Introduction and Speaker Background

Hello, everyone. I'm Doctor Sanjeev Goyal, and you're listening to the advanced Anti-Aging and Technology Summit. And today I'm going to be interviewing Doctor Jason Summers.

Doctor Jason Centers has always been fascinated by the machinery of the human frame, and strives to learn everything and everything and anything he can to help that might even help even one of his patients.

Always working to integrate new knowledge and practical experience. In addition to his Doctor of Chiropractic, he earned his diplomat, diplomat of the Chiropractic Board of Clinical Nutrition and as diplomat of the International Board of Applied Kinesiology.

Doctor centers. As one of only 250 professionals in the world with this distinction. He's currently enrolled at the University of Miami School of Medicine, earning his PhD in molecular Biology with a concentration in Regenerative Medicine.

Doctor summers utilizes his combined training in various modalities to create comprehensive programs and help patients achieve their health goals. His patients are dealing with, among other conditions, a variety of autoimmune and neurological conditions, allergies, autism, and cancer.

He combines chiropractic, take hyperbaric oxygen therapy, nutrition, exercise, detoxification programs, and more to naturally support patients and guide them through their health challenges.

Doctor Sanders and his wife, Doctor Melissa Summers, are co-owners of the Core Therapies Family Wellness Center in northern new Jersey, a holistic center with eight chiropractors was partial to.

Specialties include functional neurology, functional medicine, hyperbaric oxygen, pre postpartum, pediatric, and sports injuries. Core therapies also offers acupuncture, massage, infrared, sauna, spinal decompression, yoga, and laser therapies.

They are also owners of new Jersey, HBO and HBO. Team USA. While serving on the faculty of the International Hyperbaric Association, Doctor Summers also faculty member, Med Maps, a group of professionals offering comprehensive education and fellowship to medical professionals for the care of children with autism spectrum disorders and related chronic complex conditions.

I hope you enjoyed today's talk. Without summers, I think it's going to be amazing. Hi everyone! I'm Doctor Sanjeev Goyal and you're listening to the advanced Anti-Aging and Technology Summit.

Today I have Doctor Jason Centers with me all the way from new Jersey. Welcome, Jason. Thank you so much. Yeah. Of course. Thanks for having me. I'm excited to have our conversation together and see where we end up.

Yeah, I saw that your your bios has a huge you've had a huge experience in helping patients with, regenerative medicine and integrative medicine and, helping them to live longer lives.

So, I'm curious about maybe before we get into things, just give us some background. How did you even get get into this space? Because, I mean, your training as it's chiropractors, the background.

Is that right? Yeah. So, originally my background was exercise physiology. I felt like, you know, if I could, if I can get more people, you know, moving their bodies and moving their bodies properly, we could, you know, delay certain musculoskeletal issues or improve performance.

And then I quickly found out that people had issues mechanically that weren't even letting them get to the level of exercise that they needed. So, you know, chiropractic was my way of trying to figure out a better understanding of the mechanics of the human body.

How Jason Summers Entered Integrative Care

As I went through that, I realized, you know, nutrition plays as big a role, if not, bigger role than even some of the musculoskeletal issues, especially from an inflammatory standpoint.

So I really explored a lot of nutrition and nutrition work and started combining exercise and chiropractic and nutrition. And eventually, you know, the the patients that I was helping were pretty complex.

So I ended up going through a whole functional medicine program to really understand those levels of, you know, getting the blood work right and toxicity and, and really helping people at a much higher level with regard to their chronic inflammatory issues or mitochondrial dysfunction, but using more of a natural and nutritional approach.

Eventually that took us to hyperbaric and, you know, to me, oxygen. We'll talk about this later, I'm sure. But oxygen is a nutrient. I look at hyperbaric as a way to dose, a very necessary nutrient of oxygen to our body to improve, you know, cellular function.

And that's kind of, you know, we're still in practice. I still practice, about a day and a half a week, but a lot of our time is spent helping people open clinics, training and educating doctors on hyperbaric and and really trying to get the access.

Because at this point, even now, I think hyperbaric has grown a lot in the last we've been doing about 14 years. It's grown a lot in those years, but really, it's grown a lot in the last two years, and mostly even in the last six months to a year.

And so with all this change in growth, I feel it's really important to make sure that everybody's very well educated on it because it is a very safe tool.

