

SaunaSpace: Detoxification With Near-Infrared Light: A Special Interview With Brian Richards

By Dr. Joseph Mercola

JM: Dr. Joseph Mercola

BR: Brian Richards

JM: Welcome, everyone. This is Dr. Mercola helping you take control of your health. I am very excited today that we're going to be discussing an issue that is near and dear to my heart. That is not infrared, but near-infrared sauna detoxification. Because I am of the belief, as are many other experts in detoxification, that it is an essential, integral component of that. But not only for detox, but so many other biological benefits.

Today, we are joined by Brian Richards, who is also equally passionate about this modality. He doesn't really have any formal health training, but has provided a resource that I think many could benefit from. Welcome and thank you for joining us today, Brian.

BR: Thank you for having me, Dr. Mercola.

JM: Okay. Great. I'm so excited you're here. We have so much great stuff to talk about. I guess it might be best to differentiate the different types of infrared saunas. The vast majority of infrared saunas are far-infrared. Well, I still think it's a useful challenge. Unfortunately, there are some downsides. Why don't you elaborate on those?

BR: Well, most people understand what they see as an infrared sauna is indeed a far-infrared sauna. Far-infrared, near-infrared – It's the differences of wavelength. Near-infrared is more high-energy. It's closer to red, so we call it near-infrared. That's what an incandescent sauna is. But that's not what the typical infrared sauna is. The typical infrared sauna is far-infrared, which are the very low-energy infrared wavelengths. They start out at 3,000 nanometers (nm) and up from there. There's no photobiomodulation (PBM) from these wavelengths. They're only heating the body. It's a very small portion of the sunlight's spectrum. Actually, only a few percent of the solar radiation is far-infrared. The biggest portion of infrared in the sunlight spectrum that reaches the Earth is near-infrared. There are so much more going on with near-infrared.

JM: What's the percentage of near-infrared? You've mentioned the far-infrared is at a few percent.

BR: I can bring that up in a second. I think with sunlight, it's about 30 percent or 3 percent.

JM: Wow. I didn't know that. Yeah. When I first met Brian at Bulletproof in 2017, I didn't believe in what he was doing and really challenged him for half hour, just dialogued back and forth. I think it was about that time, wasn't it? You remember that?

BR: Yeah, yeah. You came up and you were very skeptical.

JM: I wasn't arrogant. At least I tried not to be. I was just seeking to understand what your position was, because I knew you were good at it. You really enlightened me, because I was confused about some basic concepts. I suspect many people watching this are too. You now confirm that 30 percent of the spectrum is near-infrared, the sun's spectrum.

BR: It's about 40 percent. These are raw figures, but about 40 percent of sunlight is near-infrared, so the majority, really, the majority of the sunlight's emission is near-infrared.

JM: Well, not majority. Majority's over 50. But a significant percentage.

BR: The biggest portion if we're looking at visible light versus far-, near- and mid-, comparing all of it. A huge part of our evolutionary context is getting so much of our light as a near-infrared wavelength every day.

JM: Yes, yes. Let me just take a slight tangent before we go back to the differences again. Traditionally, being exposed to sunlight is thought to be almost universally due to the benefit of ultraviolet-B radiation, stimulating the production of vitamin D. But what almost everyone leaves out is the near-infrared and its impact on PBM. Please expand on that.

BR: Yeah. PBM is simply light activating biological systems. You have to have a light receptor protein, which we call a chromophore, in the body to receive the light and have it activate some biological process.

The most well-known form of PBM is in the mitochondria system. The mitochondria has the light-receptor protein, the cytochrome oxidase. It's one of the main cellular respiration. The main mitochondrial proteins, it turns out it receives light. It has absorption bands only for near-infrared light and visible red light as well.

