

Harnessing the Sun's Infrared Energy for Natural Anti-Aging and Life Extension

Dr. Joseph M. Raffaele, M.D.
Robby Besner, PSc.D,



Dr. Joseph M. Raffaele, M.D.

Hello, and welcome to another Telomere Summit episode. I'm your host, Dr. Joseph Raffaele. Today, I'm very pleased to have Robby Besner on to talk about photo biomodulation and its effects in health to hear about his journey from helping his daughter with her illness through creating a world-class company delivering this therapy. Rob Besner Sidey, co-founder and science officer of Therasage has always been an advocate of natural health and wellness graduating from Boston University in pre-med, engineering, psychology and business. He continued on to post-graduate work at Case Western Medical School and holistic medicine. After many years' illness, Mr. Besner's teenage daughter was diagnosed with Lyme disease. And he's going to tell you his story about that just briefly in a minute. He is also a professor for the World Federation of Chinese Medicine Societies, an annual contributor at the World Committee on infrared, a member of the education committee of the prestigious Hippocrates Health Institute, and a presenter at many medical integrative and anti-aging health conferences, as well as an invited contributor on many podcasts, online summits, on-air radio and TV health shows around the world. And he's also a bestselling author and considered a leading scientist in the field of integrated infrared technology. Robby continues to research and develop new device in health science applications to bring the power of healing with nature into the world. Welcome Robby, I'm really pleased to have you on. And I always like to start by hearing the interesting stories that brought our interviewees to where they are in their lives at this point and the technologies and science that they're doing.

Robby Besner, PSc.D,

Thank you for having me, Dr. Raffaele and I'm really, really very honored to be part of your summit and to have the opportunity to share my research and some of the great results that we've gotten in our clinic and with your viewership. The backdrop or the, basically, the

underlying story, the impetus, of how we got started was somewhat serendipitous. In a sense, my oldest child, my daughter, contracted chronic Lyme disease in her early teens. And I'm going back about 30 years now. And 30 years ago, the amount of science advancements and applications in Lyme disease was best sort of scratching the surface in a way. So we didn't have a lot of resources in terms of Lyme literate doctors available and advanced methodologies and protocols at that moment in time. So having a medical background in other skillsets, it gave me the opportunity to focus on my daughter's health and looking at or taking a deeper dive into the ways that she was expressing herself. And the ones that became most apparent were high levels of inflammation and toxicity. And so when I kind of unpack that a little bit, I focused on toxicity and the best methods and ways to detox. And so we know invasive forms like dialysis and certain kinds of IV therapies. And then less invasive ones where you're using either a pharmaceutical based or natural homeopathic to stimulate some kind of key lighting process to get toxins out of cells or tissues.

And then I discovered that there are actually wavelengths of sunlight that can mobilize all the toxins in your body and that really intrigued me. So as I was starting to look into that a little further, I realized that there really wasn't a lot of applications for the mainstream public to gather or gain devices and/or protocols in that way. In fact, 30 years ago, infrared therapy and photo biomodulation was mostly used in the sports industry, by sports medical doctors, to kind of lower pain thresholds and improve or expedite the ability for the player to heal from an injury and get back on the field. And so all of that stuff intrigued me, but how does that apply to me and my family crisis at that moment in time? So what I decided to do was organize a trip. I went over to Asia, I spent better part of six weeks. I interviewed more than 50 different factories and started developing devices, mostly for our home use. So our daughter experienced some really great results from them, from these devices and applications.

And her doctors, she had a team of doctors at that point, noticed that and asked that we start to develop these devices for their patients, because most of these practitioners, their practices were almost a hundred percent Lyme disease and co-infections that follow in the path or they traveled together as families of microorganisms. And so, we started to develop these devices and that was essentially the genesis of Therasage, the company. And so now as time move forward, obviously Lyme disease has advanced greatly, not just in the tri-state area, around Lyme Connecticut, which they consider ground zero, but it's fairly well spread across the U.S. and has actually spread, I believe, in pandemic proportions around the globe, mostly because we really don't have a statistical data to support a lot of the cases because Lyme disease mimics many other kinds of infectious diseases. And so it's greatly misdiagnosed and obviously mistreated because of that. But bringing us back to the central point, it is clearly a problem. It's not the one that's in our face today because we've got the pandemic and the COVID challenges

that we're working with globally, but certainly it's in the backdrop and it's one of the big ones up there and one that I think needs a lot more attention to. So it is something that we do focus on here at Therasage and with my company, with my research. Now, what was so unique about what we found in terms of understanding light energy was that basically light is a wavelength and creates a frequency in the body. We call that bio-resonance. Just like sound waves, light waves have a resonance in the body. And certain light waves actually resonate at the same frequencies that our bodies resonate at. And as I discovered and started to dive deep into the research on this, I realized that there were really many, almost a systematic approach that light energy can affect in creating what I call a primal healing platform in the body. And that's really where we have centered most of our research for the last close to 25 years in our company.