It's a very effective tool. But there are certain rules and we need to kind of understand those rules and stay within them to make sure we keep everybody really safe while providing such a powerful therapy to our patients.

So, you know, that's kind of my transition, I guess. Short story, to where we are today. Okay. Yeah. Let's just dive right into hyperbaric, therapy. So from my understanding, I mean, yes, this is, you know, I've taken the 40 hour course and I'm opening a hyperbaric center right here in Toronto in a couple of months.

But is it that, basically you're giving it high pressure? High pressure or oxygen and that's that's getting to the tissues that this oxygen is getting right, right to the cells in a way that could never be possible in physiologic conditions.

This is causing all types of healing. I it sounds like, you know, people, you know, sometimes hear about these hyperbaric soft chambers. They can get like, can they put it in their house?

And, and I'm curious about the type of treatments. You're doing it in the clinics, but maybe if you just want to give a little bit better explanation than I did about, you know, what is hyperbaric oxygen therapy?

And and you know what what what differentiates the medical version versus what people are doing at home? Sure. It's a great question. So the reason why, even right now I live at sea level, at sea level, there's a well everywhere.

There's an atmosphere. And because of that atmosphere, there's a pressure. And as a result of that pressure, when we breathe in, there's a pressure of oxygen and there's a gradient between the pressure of the oxygen in the environment and the pressure of oxygen in our bloodstream.

And so because of the pressure of oxygen in the environment is higher than the pressure in our bloodstream.

There's a diffusion that occurs down a concentration gradient.

Remember, you know, eighth grade biology, everything moves from high concentration to low concentration. So you know, even right now the reason that we absorb oxygen is due to that gradient.

We could also say that when we go up in elevation, let's say you climb a mountain, everyone says there's less oxygen. Well, it's the exact same percentage.

Air is 21% oxygen at sea level. Air is 21% oxygen at the top of Mount Everest. But there's less pressure. And because there's less pressure, there's less of a driving force.

The gradient that drives oxygen into our bloodstream when we breathe in is much lower at elevation, and it's much higher at sea level. If we took that exact same concept and we said, now let's go below sea level, it's that pressure continues to build.

And one way to think about this is from sea level. If you want it to get half as much oxygen pressure, you'd have to go 20,000ft above sea level to get half the pressure.

If you want it to go to double the pressure, it's only 33ft below the water, so it's an exponential increase in pressure as we descend below sea level relative to where we are right now.

Now, normally under normal physiologic conditions, normal pressure as that oxygen is absorbed into our bloodstream, it's immediately picked up by red blood cells.

And the hemoglobin in the red blood cells carries it to wherever it's going inside of our body. And then again, there's a pressure differential between our capillaries and our cells.

And so that pressure gradient allows oxygen to move from high concentration in the blood to lower concentration in the cell. And so again there's that same driving force that's moving oxygen.

Once it comes back up to our lungs it fills up again. The thing is, is that it has to dissolve in plasma before it could attach to a red blood cell. And then it has to leave from the plasma before it could get off of the red blood cell and continue to, you know, fulfill the cell's requirements.

And so what hyperbaric is doing is it's literally dissolving exponentially more oxygen than normal in the plasma of the blood.

Hyperbaric Oxygen Therapy Basics

So it will saturate red blood cells the same way we do even under normal circumstances. But with this extra pressure, we're creating a larger gradient which allows for a much higher percentage of diffusion.

And then that diffusion, once we get to the cell layer again, there's a much larger gradient. And a lot of that oxygen just offloads right out of the plasma and right into our cells.

And so as important as oxygen is, I mean, literally every cell in our body requires oxygen for energy production, except for the red blood cells that carry it.

And the only way to get more is to use pressure. We can't really get a significant amount of extra oxygen without creating a change in the pressure environment first.

So just, so just I think for the viewers and to make sure I understand it correctly. So when people measure, you know, oxygen saturation with the little devices and most people are 99% means they're already saturate our hemoglobin with the oxygen to max, pretty much.

So the only way to do this in any greater way is to go directly it in the plasma by increasing the pressure. Is that correct? So exactly if if we were on the surface, let's say I was 97% saturated and then I had a green tank of medical oxygen and I put that on my face, I could most definitely go from 97 to 100%, but I'm not really going to get much more above 100% saturated because it's 100% 100.