This very narrow bandwidth of the sunlight is not just heating our body or, in terms of ultraviolet (UV), promoting some kind of vitamin D production. It's, in fact, activating entirely different healing system in the body. Since we have mitochondria in every cell of our body besides red blood cells, it's a core restorative healing system. There's just so many benefits to it. Again, it's something that we had every day, naked under the sunlight.

JM: Absolutely. At least for those who live close to the tropics or the subtropics, and then those in the winter too.

BR: I don't know where that is anymore.

JM: Alright. Thanks for expanding on that. Actually, mitochondrial function, the electronic transport chain specifically, has been one of my recent passions, and really how to improve and upregulate its function, so that you can decrease electron leakage, reactive oxygen species and oxidative stresses.

Believe me, I'm deep in the molecular biological literature. It's very, very rare to ever find any study that addresses the near-infrared component to mitochondrial function. I mean you almost

got to go to their PBM, which used to be previously called LLLT, low-light laser therapy, but now it's PBM. It's the more accepted term. Can you summarize that? Other than what you just said, or is that pretty much your understanding of it?

BR: Well, yeah. This near-infrared activates the mitochondrial chelating systems in the cells, but it does a lot more than that too. If we're comparing near-infrared to far-infrared, one of the big differences has to do with penetration into biological tissue. We have this concept of water absorption. Water absorbs different wavelengths to different degrees. The water absorption spectrum actually starts at about 980 nm, the "first overtone of water" it's called.

Right when we get in the middle of near-infrared, it's only then that water begins absorbing wavelengths of light. But it's a continuum, so once you get out of near-infrared, once you get to about 1,400 or 1,500 nm, the water is almost entirely absorbing all of the wavelengths. Once you get out to mid-infrared, and certainly when you get to far-infrared wavelengths, they're 100 percent absorbed by water.

Many people maybe are not aware of this, but far-infrared wavelengths for that reason do not penetrate biological tissue very deeply at all. Far-infrared sauna using far-infrared wavelengths is essentially surface heating you, and heating you in a conductive fashion. The near-infrared wavelengths, because they're at the beginning of water's absorption spectrum, they've been shown to penetrate up to 100 millimeters, but on average, at least several inches into the body. With near-infrared wavelengths, we get radiant heat. We get penetrating heat. This is a much more efficient way to heat biological tissues. That's another key difference that near-infrared has from far-infrared.

JM: Thank you for explaining that, because that is a massive source of confusion. Actually, I would even speculate – not speculate – but contend fraud. Because many of the far-infrared saunas promote their sauna as doing exactly what you said. It's not conductive. It's heating the body at deep tissues. But because of the explanation you just provided, far-infrared's only going a few millimeters into the body. It's very superficial. It has the potential going if water wasn't there, but we've got water, so it's not going deep.

BR: Yeah. You can just google water absorption spectrum and you can see this for yourself in most scientific websites. It's a very well-known old concept of water absorption. It's interesting that [the oldest manmade] light-emitting technology is the incandescent bulb. That's what farmers and agriculture have used to heat livestock for almost 100 years now. They've known for many, many decades that that is a more efficient way of heating the body. It's because it's primarily near-infrared, with the incandescent bulb, because it's what's called the incandescence.

We throw that term around a lot, but it's actually really simple. When you heat up a material in nature hot enough, it emits light naturally. When an iron rod goes red, that's incandescence. It's the fireplace, the candle, the incandescent bulb and also the sun. In physics it's called blackbody radiation, but we understand it also as incandescence. It's natural light. Natural light is literally incandescent light.

JM: Yes.

BR: It's been around with us ancestrally forever. Even in terms of lighting technology, electrical technology, we've had the incandescent bulb the longest. It is the most efficient way to heat tissue because it is substantially near-infrared.

JM: Yeah. That's a massive difference. If it wasn't for that fact alone, that would be a strong encouragement to heat your body more effectively to help facilitate detoxification, which is one of the primary benefits, but there's many more that I'm sure we're going to touch on. But the oldest form, I mean the incandescent bulb has been around for 100 years, actually more than 100 years, but not much. But what precedes that, by many millennia, would be fire, which is a pretty similar spectrum to the incandescent bulbs.