Dr. Joseph M. Raffaele, M.D.

Wow, yeah, so that is a really interesting story. You had a need, a loved one, and that created a passion that then you saw how effective it was. Let me ask you just a little bit of a primer on infrared. I mean, we hear about various technologies that are non-medication ones. What's a basic physio, we are about wavelengths and you said it resonates with certain I guess, cells and mitochondria potentially for our sort of fairly educated listeners, how does that work?

Robby Besner, PSc.D,

Well, let me start with the sun and ray frequencies, and there's a full range. They call it the electromagnetic radiation that comes from the sun and it stems from, or it spans from gamma rays all the way to radio waves being the least, let's say the most benign on the body infecting our health. Infrared spectrum sits sort of right in the middle. And it actually represents, or is responsible for heating 82% of the Earth's surface. Infrared frequencies, they're a wavelength. They have three different sections, the near, mid and far, each of those wavelengths do different things to the body. That's what I found so intriguing. And as nature delivers these wavelengths to the earth, actually some scientists like Nikola Tesla and Albert Einstein, they actually, together, did some work, but Einstein did a study in the early '40s that studied the effects of sun thermals on all life on the planet and came out with fairly broad statements that without the infrared spectrum, there really wouldn't be life, both in the plant, and animal kingdom as we know it today on the planet. So that's how important these wavelengths are in stimulating, systematic, primal healing in the body. They're responsible for structuring the water in the body. Well, why is that important? Because when we have structured water in the body, then we have better cellular communication, right? And also having structured water is responsible for what's called protein folding. So we've got trillions of strands of proteins in the body that are looking to get sort of married together and what the glue or the excipient that holds it together is actually a structured water molecule, a single structured water molecule. Absent infrared spectrum, or that life frequency resonating in our body, that water would not be structured, these strands of

proteins would not fold around and we wouldn't have a full protein formed that the body can actually use, which is obviously for people listening, one of the building blocks of primal health. So these are just some of the deeper science that infrared frequencies can do to help heal the body in many ways. And so today's topic is telomeres and life extension are anti-aging and there are multiple systems that infrared frequencies, the spectrum, the full spectrum, can influence in order to support the slowing of the aging process. And mostly just creating a really good health and wellness platform for longevity, or at least for as long as we're here, we're living in a healthy format.

Dr. Joseph M. Raffaele, M.D.

So just a couple of terms that I probably should know, but structured water as opposed to unstructured water. What is that?

Robby Besner, PSc.D,

Okay, well, is the body of work from Dr. Gerald Pollack. Who's probably considered the world's authority on water now he wrote a book about seven or eight years ago that was revealing, called the "Fourth Phase of Water". And in his studies, clinical studies, he noticed that the water inside the body acts differently than water outside. And as we all know, probably from high school days, water is either a solid, liquid or gas, but actually the water inside of us acts differently. Hence, the fourth phase of water. Now, in order for a cell to actually metabolize properly, we need to have structured water in the body. The water acts as a transport system, structured water acts as a transport system to get nutrients into a cell and to allow the cell to export toxins and waste products. So what Dr. Pollack noticed in clinic was that all of his patients that he studied that had structured water that had enough sunlight to have structured water in their body, they were basically healthy. Their cells were functioning properly. They had great vital signs and so forth. The people that didn't get that sunlight or absent that they were more on the clinically sick diagnosed status. So it was very clear to him that light frequencies and in particular, infrared light frequencies were responsible for creating that polarity between sickness or disease and health simply by cell function. And you might agree that we probably get sick on a cell level and we also heal on a cell level. So everything that we can do to support cell health is gonna kind of cascade into general health, general tissue health, organ health and systems health for the body.

Dr. Joseph M. Raffaele, M.D.

So that's great, yeah, that's a great explanation for the structured water. We're mostly talking therapeutic about near infrared, but there's also mid and far. And I guess we think about radiation as generally being bad. Gamma rays are not good, radiation therapy, Fry's things. This is non-thermal radiation and it's generally really good. I mean, from what you're telling me, it's

almost like we need it as much as we need oxygen, but maybe a little slower. You're not gonna die as quickly from it, but if you lived a mile underground for a long period of time, what you're telling me is that you probably won't have as good health as if you got up to the surface more regularly. Am I correct in thinking that way about it?