So the only exactly the only way to get a further absorption of oxygen is to increase the pressure and the dissolving of oxygen into the bloodstream. And I believe that urine, when people go into these chambers at, you know, two pressures or so, two atmospheric pressure, we're talking like an oxygen saturation amount that's like five, six times the amount.

It's in our blood. Yeah. So some rough, rough numbers, you know, two atmospheres with 100% oxygen is about nine and a half times more oxygen than what we're getting around.

So it's a lot it's massive. Yeah. So this is there any is there. The tissues can just take this up that they want this. Is there a question that the tissues don't need all this oxygen.

So that comes up a lot. And so, there could be certain cells that are they have enough and their demand is being met regularly. So it's not you know, we can't say here, go in hyperbaric chamber, here's all this extra oxygen, but we're going to make sure all of that goes to your elbow because that's where you're having your problem.

Right. It's a systemic therapy. It goes everywhere. But there's a few pieces to this. One is, with most chronic illness, most chronic inflammation. And absolutely with any trauma or toxicity issues, you're going to have damage to the capillary beds, either everywhere, systemically or at least in local areas that might be injured.

So one of the things that hyperbaric does, again, because it's a different we're literally bypassing red blood cell carrying capacity. And normally very little oxygen is dissolved in the bloodstream in hyperbaric environments in enormous and all the extra quote unquote, extra oxygen we're getting is dissolved in the bloodstream.

And so if you have damaged capillaries, let's say, on one side and an injury right immediately next to it, the red blood cells, because the capillaries are broken, it's very likely that the red blood cells can't get through.

And if they can't get through, you can't get oxygen to that area. But now that all the plasma is super saturated with oxygen, now there's a way to deliver oxygen to a tissue that was, you know, starving prior to to the hyperbaric experience.

So that's one way. The next way is that when oxygen leaves a capillary, it has a certain distance that it can travel at before it gets utilized by a cell.

And again, in a damaged model or in a, chronically inflamed model. We're trying to penetrate those cells with oxygen. But the distance that it can move is very limited in a hyperbaric environment, the distance that the oxygen is able to move away from the capillary to interact with tissue is four times greater than under normal physiologic, standpoint.

So all of a sudden we're getting more oxygen to an area that was starving. It could travel further than it could normally travel. And then in the last few years, the last 2 or 3 years, there have been some performance studies that were done saying exactly the question you ask, well, how do you know my cells even need more oxygen?

And so they've done a few studies, especially with dual tasking. So, you know, doing a complex motor like a movement pattern of some kind and then a complex, mental, you know, let's say, like a certain math or, you know, doing some sort of mental equations.

So under work, can we perform better if there was more oxygen available. So the question and what they show is whether it's a physical activity or a mental activity from baseline, both show an increase in performance after hyperbaric.

And then they do dual tasking. So you're doing a complex motor and mental, workload simultaneously. And that also shows that there's an increase in performance after the hyperbaric exposure.

So potentially if you're perfectly healthy, which I don't know that any of us are, you have zero inflammation and you're completely at rest. Extra oxygen probably doesn't play a huge role in that moment, but if you have any injuries, old injuries that haven't healed properly or new injuries, or you're chronically inflamed and or you're looking for an ability to heal old injuries or just perform better in your life, the extra oxygen could be massively meaningful in those situations.

So maybe just I want to just, again, clarify for our listeners that when they go like, you know, these oxygen bars are show up in Las Vegas and people are taking these, like, masks.

This is probably not going to have much clinical impact. So like, like a 1 to 3% at most, you know, versus you asked about like, soft chambers versus hard chambers.

Yes, a soft chamber a couple of ways to look at it, a soft chamber, which is something some people use clinically. A lot of times they're using them also at home.

Sometimes they're adding enriched oxygen and sometimes it's air only. So if you look at just crunching some of those numbers, a soft chamber that's air only.

So it's 21% oxygen just like we have right now. But we're adding some pressure. You can get about a 27% increase in oxygen absorption, which is still more than, let's say, a green tank at the surface.

Right. So the pressure makes a big deal. If you added 100% oxygen at that same amount of pressure, you're looking at maybe a three and a half to four times increase in oxygen absorption.

And then there's a whole range all the way up to like two atmospheres, like we were talking, which is going to be somewhere around nine and a half times more oxygen.

