust your vitamin program to hit those high numbers those therapeutic targets.

So thank you for bringing that up. You're really a wealth of information. We could spend hours talking. So we've we've brushed by CRISPR technology, gene editing, gene insertion, gene deletion. We at least gave a little homage to the Nobel prize winner Dr Yamanaka and the future of pluripotent stem cells.

We've talked a little bit about see analytics. Um let's talk about anti aging pharmacologic agents. You're the expert, there's Metformin out there which is a prescription drug easy to get for diabetic issues.

There's rappa mice in a drug I've put on stents and put inside heart arteries under the other name Sarah lima's for years and years. Um You know, give us a little rundown on these agents, their potential role for anti aging and longevity and disease prevention. Well one prescription medication it's rather inexpensive and it was talked a lot about in 19 eighties 19 nineties but it kind of falls off the radar screen is Deborah nil. It's approved to treat Parkinson's disease and doesn't do particularly well in Parkinson's patients.

But we think it might help prevent Parkinson's Alzheimer's and other neurodegenerative conditions. It inhibits an enzyme in the brain called mono amine oxidase A speed and as we get older our levels of M.

A. O. B go up and it then degrades our dopamine and we have a dopamine deficit. We lose our sense of well being. We start to feel older. We wonder where is that youthful zest for life that we used to have? Well a lot of it is X. S.

M. A. R. B. It can be inhibited with five mg just twice a week of Deborah no it doesn't require to be taken every day. The founder of of discoverer of Deborah nil, we visited him in Hungary and he said the problem with Deborah knows people are taking way too much.

COQ10 and Nutritional Heart Support

I designed it as a drug taking a few times a week and people think they need to take a high dose every day. So that's one to add to people's regimen. And again the generics should be rather inexpensive and prescribed off label. It could just add another mechanism of thwarting normal aging. Now would that candidate BA person with early signs of Parkinson's disease. Or that could be a candidate just looking to enhance potentially we can't promise optimal health.

It should be someone over age 45. That's when that M. A. O. B. Enzyme starts to elevate and degrade dopamine under 45 they probably don't need deeper nil. But as they grow older they start losing more and more dopamine.

And at some point either Parkinson's sets in or just the frailty of aging. You see an older person and one of the reasons they're so frail, one of many reasons is dopamine depletion that can be counteracted with nil but it should be started earlier in life.

But if you're just learning about it now in your 70 good good idea that started, Okay, let's shift to Metformin, a widely available, inexpensive available for decades.

Talk to us a little bit about your view of it as a prime time or potential future longevity agent will we recommended Metformin as an anti aging drug in our March 1995 life Extension magazine. At that point, it was just getting approved by the FDA to treat diabetes that have been approved in England since 1957.

But it took a long time to get approval in this country regrettably. And we recognize that its mechanisms were beneficial to pre diabetics were beneficial to people who might have a non diabetic related condition.

It's a great cancer. Adjuvant therapy. We think it's a great way to reduce one's risk of contracting cancer, the more we delve into Metformin, the better the drug looks if you can tolerate it from a digestive standpoint, about 15% of people they get a digestive upset diarrhea, they really can't take it. But for those fortunate, 85% they can take it every day and reduce their risk of developing type two diabetes and its many complications. Amazing. Amazing. And that would be a convoy association between a patient interested in anti aging longevity and their physician because they would need a prescription. Um there is that ongoing randomized study, large study called Tame. We may actually get some data in a few years to fully in a randomized controlled trial. But you think it's on the list now without a large randomized study?

Well, it's on the list in conjunction with everything else you should be doing. In other words that trial, we think it might have a somewhat of a favorable outcome but nowhere near as favorable if they'd also been on Rapa mission, a syphilitic replenish their N A. D. Behave properly.

As far as lifestyle in other words, Metformin by itself may yield some benefits by itself. We think in conjunction with all the other interventions that are now becoming available, you can have a meaningful impact on systemic aging and you are anticipating all my questions expertly. We're like a synchronized swimming team here because you brought up another drug called Rapa Missin and a drug that's an oral tablet.

It's available in pharmacies. It's been used in kidney transplant patients to keep their immune system from rejecting their kidney but at a lower dose, it's a very hot prospect for ant aging. So what what's life extensions relationship with recommending wrap a mission and any comments?

Well, we've written about it for many, many years. We advocate people enter clinical trials. One of the problems with it is in the United States, it's very expensive. Even the generics are expensive.