Robby Besner, PSc.D,

Yes, and I'm not looking to go underground right away, but I think when you put it like that, yes. Probably more obvious for people to know in it. This is a little different range of frequencies. That's more appropriate for the UV spectrum, which is just before natural light which is just before the infrared spectrum. But people may relate to Saars which is a condition of basically light deprivation that happens mostly around winter time and/or in the more Northern areas of the world, whether it be U.S. or European. And that light deprivation, what it does is it creates emotional distress and also people, their bodies don't function as well during winter times. Well, what's happening, it's colder, you're wearing layers of clothes, your skin, which is a photo receptor, is getting less exposure to natural sunlight. Hence all the things that we're gonna be talking about today, and my whole body at work slows down greatly during the winter times, which would suggest that having devices or ways to supplement, just like we do with a nutritional supplement, you can supplement with light.

And in fact, in certain parts of the world, like the Baltic countries, which I have, through my studies, have come to understand that culturally, many of these societies have embedded light frequencies and infrared sauna and saunas in general, for both detoxing, general health and wellness, and to offset the deficiencies that they have in their part of the world because of the azimuth or the angle that the sun touches the earth at that particular time of the season for them. And so light, it's not on the top hitlist like you say, we won't live very long if we don't have water or we don't have oxygen, but no one really thinks that if we're light deprived that, in fact, it would create a physiological challenge for anyone, but in fact, it does. And it does move in a much slower pace. Meaning the withdrawal from light frequencies will show its symptoms in a way, a lot differently than they would from starving from food, water or oxygen.

Dr. Joseph M. Raffaele, M.D.

Yeah, that's interesting. I mean, it's known that higher latitudes have increased incidence of autoimmune disorders, infections, and chronic diseases. Some of that was thought to be from lack of vitamin D, but it's probably more than that and quite likely is. So that's a really good explanation. From getting down to the cellular, sort of molecular level, how's it working, for instance, I mean, seasonal effective disorder is, I mean, I certainly understand that and I want to get out of New York as soon as I can after the holidays. And I do use light therapy so I think it's definitely a real thing. If anybody suffers from it, that's absolutely something important to do.

But at a cellular level, the structured water makes things, I guess, function better. Is there more molecular detail that we know about in terms of epigenetics, gene expression, mitochondrial health, that gives the benefit? And then as a secondary question, how is that harnessed to deliver therapies?

Robby Besner, PSc.D,

Well, it's interesting because as we unpack the different wavelengths within the spectrum, so you have near, mid and far, you referenced near infrared earlier. If, for people that would be researching today, there's a big range or a big divide between the effects of near and the effects of far. Of course, the providers that make far devices will say they're the greatest, the ones that make the nearest say they're the greatest, the approach that I've taken is more of one following a page out of nature's playbook, because the sun delivers or nature delivers infrared in a full spectrum, that's both near, mid and far. And what we did from a research point of view, NASA actually publishes the amount of these frequencies, which are measured in nanometers up until a thousand nanometers and then there, turns into a micron. So the full spectrum of infrared is from 600 nanometers to almost 20,000 nanometers or 20 microns. Now, that being said, these different wavelengths, it's almost like a step like a FM station. They all dial in with specific frequencies or a specific nanometer frequency measured, and they all do different things. And so the near frequencies are principally responsible for things that are skin related, skin and around three centimeters deep is the general penetration. But they also will stimulate mitochondria, which is the ATP/ADP cycles, circadian cycle, and also is the powerhouse of the cell. And so that's very related to anti aging and to the length of the telomere, because if we can do something like bringing in near or infrared frequencies to the body on a regular basis, then we can extend the telomere length.

We can support mitochondrial and cell energy, which really is a really important system in order for us to all be healthy and to support our immune systems and various different other systems. It all starts and comes from the cell. So the near frequencies do that. They also produce a natural transient gas, one of the three that the body makes and it's called nitric oxide. Nitric oxide is, two things, it'll create vasodilation, which increases metabolism. Also something that is great for anti-aging because the more we can move blood around, the more exposure to our tissues of whatever nutrients are in our blood, which are the DNA/RNA factors, as well as a new chance for supporting cell health and tissue health. And so increasing metabolic rate is very important, both on a micro level, which would be your capillaries, so smaller ones, which is more appropriate for the near frequencies, but it also triggers the hemoglobin or your blood cell to grab more oxygen when you make it available. So wonderful synergy or stack would be to marry nitric oxide and more oxygen like ozone therapy, for instance, or hyperbaric therapy. And so if you have near frequencies and/or a nitric oxide supplement, and you combine that

with an enhanced oxygen source, then you're really talking about changing the chemistry of your physiology on the inside. Which obviously manifests in many different ways in helping the body keep a stable microbiome, for instance, which affects your GI tract, which also supports your immune system. I mean, there are cascades of influences that the area that we're working in can help to support good health.

Dr. Joseph M. Raffaele, M.D.