And we can go deeper than two atmospheres also if we needed to. Right, right, right, right. So, when you when you were mentioning this, but the impact that happened to in those studies, how long does the, the that you think the treatment effect last, like, is this a half an hour of factors of like, what is that if you were looking you know, we break this down into two categories.

There's a metabolic component to hyperbaric where oxygen is a nutrient. And we're using it to oxidize your food ultimately to make energy ATP in the cell.

And so more oxygen. It's almost like adding an air intake or cold air intake or a turbocharger to your engine. The more oxygen you can get into the system to a certain point, the more energy your cells can create.

So there's a metabolic component to it, and then there's an entirely different category of cell signaling, epigenetic effect. You know, all the, you know, if one of, the reactive oxygen species, all the all the cell signaling that occurs because of being exposed to changes in hyperbaric oxygen.

So if we talk about it just from a metabolic standpoint, we don't really know because we haven't done enough studies to get the exact number. But most people would say it's at least 6 to 8 hours.

Treatment Dose, Recovery, and Performance

It could be up to a day or a day and a half of, you know, increased energy production as a result of the hyperbaric experience. Most of the benefits that people are really using it for, like the androgenic effect, you know, so rebuilding the the, capillary beds, rebuilding nerve tissue, rebuilding muscle and ligament tissue, all the collagen, the fibroblast, the stem cells, all these other really powerful effects of hyperbaric those are traditionally after long term use.

So each each session isn't as important as, you know, the the consecutive sessions where the body starts to consistently see a higher level of oxygen.

And so it starts to adapt and make changes based on that increased oxygen. Oh, interesting. So are you saying it's an additive effect, like something that's, you know, it doesn't have to be necessarily every day, but if you just it's the total number of sessions you do that kind of give a cumulative effect.

Exactly. You know, if somebody said to me, well, I'm only going to do 12 sessions, how should I do it? You know, if you did one session a month versus not that you would do this necessarily, but if you did one a month versus every day for 12 days, the person who did it every day for 12 days will have a much more meaningful effect.

The person who did it once a month will get a little boost in energy production. You know, a little boost of immune function. There'll be some short term, a little boost in antioxidants inside the body like superoxide dismutase and things like this.

So there'll be there'll be benefit of each session. But the real changes, like the things that that are that are literally changing people's lives in the chamber, those are cumulative.

It's definitely additive. And it's over a series of hours over a series of months, typically. So yeah. So just to just clarify that too, you're saying it doesn't make more sense to do it.

Do these sessions in a shorter time period than a long, longer time period. Is that right? Yeah. Most protocols I mean, we get very specific with our protocols, but if you just zoomed out and said like rough average, you know, I would say it's somewhere between 3 to 6 hours a week for about 4 to 6 weeks.

You know, that there's there's a lot of different ways to kind of chop that up depending on what the person really needed. But it's it's looking at it doesn't matter if you missed your session on Tuesday, if you caught up on Thursday, and basically if you needed four hours that week and you got four hours, for the most part, it's going to end up working out because it's really over that 4 to 6 week period that it has to occur.

Okay, awesome. I know that you do, work a lot with like, athletes. And because you start, I mean, from even a kind of a background. So how are you seeing and with performance, like, what type of impact are you seeing with the use of hyperbaric oxygen therapy.

Yeah. So we do it two different ways. One, you might say I want to shift my performance literally in the next hour or two. And the other one is to say, in my opinion, and just with my background in exercise, is sometimes performance has more to do with the fact that we're we're always looking for the balance between, training and our ability to perform.

And so the question becomes, are we are we overtraining certain times or are we under recovering however you want to look at that. And for the most part that's usually the case.

And so if you start to build in more appropriate or more, powerful recovery, modalities, if you're recovering better before each bout, your performance is definitely going to be better the next time.

So we'll do longer, more consistent sessions if we're dealing with more of a recovery side of it. And those are just after after workouts or after, you know, hard matches or whatever somebody's sport happens to be.

Or we'll do shorter sessions literally within 2 or 3 hours of an event to give them that little boost for their event. You know, they made it, they made it illegal.

So, you know, everybody in the sport, everyone's always looking for an edge. And we all know about blood doping. And, you know, this is not blood doping.

Although there are some similar, process in terms of the the purpose of blood doping is to carry more oxygen

ultimately so that you have more fuel to burn as, you know, for your event.