We're exploring offshore sources. But our caution with wrap a mission is if you don't get the rap immune brand name and we hate to recommend brand name products because they're just so expensive. There are some problems with generic rapid mission and that's not the case with most other medications.

But what we do is we measure people's blood levels of rapid mission after they ingest it. We're finding certain brands that people are trusting aren't yielding the kind of blood levels that we're looking for. The data.

And rapid mission is spectacular. Virtually every animal model has been tested in and out all its extended their lifespan, Even short term use of rapid mission, an elderly person who's let's say does it for three months, once a week. By the way, the dose of rapid mission is just 6 to 10 mg once a week that may confer significant longevity effects over the long term without them ever taking rapid mission again, which is amazing.

And we're not saying people should stop, but there's the least data to support even short term use of the rapid mice and drug may meaningfully extend healthy longevity.

Right?

Anti-Aging Drugs: Deprenyl, Metformin, and Rapamycin

And you know, some of our listeners are sophisticated in understanding their molecular biology and wrap a mission is an inhibitor of EM ter uh and M Tour is one of the main pathways of aging.

So inhibiting enter periodically, theoretically is a good idea. I listen to some of your lectures in the last year and I enrolled to be in one of those randomized studies, the Pearl study. So because of you, I'm taking a tablet a week and I don't know if it's the placebo and I don't know if it's the active wrap a mission and I'm getting a lot of tests.

Its first clinical trial I've ever been in because it's for healthy people. It's an anti aging longevity trial. And I'll be very curious at the end of the year if I got the placebo or the real drug because there's no way I can really tell.

And all the data is going back of course to the research center. So I thank you for sparking my interest and a few of my patients also decided to enter the trial. So we're helping to move research ahead.

Um, we helped get that study up off the ground. We helped recruit for it and we're grateful some people donated some nice money to get that going. Yeah, that's really special that they did because you know, it's still a major goal to prevent and reverse heart disease Type two diabetes cancer. But if we can tackle aging, we know the statistics are that it's going to have a profound advancement to human health and well being and joy and quality of life at the present time.

Somebody's listening and say this CRISPR stuff. This Yamanaka stuff, This analytic stuff. All those analytics you could start at least vitamin support this week on the scene analytic activator that I mentioned.

Life extension dot com. Makes um rap and Metformin. You're gonna have to work with a longevity expert. Deborah will give us another 123. Actually I will start today kind of concepts. Are you a promoter of various fasting and calorie reduction for longevity. Well yes if you engage in intermittent fasting you suppress M tor which also induces beneficial autopsy gee that's internal cellular health keeping. And typical americans today never clean the inside of their cells they eat all the time. They never give the chance.

The cells a chance to ignite the Khafaji process and then as a result people get sick and die way too soon. So if you are unable to start wrapping mission but you can fast about 16 hours most days you can drink some black coffee and green tea.

Black tea. Just don't put any sugar or protein in your For about 16 hours. Most days you will induce some of the rapid mission benefits. But an interesting ancillary benefit of rapid mission is it reduces the error rate in protein synthesis that normally occurs with aging and that may be a unique mechanism of rapid mission that we can't easily emulate other ways.

So I can't wait for the study results to come out. We're already trying to push studies ahead with people using rap once a week because we feel the mechanisms are going to induce some or significant benefits.

Alright. And I just want to focus on one last topic. This is reverse heart disease naturally summit. You've written a very widely quoted book, not very complimentary of the pharmaceutical industry.

We do not have any pharmaceutical company sponsors of this summit. And you know, we've had a very interesting last three years where We've talked about the pharmaceutical industry and their profits and their ethics as much or more than any other time. So without going down the pandemic road.

Give us, you know, short synopsis of your concerns about the pharmaceutical industry and maybe one example in the last 5, 10, 20 years, you point out is just a disaster.

Well, I've written a number of books exposing the corruption and the incompetence that exists between big pharma and the FDA. They push out drugs that are sometimes more dangerous and what benefits they confer are. But I just want to say something that maybe you and your audience may not agree with and that is at this point in time

until crisp or perfects the ability to lower dangerous lipids in the body if people need to get on a drug like rapa tha or a statin drug based on my 45 consecutive years of watching people looking at the blood test results. If they don't control these afro genic risk factors and they live long enough, typically they'll start getting coronary artery inclusive type problems. This unfortunately is a natural.

I wish it wasn't. But typically you go back even many thousands of years and look at Egyptian mummies, they had atherosclerosis that they have the same kind of diseased arteries as we do today and today we've got medications.