Well, that's it. I mean, I've had hyperbaric oxygen therapy expert on and a hydrogen water expert on, and various people that have these different modalities and they seem to be that there may well be some significant synergies. Do you know of any papers looking at them working together has your company done any research on putting them together? Because it's something that you certainly could do in the larger hyperbaric oxygen therapy chambers. But if you haven't, then the next question I have really is you said potentially lengthening telomeres. Have you seen any actual lengthening of telomeres in studies? Telomere attrition slowing can happen from many different ways. Pretty much everything that's good for you, slows down attrition of your telomeres. And that's because of reduce oxidative stress and more antioxidants around et cetera, more mitochondria, better mitochondrial function. But have you seen actual increases because they have published that for hyperbaric oxygen therapy. What one group in Israel published that recently. Have you seen any of that?

Robby Besner, PSc.D,

Well, we see a lot of studies in different areas. Like for instance, we dock signaling molecules. Many of these systems just like nitric oxide and redox signaling molecules, as we start to age, and generally, I don't know why this is, but the precipice seems to be late twenties, early thirties, that at that point, as we're aging, we make less nitric oxide, our body produces less of these redox molecules. And so then, following that train of thought, we're getting more oxidative stress and we're getting less oxygen in our blood, our blood's ability to hold on to oxygen and this all contributes to our aging process. And so you can easily extrapolate that if you can supply more oxygen to the blood and/or you can supply more redox molecules as infrared frequencies do. And that kinds of science has been researched, has been proven in clinic and also expresses in the way that patients respond to this kind of therapy in terms of healing themselves from potentially infectious or chronic elements. And so, they kind of all work hand in hand. And some of the specialists, and I'm very fortunate because in my small area humbly said, I've come in contact with some of the greatest minds in the areas of research of nitric oxide. For instance, Dr. Nathan Bryan has a company and he is the protege of the Nobel prize winner who discovered nitric oxide, personal friend, has developed supplements. And we actually stack and use these protocols with some of the devices that we've developed in our company. And so when we interview a patient and they present themselves with certain symptoms or we work with a

doctor in their clinic, as we dialogue with them and get a better understanding of what they see in their clinic in their normal demographic, we can easily show them protocols that we've developed and the devices that we pair them with in our body of work that will enhance the efficacy of that platform or the system that that doctor and/or that clinic is treating with their demographic. And so we have seen in many areas, we use different kinds of testing equipment besides the electronic testing. We also use heart rate variability as a noninvasive way to understand exactly how the autonomic nervous system is affected by our body of work or the infrared frequencies. By the way, our approach has been a full spectrum approach. And so in nature, the sun delivers a near, mid and far in a certain proportion. It does change or vary, almost second to second because our atmosphere becomes a lens and/or a filter that actually changes that cocktail. But what we did as a company on the research side was we took the first and second standard deviation of the data that NASA has produced to show us how much of these frequencies and in what proportion they come to the earth on a daily basis.

And that's been sort of our secret sauce behind the way that we develop our technology. That being said, three years ago, I have been teaching for more than 20 years at Hippocrates Health Institute here in West Palm Beach in South Florida. And I teach in a room that has a big mural of Hippocrates. And it was bothering me after like the first 18 months. And I thought to myself, one of his big sayings is food is your medicine, but the food of Hippocrates' day is much different than the food of today, right? So in our environment. and so you mentioned epigenetics, a little earlier, the way that our lifestyle choices and the environment that we're living in these days affects our DNA and RNA and the way that we express ourselves. And so I decided to shift a little bit from the playbook that nature gives us on a daily basis to really adjust to the times that we're living in. And in doing so, our latest iterations of our own research and development has been in devices that actually incorporate more of the near frequencies in proportion to then what was normally delivered by nature. We've actually dialed up more of the near frequencies to address mitochondria stress, oxygen problems and so forth.

And so I believe that we're living in a dynamic time and we're also living in a very dynamic environment of which our bodies are all- We're seeing it in every different way. Chronic disease is off the chart the direction of the actual ascension of the growth of these various areas of the chronic disease areas are ascending. And they're not coming down with all the money and all the research that we're putting into this. And so I think in through the evolution, we're not just seeing advancements, but we're also seeing in the advancements of the way that our environment is affecting, and our choices are affecting our overall health. That's really what the deeper statistics are showing us. And what's really alarming to me, is that the ages that people are being affected by their environment are coming down. So we're seeing, you may see this in your clinic as well. We're seeing, women in their early teens showing signs of infertility, men, 18

or less, that have low testosterone levels. This is not a genetic expression, this is more of an epigenetic expression. And I think we have real solutions that are not expensive, but it starts with us talking like today and creating more awareness as to the ways that you can stack different kinds of interventions to create a much greater result than just the single ones by themselves.