And this is a way to get more oxygen happens to be illegal to utilize it. It's not considered blood doping. In horse racing specifically, you're and horses, you know, in the horse racing world, they use hyperbaric a lot actually for recovery and performance.

You're not allowed to go. You're not allowed to have your horse, your racehorse go into a hyperbaric chamber within 3 or 4 hours of your event. It's actually illegal.

But in humans is allowed like but for humans it's like nobody's really. I mean, I'm sure at some point someone's going to say something about it, but right now it's like, you know, it's perfectly appropriate legal.

It's a great it's a great way to create that performance of. I had another speaker who was talking about oxygen deprivation and cycling with, you know, giving oxygen, like, what are your thoughts on that?

Like, I mean, this I mean, I think I love it all, like, I professionally, I focus a lot on hyperbaric, on the side. I decided, like a year and a half ago to go back to school.

So I'm in the middle of a PhD in molecular biology for regenerative medicine, and I'm really just trying to figure out the whole, like, everything about our cell biology, because I believe that once we fix one cell, you know, the rest of the body basically follow suit.

And so, you know, I'm focused on all these different avenues of cell regeneration. And so oxygen is part of that. Hypoxia is part of that. What you do, what you're describing, you know, red light and stem cells and EMF.

And they all have a, temperature regulatory temperature change, sauna, cryo cold baths, you know, they all have a great place. And it's it's really exciting to start to hone that into, which one is doing exactly what and when do I need that?

Where do I stick it, and how do I organize a plan basically to encompass all of the tools that we might need that all move us in that right direction ultimately.

But there's a huge benefit to hypoxia and hypoxic training or things like, right. Exercise with with oxygen therapy, you're you're cycling intensities of demand, supply and demand.

Your cycling intensities of amount of oxygen deliver. So to me it's not like one is better or worse than the other. To me, every time I have a conversation with a patient or a client that's just looking to implement in their life, the question is, what's the goal?

Because depending on whatever the goal is, determines which of those pieces we need to stick into, into the, you know, into the program. So for some people, hypoxic or hypoxia training is totally appropriate.

And for other people it would be impossible to even do it.

Hypoxia, Hyperoxia, and Therapy Combinations

There's also some interesting thing about hyperbaric, which is and there was a great paper, I think it was in, 2019, that came out. It's a concept that's been around and hyperbaric, but they're really moving it forward to develop it.

But it's they call it the hyper oxia hypoxia paradox. And what they're saying is when you're in the chamber, you're getting all this extra oxygen. That's the part we always focusing on.

That's the part that's the metabolic component to hyperbaric in terms of energy production and all those things that we were talking about. When you get out of the chamber, all of this oxygen is now coming out of your body, but it's not coming out and being, you know, useless.

It's coming out and it's interacting with all of your cells. And that's the cell signaling cascades that, that things get signaled more when you get out than when you were in.

And what happens is, yeah, what's that like oxygen fasting, maybe exactly like that. You go through withdrawal, if you will. I don't know if that's the right word, but your body thinks it's losing oxygen.

And so a lot of the same hypoxic events that occur in real hypoxia occur with relative hypoxia without ever actually having to be hypoxic. And so there are some there are some pros and cons.

I mean, the list goes on. Probably too much detail for, for right now, but, there's, there's great ways to blend all of these therapies together based on whatever the person's goals or, you know, what their health goals are.

Awesome. So the I know this is mostly we've been talking about aging, and I know that you're doing a study on looking at, at, epigenetic, aging and hyperbaric.

Do you want to tell us about that? I'm not sure. Yeah. You know, I think again, going back to the idea here is and I think most of us who are in this field, and even if you're just looking at populations as they're getting older, you know, you see a huge difference.

You know, you might say somebody is 80 years old and they're, you know, they're looking and acting like they're 90 or 100. You know, someone who's 80 years old, who's looking and acting like they're 60.

And there's clear delineations between like, well, what makes one person that end of the spectrum versus you, somebody else on the other end of the spectrum.

And obviously, you know, most people, I think, understand now that longevity is it's happening. You know, humans are absolutely living longer. But we're also seeing like in the case of, like most of my grandparents and even parents, quality of life doesn't match longevity by a long shot.

And so we have all this advanced age, but we don't really have advanced quality. And that's what really sent me back to school. So I'm like, it doesn't make any sense because I know it's possible because we see some people can do that really well.