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BR: Yeah. Essentially, the peak of the spectrum is determined by the temperature of the source. The sun is about 5,500 kelvin (K). Its peak is in the visible light band. The incandescent bulb is between 2,400 [and] 2,800 K, so about half the temperature of the sun. Its peak is actually in the near-infrared. It's a little bit shorter. The peak is shifted a little bit to the lower energy of the near-infrared. But essentially, it's the same form of light. The fireplace, I mean the candle, will just be a lower peak and shifted even more into the infrared spectrum, but still the same natural curve of light.

JM: I think it's about 1,200 K, somewhere in that range.

BR: Yeah. That sounds about right.

JM: But the key thing is that it's an analog spectrum. It's the complete frequency between certain ranges. Of course far-infrared has the higher ranges in there, and the near-infrared is – Where does the near-infrared go off on the high end? Is it mid-infrared?

BR: It's 600 to 700 of visible red light. Seven hundred to 1,500 is roughly near-infrared. And then we get into mid-infrared, 1,500 to 3,000 nm.

JM: Okay.

BR: Beyond that, it's far-infrared. It is analog light. There's a lot of confusion about this too. What is full-spectrum? This is full-spectrum. There are so-called fluorescent bulbs that are full-spectrum bulbs. They're really not full-spectrum. You know, I have an old spectral chart that I used a long time ago. It looks like this.

The green spectrum here, if you can see in the back, these spikes, that's a fluorescent bulb. A light-emitting diode (LED) bulb, a typical home LED, is in the blue. The sun is kind of in yellow in the background. The incandescent bulb is in pink. But what you see here is analog light is full-spectrum, so all of these wavelengths, in a natural power curve, that's what full-spectrum means. You get all the wavelengths in this relative proportion that's determined by this big bell-curve shape with a long tail in infrared.

If you're talking about your typical LED bulb or your typical fluorescent bulb, it's the spiky digital spectrum. It's very stepwise. It's unnatural looking. It's not a smooth curve of all the wavelengths. It's a few wavelengths and a very high-power output. It's not light that we're used to get. That's the difference between full-spectrum and monochromatic light. Only incandescent light sources really are truly full-spectrum. Everything else, LEDs and fluorescents, just give the appearance of full-spectrum.

In an LED, they'll add a different – It's typically a lot of blue light. They add a different phosphorescing compound to give it a yellow peak. To the human eye, it looks like white light or yellow light, or kind of that tungsten glow. But in terms of the spectral output, it's not natural. It's hiding an unnatural spectrum, unnatural correlation of wavelengths that we're not used to.

JM: Yeah. Clearly we're both huge advocates of true full-spectrum lighting. Aside from the wavelength differences you just described, the other pernicious component of that is the dirty electricity introduction, which makes fluorescent the worst type of lighting you could possibly have.

Most people watching this are probably in an office or work in an office that almost invariably has fluorescent lighting in it. You know, it's amazing how many people refuse to incorporate it. But all you've got to do, especially if you've got windows, is turn off the lights. Turn off the lights. Because not only are you going to get bad frequencies, you're going to get energy outputs, these high-voltage transients that go into the electricity and go straight into your body directly, even from the light itself. In addition to the one that introduces it to the wiring.

BR: Yeah. That's a really scary concept, actually, that the electrical line can conduct the microwave cellphone signal and carry it to the fluorescent bulb, and it can actually radiate out of the bulb and hit you with electric field stress.

JM: It's not the radio frequency microwaves. It's actually lower frequencies. It's like 2 to 100 kilohertz (kHz), typically. Fluorescents are typically about 62 kHz. It's an artifact of the way that the light is produced. It's a very pernicious biological frequency. That is something that you should have never been exposed to. It increases your body voltage. That's not healthy. Believe me. It's not healthy.