Dr. Joseph M. Raffaele, M.D.

Yeah, that's very interesting, the work with Dr. Bryan that you've done. Of course, I'm aware of him and used his products in my practice all the time and myself they work great too. To be able to couple that with the infrared therapy full spectrum. I mean, when you're talking about how you've moved towards more of the near, even though there's a full spectrum of infrared that comes through. We evolved as a species in an environment where we reached our peak of health around age 25. And the vast majority of us were gone by age 45, certainly 50. Yes, some live to be 50, 70, 80, but we're optimized for perhaps the needs of that full spectrum in those proportions when we're that age. But as we get older, we may need more of the near, and that's what your research is showing. And we're a species out of its natural environment. And so thinking that way, I think is actually the right way to think about it because we don't move around as much, we have these decreases, probably more rapid decreases in longer time for decreases in NAD, the redox molecules and nitric oxide to decline. So I think that's really fascinating. Let's talk a little bit about- I know there's conditions that can be treated with infrared therapy. The overall aging process, what would you say would be, for somebody who is functioning relatively well. We all have our strong systems and our weak systems, but what kinds of protocols, what kinds of things, and what kinds of devices, and then also what kinds of results would you expect for someone who wants to be proactive about their aging process, improve their performance, slow down their aging, and perhaps through all that, affect their telomere length?

Robby Besner, PSc.D,

Well, that's a loaded question, we probably would need more than just today's interview.

Dr. Joseph M. Raffaele, M.D.

Well, I mean, it's a start. I mean, cause let's say I'm asking you as somebody that's thinking about, and I have many patients who are asking me, Dr. Raffaele has a lot of devices out there. What should I be looking for? What's the best one? Are they the ones you stand in front of, the ones you wear, what frequency? I know there's obviously that's a hot area of controversy that you mentioned earlier. But some basics about what one might consider if one wants to avail. Because I know that one of my patients, I look at many, many biomarkers of aging from the vast majority of ones that you've seen in the literature. And one of my patients that's doing the

best and actually reversing her aging from many markers is employing fasting, PBM, PEMF, various other things she's on hormone therapy. But a lot of my patients are on hormone therapy. A lot of them were on telomeres activators. And so I think it's coming to where there's a multi-modality approach to this, I think is going to be really important. So I know it's a longer discussion. People can go to your website, I'm sure, to look at the options. But I mean, how often would you stand in front of a light or have one on you for general improvement of mitochondrial health? And then we can talk a little bit about skin. I was curious about that because I know when I go to my dermatologist, they have me stand in front of a light for a bit. And, usually with dermatologists, they're like vampires don't stand in front of any light. So with that, maybe take a stab at.

Robby Besner, PSc.D,

The science on light has changed quite a bit too. And I think before, well, I'm in South Florida, so here they want you to slap on these carcinogenic sun blockers, before you even step out into get into any sunlight because of potential harm with carcinomas and various different skin related challenges or damage. I think the big ones in terms of my body of work would be probably the ones that affect aging in general, like better sleep, better diet and toxicity is probably the biggest one. We're living in a toxic environment, people know that. When you can have a food source and I'm not against Twinkies by any means, but when you can go to a gas station buy a Twinkie, that's got a shelf life of 500 years, you start to wonder exactly what actual natural nutrients are in that Twinkie, okay? Again, nothing against Twinkies. So, but in terms of toxicity, the body absorbs toxins in many ways. And for the most part, the ones that are environmental are the ones we will then take in through basically water, food, and air and absorb a lot through our skin.

And the layer of fat just under our skin actually will hold close to 70% of our toxins. So, in the detox process, one of the devices that we make in our company is an infrared sauna, for instance. And there are other sauna competitors and device developers out there and they make pretty good devices. Again, we've taken a full spectrum approach, which is different than some of our competitors do. Mostly again, because we're trying to harness nature's playbook. And in our belief system, there is something in full spectrum for everyone out there. Because similar to vitamin C, the body will absorb what it needs and what it doesn't it just sort of spills out. And the same thing with these light frequencies, you can't get too much of them. Whatever you need or whatever the deficiencies are, the body will take that again, from the full spectrum when you offer that. And then whatever it doesn't need, it, just through the process of homeostasis, will actually just let that frequency go. And so we got all the benefits without any of the drawback. It's quite revelating. Now on the detox point of view, and the only caveat to this is let's say, for instance, enter a sauna, if we had an older person, an aged person that was

presenting very fragilely. I wouldn't necessarily throw them in an infrared sauna and tell them to stay there for an hour, even though that's what they need. It wouldn't be where I would start similar to if I were a swimming instructor, I wouldn't throw you into the deep end of the pool without a life preserver. I'd probably start you off in the shallow end. If you were really presenting fragilely, then I may have just put your toe in the water, where you got comfortable with the depth, where you got comfortable with the temperature, and then gradually walk you into the deep end. So we are a very conservative, we're a very low and slow process in our protocols so that we are able to check in with the practitioner, the leading practitioner in mind and also with the patient, making them aware of exactly what signs of detox and recovery they're going through so that they aren't alarmed, number one and secondly, that they can adjust accordingly. And so hydration is a big part of this. Earlier, we talked about light frequency structuring the water. But many of us, even today, we're a body, we're a country that drinks a heck of a lot of water, but we are not cellular hydrating.