They have long, long life with high quality, but a lot of us have longer lives and we're losing that quality. And so what what kind of things can we do to start, you know, figuring that out.

And so, you know, to me, if you looked at chronic inflammation and if you looked at most chronic illnesses, all the, you know, the neurodegenerative, the autoimmune cancer, metabolic, so many of these diseases are rooted in chronic inflammation, and they're rooted in metabolic dysfunction.

And it creates an environment that's literally just speeding up the aging process. And I think if we just dealt with those aspects and we were able to reduce people's inflammation, we were able to stimulate growth, recovery and repair.

It's like, what's the difference? You know, I have three little kids, four, eight and ten. You know, they get a cut or, you know, my son broke his arm a year ago like he was out of his cast in three weeks.

We're lucky, you know, we'll get six weeks. And so what's the difference? It's how many growth factors do we have present? How much energy do our cells make?

How much inflammation are we burdened with every day? You know, what's our fuel source? What are we putting into our body. And it's it's blending all of these different avenues in order to improve that cellular function.

So, you know, hyperbaric I think because if you look at wound care alone, wound care is probably the most commonly used, condition for hyperbaric. So you have a non healing wound and, you know, after x amount of six

weeks of antibiotics with increasing intensities, if you're if you haven't healed yet they may recommend hyperbaric yet.

Almost all patients getting hyperbaric for wound care even at those late stages because we delay it so long still respond amazingly. What's happening?

They're healing and they're recovering. They're reducing inflammation. They're rebuilding tissue. They're releasing stem cells. They're rebuilding, you know, the micro vasculature.

So we can get oxygen to the area. It's keeping infection at bay. It's doing all the things that we need to heal that wound. And those are really almost all the same mechanisms that we all need to continue to heal from our life.

You know, the stress of our life, the toxins of our life, the occasional poor choices we may make in our life.

Aging, Telomeres, and Research Directions

If we had a plan to heal and recover faster throughout all of our years, I have no doubt that we would also see an improved quality of life through the aging process.

And so that's really what we're looking at. We're looking at multiple aspects. Telomeres. We're doing, you know, true diagnostics, methylation panel. We're going to be looking at stem cells and reactive oxygen species balance superoxide dismutase.

You know, different measurement of cell function and inflammation control and epigenetic control to see if what is the, what is the actual what is the intervention like, how much I make treatments of hyperbaric and how much.

Yeah. So what we're doing actually. So there was a study I mean, we brought it up earlier, you and I were talking, but there was a study that came out in 2020, specifically on telomeres and hyperbaric.

And so for the audience, you know, telomeres are basically our DNA is all the instructions that our cell needs to function properly. And at the end of our DNA are these tails.

They're called telomeres. And as we get exposed to oxidation or things that are trying to break our cells down, our DNA down, these tails get gobbled up first before it actually reaches our DNA.

And there's an idea that these telomeres play a role in longevity and quality of life, because the longer the telomeres are, the less likely our DNA is being damaged, the shorter our telomeres are, the more likely our DNA will be damaged.

And if we can keep our DNA healthy, then we have a strong set of instructions for cells to continue to function normally over long periods of time. And so in this study that we were talking about, it was, you know, it was, two atmospheres, 100% oxygen.

It was five days a week, 90 minutes a session, I think for two months. And they found in two months an increase in telomere length of 20%, which is one of the largest changes in telomere length in one of the shortest periods of time that I've ever read about.

So that was a pretty monumental study that came out. And we were obviously we were all really excited about it. So I don't think there's actually been anything that's been shown to increase telomeres.

I think they said, maybe high intensity interval training was like a 5% increase, right. But I mean, I think like most people like, you know, if you start doing your your fasting and caloric restriction study, I think you'll see that there's probably a few things.

They just haven't been studied that way yet. But but I, I read I believe that oxygen is one of those things. I definitely

believe that exercise is one of those things.

I definitely believe that fasting is one of those things. You know, that they all stimulate very similar, stem cell production, energy production and detoxification in a way that we're it's really creating like, a blank slate for the body to rebuild from.

And those are the kinds of things that I think stimulates something like, you know, reverse transcriptase to build into long telomeres, you know, so, you know, that was that was an amazing study that came out.

So, you know, we want to we want to do that also again just to, you know, one of the, one of the strongest signs of a good study is that it's replicable.