They're dirty drugs, they have side effects but coronary artery occlusion, that's a rather nasty side effect. So I have to say that when we look at someone's blood test results and they're unable to achieve optimal levels of everything and also their blood pressure. If they can't get that down to an optimal range, please get on a medication deal with some side effects but don't let yourself be denied the virtue of some of the beneficial cardiovascular medications just because you don't like drug companies and no one dislikes drug companies more than me.

They tried to put me in jail by the way, I went to the FDA and try to shut down life extension, but I do recognize they make some decent drugs that act at least as a bridge between today and when CRISPR will be available to get rid of all the pharmaceuticals.

I actually think that is a powerful and unplanned uh statement you just made particularly from somebody who's been a major critic of the pharmaceutical industry.

I actually couldn't agree more. I have this reputation as a holistic or natural cardiologist, but I actually spent about half of my time trying to talk people into trusting me enough to write a law low dose of a statin or a non statin.

Or as you mentioned, some of the newer cholesterol drugs because you don't want to die while you're waiting for, you know, some new therapy to come down the road, you gotta protect your arteries. Now this is a lethal disease.

So I agree. And you know, it's informed consent, people need to know the risk, the benefits, the alternatives. But ignoring heart disease can be a very, very dangerous mistake.

It's well, we've seen it with too many people. They do everything right, but they maybe don't control their blood pressure. I've had supporters call me after having, let's say in the scheming stroke, nothing serious. But they had it.

And I said, wow, how did that happen? I'm assuming you get your blood pressure low And they'll say, well, no, I just thought if I did everything else right, I'd be okay. But with aging, blood pressure tends to elevate and the antihypertensive medications like tell miss certain side effects very rare and it just normalizes blood pressure optimizes because normally for older people blood pressure is too high.

Pharmaceutical Critique and Practical Risk Management

So again, recommendations for people have an at home blood pressure monitor, monitor yourself a couple of times a day to know if there are peaks because it's the peaks of systolic elevation that inflicts the arterial damage.

So if there's a certain time of the day, you need to take that pill, take the pill that time of the day to drop your blood pressure down below 1 20. I know you don't have an M. D. After your name, but I actually have this sense that I'm talking to myself right now.

Delemus Arden is my number one prescription for blood pressure when I can't achieve it through every other lifestyle approach. And there are many and I beg people to have a home blood pressure cuff and use it regularly and use it three times in a row, relax. And I regularly post my blood pressure on social media not to show off because it's not always optimal.

It usually is, but it's really to make the point. You're living blind if you don't know your numbers. And of course life extension dot com has a wonderful lab.

You can get your labs done, you can get better labs done with life extension dot com, then you're going to get the most family doctors and internists like lipoprotein little a like homocysteine like coke utan and omega three blood levels.

God knows how do you live without knowing those numbers. I don't can't remember practicing medicine without knowing those numbers now. Absolutely shocking. We'll have people send in their blood labs for us to look at which we're happy to help anyone. And they're still Sparse.

They have maybe 12 tests and and the same amount of money they could have put in an extra 10 or 20 tests that would have really yielded a lot clearer picture of that patient's condition.

As I say, you may take 50 vitamins a day. If I don't take 20 vials of blood from my patients, I'm not doing my job about the numbers. Well I'm going to say be respectful of your time.

You've given us this really powerful synopsis and everybody's just gonna have to go read about CRISPR gene editing Yamanaka factors. I'll put those in the video notes about seen analytic agents and about some of these medications that are available now and could be consideration. So where can people find your foundation and you know what's a website to go to to learn more well to deal with our life extension group or see what we're doing life extension dot com. And then if you're interested in going further than what life extension does, we have the age reversal network and that's a judge hyphen reversal dot net. Uh And that gets you more into these experimental therapies. The rapid mission Yamanaka type factors.

So we have a group within our life extension foundation wants to go way beyond supplements. So we have that that separate groups that we don't pester people with things that they may not be interested in. So age hyphen reversal dot net for information on trials in which they're trying to reverse aging and then like attention dot com for what you can do right now to keep yourself healthier. So you'll be living around the time when these technologies emerge which may only be 5 to 10 years away.

And based on the latest greatest data just published in cardiology journals this week, the kind of supplements you make are saving lives. It's not expensive urine. It is you know scientifically supported.

So I think patients get bashed all the time by medical people for wasting money on vitamins. Yet the research is its life savings. So you gotta get with somebody that knows what they're talking about. But pick wisely and pick a long term.

So thank you again. Have a wonderful wonderful day and many people are going to benefit from this conversation. Tremendous doctor. I appreciate it so much