And the reason why we're not cellular hydrating has to do with sunlight, because if we are deprived from these frequencies, then we're not structuring the water so the cell isn't actually holding onto that water. And so it's not using in the right way. In fact, the water is just passing through us. So that's important for us to know. And in order for us to detox properly, we have to be hydrated and so that's in our protocol. But you asked the very important question, how long do you stay in front of the light? And so it really depends on your end game. What are you looking to try to achieve, right? Like in any kind of diagnosis and protocol. And so, generally speaking, for the average adult, it takes close to eight minutes to get enough infrared frequency in their body for there to start a physiological event.

And so we look for a threshold, at least in the beginning, while we're acclimating for something between 20 and 30 minutes at a very good heat or easy heat around 125 degrees Fahrenheit to 130, which is really just maybe like 22 to 24 degrees higher than your normal core temperature. So it's not enough to cause heat frustration, like the other kinds of saunas per se, like a hot rock sauna or steam room that are 185 to 200 degrees Fahrenheit, or some people have even trouble breathing in those hot environments. Where infrared sauna, you get absolutely just the opposite. If my schedule could permit, I would probably stay in it for hours on end because of the benefits. But again, I've been doing infrared sauna for close to 25 years, almost every day. And it is important to understand that this type of therapy or photo biomodulation is a cumulative kind of therapy. So the more you do it, or the more often you do it, let's say daily and the time and temperature you do it, will make all the difference in the benefit or the result that you get. So a great analogy is this Dr. Raffaele, do you have any animals in your home? Do you have a dog or a pet of some sort?

Dr. Joseph M. Raffaele, M.D.

Yeah, a cat.

Robby Besner, PSc.D,

Okay, so let me ask you when your cat is comfortable in your home or your apartment and it's Sunday and you guys are just waking up, your family is waking up and then you open up the shades. Do you ever find your cat or your animal and people out there listening could maybe be able to relate to this. They kind of meander from their pet bed or wherever they were comfortable and they sort of move towards the window or the glass or the sliding door. And then they do one of these things where they kind of roll around and they kind of bask in the sun and so forth. And so, can you relate to that with.

Dr. Joseph M. Raffaele, M.D.

Yeah, no question, they're always looking to find out where the light is shining in and they'll go curl up there and they'll move with it, I definitely noticed that.

Robby Besner, PSc.D,

Let me ask you, did you teach your cat how to do that? Did you train your cat to do that?

Dr. Joseph M. Raffaele, M.D.

No, of course not, it's just something they do.

Robby Besner, PSc.D,

So here we are. Like a child or animal they're showing us the playbook. Like here we are the most intelligent, high end of the pyramid, right? Yet, we don't meander ourselves, we don't find ourselves going over to that same pane of glass, getting that sunlight. What they're doing is what nature gave them that information to do. Which means we are light beings, all animals and plants on the planet. And so we need infrared spectrum every day in order for us to be healthy, a certain amount of it. Generally it's somewhere between 20 and 30 minutes for the average adult. But the caveat is that in our busy lifestyles, we don't get out. If it's winter time, we hardly get out at all, maybe, to get that sunlight. That's why we need to supplement or understand that in order for our body systems to function, our immune system to be supported, many of these, even on a cell level, mitochondrial health, natural production of antioxidants, things of that nature, we need this sunlight. We need at least 30 minutes of it every day. And so as a company, we developed techniques and devices and protocols that allow us to enjoy our lifestyle busy lifestyles, and also get what we need from a physiological point of view to be healthy every day, at least just to create that healthy platform.

Dr. Joseph M. Raffaele, M.D.

So that's a really interesting anecdote about the cats or animals in general. And I think you're absolutely right. I'm like that, I'm always looking for the sun. But in terms of, just a little bit of confusion in my mind and forgive me, I'm a neophyte at this. There's infrared light and there are these things that you can stand in front of, they don't necessarily heat you up and then there's infrared sauna. I take it that you get the benefit of the infrared with these things that can give you the frequency of light, but then there's just added benefits sitting in a sauna that also warms up as well, or for those that don't have the space or can't afford that then standing in front of a light or there's also ones that they drape on you. I know that for a while there, for my hair, they put one of those caps on that gives you- That's, I guess, a little bit different, but it's essentially photo biomodulation as well. There's a difference between those two, the sauna part is additive to it and you can still get quite a bit of benefit from- And it's the same amount of time, I guess, standing. And you have protocols in different devices for all that or?