BR: Yeah. You are correct, Dr. Mercola. Also, there's the issue of flicker.

JM: Yeah. I'm not sure how much of an issue that is, but it is there. Yes. Anytime you have a digital light source, that's going to happen. You can explain that now that you mentioned it.

BR: Well, your fluorescent bulbs flicker 400 to 600 times a second. LED bulbs flicker typically at 120 hertz, so 120 times a second. Fluorescents shut off to about 30 percent each time the phase is changed, the flickering of the bulb. It's not as dramatic a flicker as an LED. LED completely shuts off from 0 to 100 percent every time the phase changes in the alternating currents. The degree of flicker from an LED is greater and more stressful even though the flicker rate of a fluorescent bulb is higher. In both scenarios, it's light that's pulsing us like this. As the nervous system strafes or jacks you up, it's an excitatory stimulus.

If you search on the PubMed, there are some studies that are showing that it's been associated with headaches, dizziness, migraines and other undesirable psychological effects on the body. It's this flicker stress. You compound that with it being all blue light as well. Unnatural spectrum, as we discussed, it's something that we sit under all day long in the office. It becomes a real problem. It's something that actually does have a detrimental effect on our health.

JM: Yes. That's a pretty good summary of the downsides. The upsides, and there are some, some significant ones, such that the short-sighted governmental authorities in the world, most of them, have outlawed these incandescent bulbs. Because when these other bulbs, the fluorescents and LEDs pulse on and off, as you described, when they're off, they're not using energy.

They're far more energy-efficient than an incandescent bulb. Some ratios are 20 to 1. So for every dollar you're spending on a digital bulb, you're maybe spending 20 on an incandescent bulb. The conventional thought is that all that heat is wasted energy. But in fact, it's not. It's a very useful source. You could actually harness that energy to do very powerful and important biological strategies. Why don't you take off on that and expand on it?

BR: Yeah. That's exactly it. The incandescent bulb was condemned as being energy-inefficient, but it's a wonderful way to heat the room. Farmers have been using it forever. Here's our typical incandescent bulb we use for incandescent sauna therapy. We use a 250-watt, red-filtered incandescent bulb. All of the wavelengths emitted that the energy-efficient folks call non-efficient and wasteful are the healing wavelengths.

When we've gone to LEDs and fluorescents, we've removed the healing component for the sake of energy efficiency, but with very detrimental consequences to our health. If we're going to sit inside, we're going to use light that's produced by electricity for convenience. If we use incandescent bulbs, we get so many benefits with it, on the healing side of things and the heating side of things that are actually there. From sauna therapy, we know all the benefits we have from heating the body. It's not just a detox. It's the vasodilation, the blood circulation and the structuring of water. There are so many aspects that are beneficial to us.

We remove almost all of those in our attempt to become 1,000-percent energy efficient. Besides the disadvantages we discussed with LEDs and fluorescents, we have other ones too. Fluorescent bulbs are actually mercury vapor bulbs. When you break those in your office, it creates a very hazardous waste, basically mercury vapor, that basically sticks to everything. It's very toxic stuff.

Even if it doesn't break in your office, what happens when you're done with that fluorescent bulb? It's breaking outside in the trashcan. It's breaking in the earth. It's what I would consider to be very damaging to our environment and to our earth. I think the energy-efficient argument becomes weaker when we talk about the damage to the environment.

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The incandescent bulb is just glass. There's no toxic waste involved. The same thing with these new LED bulbs for home lighting, they're all little tiny pieces of plastic. They're generating a lot of plastic. It's not good for our environment. Beyond that, what's more important? Saving this

incremental amount of electricity or health really? How can we heal our bodies every day? We were doing that with incandescent bulbs for 80 years.