Right? So we want to replicate part of that to show that, yes, this is absolutely 100% part of what happens when people go through these exposures. The other part of our research is really going to be to look at, because if hyperbaric is missing something right now, it's missing a dose curve.

To go back to those soft chambers, how much do they help us? Do they help us? Can you do you know this treatment at this pressure and the same treatment at this pressure and get the same result?

Or is there some sort of like dose response curve, which is what ultimately what I believe. And so the, the research that we just started is looking at that at different pressures over different periods of time, checking these at intervals to see at what pressure and over what period of time does what happen.

Because that's really we literally don't have those answers right now. And I think those kinds of answers will solidify so much of the protocol misunderstanding.

I think that's out there and hyperbaric right now. So you're going to be checking epigenetic aging as well as long as well as telomere length. Yeah. Epigenetic like the whole there's, you know, that methylation panel.

Yeah. The telomere length. And then, just a bunch of other a cytokine panel for inflammation. You know, we have about 32 different markers that we're looking at all related to inflammation, stem cell production and, epigenetic and genetic protection.

Wow, that's really exciting. So what do you what do you think the next year's looking like? Like what? What do you think it's going to go now with regards to our understanding of, hyperbaric oxygen therapies and.

Yeah, I mean, I think it's it's kind of it's an amazing time in my mind, to be a part of this because not just hyperbaric, so many of these different modalities and protocols and tools and, and, you know, in our practice, especially once we get somebody to a better place and sort of away from their disease process to take them through regenerative processes beyond that is also so rewarding because we're just getting further and further away from, you know, whatever their initial issues happened to be.

But hyperbaric, unlike a lot of other therapies, like cryo as one or, or sauna or it's kind of like once they hit the market, they really just took off.

Hyperbaric has been around for in some capacity over 300 years. And, and literally all the way up until about 20 years ago, like virtually, it was just completely unused in the last 20 years, utilization awareness has grown a little bit in the last five.

But really in the last two years, the interest level, the awareness of the research for, you know, patients are looking for a doctors are starting to implement it.

More clinics are growing all over the country. And so, you know, I see this being and I see this being something that went from very difficult to find someone doing to, you know, hopefully, you know, you can go every corner maybe not, maybe not that often, but, you know, at least every city, you know, we have in we're in new Jersey.

It's not a big state, very populated state. We still have people who travel two hours to come to our clinic. We have another clinic outside of Philly that's about 2.5 hours away.

And it like splits the difference for people, but they're traveling at least often 45 minutes an hour, an hour and a half, two hours just to get it, you know, and that's in, in this area.

So, you know, I really hope and that's why we, we turned our attention to really helping to train doctors, helping to certify doctors. We offer like a 40 hour course.

Like what you took specifically in functional medicine.

Where to Learn More

So we took the 40 hour course and we, you know, sort of reprogramed some of the, the materials so that it helps to focus that material for people like you and I, where, you know, we're not treating gangrene and we're not treating wounds in our clinic.

I don't I don't think you are. I mean, I'm not you know, I'm looking for all these other avenues of where hyperbaric comes into play. And so we our curriculum is really built around that.

And it's doctors to, really firm understanding all the same science. It's all the same gas laws we're just applying for, you know, for our purposes. Okay.

Where should our our viewers go to learn more about the your clinics and the work you're doing? For sure. Yeah. Where should they go? So, our main website is h bar USA, so h bar USA A.com.

We have, you know, Facebook and Instagram or both. H bot USA. We have a YouTube channel also h bar USA, I probably have 110 videos on hyperbaric and certain uses or how to calculate dose or you know, and so everything's reference I have on the, you know, in in the description always the studies that I'm talking about everything is really well referenced.

There. I finished a book about a year and a half ago, oxygen under pressure. So that's on Amazon. So you could, you know, anyone who wants can check that out.

You can always email me doctor Jason Saunders at H about USA. Also, I answer a lot of emails every day, but I don't mind. People are learning. You know, people are curious and people want to learn more.

You know, our main, that main website, Hobart, USA, it's primarily an education website. It's just to get people to understand it better, to understand if it's a good fit for them, if they're the patient or if it's the right fit for them, if they're the doctor wanting to start to utilize this type of therapy in their clinic, that's amazing.

Thank you so much. So inspiring. And I so I think our our viewers are going to learn more and more about hyperbaric. It's going to change their lives.

Thank you. Okay. So welcome. Thanks for having me.