Robby Besner, PSc.D,

Let me explain to you, maybe we'll dive a little bit deeper on that because it's important for people to know. So there's basically two delivery systems, there's convection heat and then there's radiant heat. Infrared is radiant heat, that's light waves and wavelength. So the sun delivers radiant heat or these wavelengths to the earth and it does not heat up the ambient air, the atmosphere between the sun and the earth. It just shines on the earth and the frequencies are absorbed in the earth. And in our bodies, they're absorbed in the densest parts of our bodies, which is our muscle mass or organ tissue. And so, as opposed to a hot rock sauna or a steam room where you have an element that heats the ambient air up, and then the air touches your skin, and it has to warm your skin at a very high temperature in order for it to pierce through that insulating layer of fat under your skin that's designed by nature to protect our insides from extreme heat or extreme cold.

And so infrared works differently because it actually resonates like earlier, we talked about the frequency as well. There's a frequency of water inside of our body. And the infrared spectrum actually resonates at the same frequency as the water. And so almost 72% of a fat molecule is water. And so when an infrared ray or wavelength comes into the body, it actually resonates, called a bio resonance, it's a vibration. It penetrates right through that insulating layer of fat. So hence, we don't have to have a high elevated temperature in order to get all the benefits, right? And it now comes into the body and it's resonating. It's actually vibrating in an organ or a muscle tissue, which are the most vascular parts of the body. And so when that vibration actually liberates heat, warms up that area, warms up the vessel, creates vasal dilation. Now,

we're increasing metabolic rate, your blood flow, by close to 15%, almost 20%. And all the attributes that go to that, better oxygenation, better nutrition, or potentiating nutrition by your tissues and organs and so forth, cells of the body. And so all of these functions are all circled around these wavelengths. And so, yeah, they work in that way.

Dr. Joseph M. Raffaele, M.D.

So the sauna then, sort of just combines them when you're in the box, combines the- It's warm inside there as well. And then there's also the infrared, so it's a combination of those two. When you're standing in front of light, do you feel warm? Not on your skin, I guess, but you feel warm inside. You start feeling warmer inside you. Okay, and it doesn't matter whether you're- You said three centimeters deep or does your full spectrum go deeper?

Robby Besner, PSc.D,

The near frequencies will penetrate three centimeters the far frequencies will go somewhere between six and eight inches, depending on the density or the BMI of the patient as they present themselves. And so that varies from person to person. But generally that can be adjusted by time and temperature. And the temperature will promote sweating, which is one of your best detox pathways. If there were one only one thing we could talk about that would be today to extend the aging, slow down the aging process or extend your life. I'd have to say, given today's environment, if we can lower your toxic burden on your body, which also lowers inflammation and keep your body hydrated, we're going to improve your overall profile greatly. And so that's the big message. And infrared sauna, using it regularly will help detox the body, keep your detox pathways open, help support your immune system. It will also affect your autonomic nervous system, shift you from sympathetic dominance, that fight and flight very anxious feeling to being less stressed, more relaxed. We all know from therapy and clinic that when your body is in parasympathetic mode, your body will receive almost any therapy and embrace it in a much greater and more sustainable way. And so by simply going in a infrared sauna, and in our protocols, we suggest that you follow nature's playbook and go in the earlier part of the day, almost when you wake up, similar to the way our ancestors way back when, 8,000 years ago, we lived on the land. We lived in tents and caves, and we woke up to sunlight. It woke up our body systems. This is the power of what we're talking about when we're harnessing natural sunlight and particularly the infrared frequencies.

Dr. Joseph M. Raffaele, M.D.

Wow, so that sounds like it needs to be done pretty frequently. In terms of, I'm just curious about, I know there's lots of studies looking at applications and various conditions. Are there any hard end point studies looking at sort of markers of the aging process and say a six month

course, or even eight week course of infrared therapy on you name it, some process of the aging process? I'm not familiar with the literature.

Robby Besner, PSc.D,

Well, again, we've taken a more systematic approach. In all of our work, we have proven our own work in clinical applications. But we back it up by pub med and various different articles and research and assets from the New England journal. There are many, many publications that we can reference. And I'm very happy to supply that to you in any area that you feel comfortable to give to the audience so that they can feel comfortable researching and understanding exactly how deep the science is on my area or my body of work. So, yeah, were happy to do that. The other area that I think is really important, and it really comes under the bigger category of stress, which also affects our aging process. And today we have another stressor out there, a more modern one, which is the effects of the exogenous frequencies that we're being influenced by like bio magnetic fields. And now the newer one that we've been doing a lot of research on, which is extremely low frequencies, coined as dirty electricity, they call it.