JM: Yeah. I had done a previous interview with Dr. Alexander Wunsch, who is a native-born German. He's usually based in Germany. I'm sure you're familiar with his work. But unfortunately, he has a very, very thick German accent, and nowhere near as articulate as you. We discussed this previously, primarily from the perspective of using incandescent lights as a therapy. Not as a therapy, but as a lighting source. It's what we focused on now.

But aside from that, I think there are some good arguments. Let's finish this off before we move on to the therapeutic benefits. One is that they are pretty much illegal to sell, except for some modifications. You might know this better than me. But as for most of you, as in Europe, you have to buy specialty bulbs just to have an exemption. It costs like five times as much. Instead of 25 cents a bulb, it's like a few dollars. You can go to eBay and still find some of the old ones.

The last time I bought about 500 of them, because I never want to [run out] of stock of these things. Just the regular 60-watt bulbs that you can put in your room, your kitchen, your bedroom or your bathroom. You don't have to put them in every outlet and fixture in your house, because some of them you hardly ever use. But the ones you use every day are the ones you need to use. You've got the 250-watt, which is a different version. Now, you're getting into healing therapy.

BR: Correct, correct. You want the 250-watt in an incandescent sauna therapy because you want a lot of the irradiance. You want a lot of this big portion of the healing wavelengths of near-infrared. That's kind of a misnomer though that it's become illegal. It's just perceived as being banned.

JM: Okay. [inaudible 22:18]

BR: What actually happened is they just changed the energy efficiency requirements. By de facto, they banned all of the bulbs, so you can't get the 150 watts. You can't get the ones that switch from 50 to 100 or 150. You can't dial it and change the level of light that was so convenient. You can't get the big wattage work bulbs anymore.

But there's an exception for specialty bulbs. It involves the heat lamp bulb that we use in incandescent saunas. That regulated everything kind of downwards in terms of what's the maximum bulb you can buy. You can go to home depot and the Walmart and the other stores, and you'll still find it, but it won't be 60-watt. It'll be 52-watt. There'll be 28-watt.

The maximum wattage you see out there is just under 60 watts now, in terms of the home incandescent bulb. That's in U.S.A. I'm referring to. That was a law that was passed only a few years ago. They're still available. There's the maximum wattages have been dramatically reduced. But all of the specialty bulbs are exempt. If we go to Europe and Australia, where there's a more aggressive ban, basically a complete ban on incandescents, there's still actually an exemption for specialty bulbs.

JM: Okay.

BR: You can still get incandescent 250-watt sauna therapy bulbs in Europe, Australia and New Zealand, in places that it seems like they're not available at all.

JM: Okay. Thank you for expanding on that. Now, let's shift to the therapeutic use, which is one of your specialties in using these near infrared bulbs that we've discussed for healing. But before we delve into that, I just want to continue to clear up the confusion on the distinction between far-infrared and near-infrared. Because many of the far-infrared saunas are advertised as full-spectrum with no electromagnetic fields (EMF). I'd like you to address that, because that has not been my experience.

In fact, prior to using your sauna, I was using a sauna that was advertised as that. I did the due diligence and found out that, in fact, it was just far-infrared. There was maybe a touch of near-, but no near-infrared, or virtually none. They were claiming it was. I said there was no EMF. Well, yeah. There was no magnetic fields, but it was loaded, absolutely loaded, with electrical fields, which are very, very difficult to measure and a source of massive confusion, even within the Building Biology Committee.

BR: Yeah. It is a misnomer. Most infrareds out there, almost all of them actually, are far-infrareds. They're relying on far-infrared wavelengths of 3,000 nm and greater, the very low-energy infrared, for the heat. Now, you've got to be careful here because there are so-called full-spectrum infrared saunas now, where they have the far-infrared emitters for heat, but they've added in near-infrared emitters in one of two ways.

One way is to use LEDs. You can make LEDs now that emit only one monochromatic near-infrared wavelength. They'll add a few of those in to be able to claim that there's near-infrared, therefore it's full-spectrum, when it's not. It's really two technologies that they're trying to bring together and create a composite full-spectrum. But it still doesn't have the same natural shape as an incandescent bulb, as the sunlight.