But all of those manmade frequencies do affect us. So today we've been talking about a whole bunch of frequencies, sound frequencies, light frequencies, well, there are these manmade frequencies and EMF, 3G, 4G, now 5G is our government and the military are actually posting 7G and 10G amplifiers on the same micro towers that they're delivering our phone systems to. So the challenge here doc, is that we can't see them, hear them, smell them, taste them. But we can see certain ways that it does affect us. Now, for instance, there's a practitioner in the Pacific Northwest named Dr. Dietrich Klinghardt and he's done a blood study where he studies the effects of microbial activity in the blood, meaning that a microbe, a parasite, a mold, they will in their life cycle, they basically die, that's a toxin. They have biofilms that surround and protect them. And they also poop, which is either a neurotoxin or a microtoxin that can be measured in a blood study.

And so what Dr. Klinghardt did, was he took 200 patients, half of them or a hundred were from the urban areas and a hundred were from the rural areas, all basically drinking the same water, breathing the same air and eating the same food. But the difference, dramatic difference, is the concentration of microwave towers and cell towers in the cities versus the rural areas. Well, it turns out that when we measured the microtoxins, there was 85% to 90% higher levels of microtoxins and neurotoxins in the blood serums of the people in the cities. And the only way we can explain it is that these exogenous frequencies are actually energizing the bugs and the bugs are replicating, they're using more of your body resources and they're pooping more. So, this is fairly significant on a stressor that is more modern, but still affects our aging process greatly because stress is a big one. So infrared frequencies will pull the EMF that the body is

holding. We, as a company, started studying and remediating EMF almost 17 years ago. So we are very advanced in our own applications and the way we remediate so that when you're sitting in or using one of our devices, you're getting the pure frequency that as the sun delivers it, not all the manmade effects like the electronics and the EMFs that might come from the device itself. And so you're getting all the therapy without any of the full drawback. And I think this is important for people to understand that the body is affected by all these stressors. And of course, ultimately it rolls up to affecting us in our aging process or our ability to maintain good vibrant health to almost our last breath.

Dr. Joseph M. Raffaele, M.D.

Well, that's, I think, a good way to close our discussion, unless you have some final words you'd like to say. This has been a really fascinating conversation, an area that I definitely want to learn more about having lived in New York City for the past 25 years, bathed in all sorts of electromagnetic and other kinds of toxins and pollutants, it's time for me to do more detoxing. And so do you have any parting words? And certainly you can just say your website is therasage.com, is that correct?

Robby Besner, PSc.D,

Yeah it is. You can get to us by our 800 number, which is 888-416-4441. You can email us at info, I-N-F-O at Therasage T-H-E-R-A-S-A-G-E .com or go to our website. We also are public on Instagram and Facebook and so forth. So you can contact us that way. In parting, we're living in a sort of a tumultuous terrain these days, both environmentally from socially, politically, all that stuff. It seems to be hitting all at once. I think that you can easily be overwhelmed. We have a tendency as practitioners, to focus on and compartmentalizing the challenges that as a patient presents themselves. I think it'd be nice to take a little bit of a step back and look at things more holistically and more systematically that how things affect each other. And I'm happy to be here today to at least introduce the idea that you can harness sun energy as we have in various different devices and applications and the appropriate protocols to improve the efficacy of whatever the doctors are doing that are listening today are doing currently in their clinic. And almost there's something in it for almost everyone. And so I love that, because we don't believe that our position and our body of work is instead of any practitioner. It's really, we work hand in hand with the practitioner and the patient to try to improve health and general awareness. And it starts with education and that's why today's session and today's interview is so important is to just introduce the idea that there are actual modalities and interventions out there that are affordable, that you can easily integrate with your current protocols that will make a magnificent difference in the end result. And we both know that oftentimes, just the order that we do a protocol and/or the way that we dose the protocol can make all the difference in a moderate result or a fantastic result. And so let's go for a fantastic, right?

Dr. Joseph M. Raffaele, M.D.

Yeah, absolutely.

Robby Besner, PSc.D,

And I'm all for it, we're all in. We're readily available and we work hand-in-hand with the practitioner, and I'm very, very grateful for you asking me to be on this interview and to join your summit today.

Dr. Joseph M. Raffaele, M.D.

Thank you very much again, and I look forward to running into you perhaps down on the beach in Boca sometime soon.

Robby Besner, PSc.D,

Come on over, the water's fine.

Dr. Joseph M. Raffaele, M.D.

All right, take care.