It's, in fact, inferior in terms of the shape of the spectrum. It's not covering all the wavelengths in the same natural power curve. There are also some saunas that use low-irradiance, near-infrared emitters that are basically heating elements that are hotter than the far-infrareds. They do emit a small amount of near-infrared, but it's at a very low power level, but we call them light-therapy irradiance.

JM: Please expand on that term. You've mentioned it a few times. That is the best, most precise scientific term, but virtually everyone watching this doesn't know what that means. It's a powerful term. Please expand on that.

BR: Irradiance is literally the power density. It's measured in watts per meter squared as the standard units. Watts is power. That's how much power we get from electricity. An incandescent bulb is typically 250 watts, so we know it's high-powered. Watts per meter squared or how much power is being received across an area in space. That's what power density is. It's the power that's received across a surface area in space.

When we look at light sources in terms of like, “How much light therapy we’re getting? How much dose are we getting?” We measure it by measuring irradiance. If we know the irradiance, and we know how far away we are from it, then we know exactly how many joules we get, how much energy we get dosed with per second.

If we sit a certain amount of time at a certain distance from a light source of known irradiance. We can figure out exactly how much energy we receive per unit time. In the scientific world, they use this term irradiance, but it’s basically power over an area. It varies widely with different light technologies of course.

JM: There are really some inexpensive meters that can objectively measure this. It’s a light meter essentially, energy light meter.

BR: Yeah. They’re called irradiance meters. People who install solar panels will use them to measure the irradiance of the sun and the irradiance received by the solar panel. It’s a very affordable meter. Actually you can buy [them]. The typical consumer meters measure between 400 and 1,100 nm. They’re measuring basically visible light and, interestingly, the PBM section of near-infrared. You can use a consumer irradiance meter and basically figure out how much PBM and how much light therapy am I getting from said light source.

JM: Yeah. That’s a beautiful description. I think, with that, people can now begin to understand that even then a near-infrared composite sauna that you described, they’ve got a few token LED near-infrareds. Yes. Theoretically or legally, you can say that it’s more of a full-spectrum. But the reality is, if you could look at the irradiance, it’s clinically insignificant. It’s not going to do diddly squat.

BR: Yeah. That’s right. There is one study I could direct you to, where even incredibly low levels of irradiance do have some biological response to them. But in the light therapy world, in therapeutic kind of medical light therapy, there’s a certain like minimum irradiance. There’s a certain power level you need to get clinical results. It’s actually between like 10 and 100 milliwatts (mW) per centimeter squared. You could look this up. It’s widely available online. But you need to reach that minimum level.

You can figure out really easily on your own with this consumer irradiance meter, “Am I getting a therapeutic dose? Am I getting a therapeutic level?” With these far-infrared saunas that use LEDs, there’s not enough LEDs. You’re not close enough to it. It’s not exposing your entire body to it. It’s really inferior. It’s really an inferior way to get LLLT, to get near-infrared wavelengths at enough power level to be significant, to be effective.

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JM: Yeah. Absolutely. Just to finish that off, to descend to 100 joules per centimeter squared is the range. You probably want to get closer to the 10 to 20. But if you go over 100, then you actually can be counter-productive. You can get too much energy. Certainly, in PBM, that can actually have different effects. It actually shuts down receptors. You have to be careful.

BR: Yeah. That's a great point to make, Dr. Mercola. We need to be careful. What are we doing here? Even with light therapy, we don't want an unlimited amount of these things, just like you can't be in the sun for an unlimited amount. You don't want to be in the sauna for eight hours. With the sauna, you're going to heat shock the body. Raise cell temperature a few degrees and you get all these detox and other cellular responses due to the heat shock.

The same thing with the light. You want to get a certain kind of natural level of irradiance. You know, 20, 30 or 40 mW per centimeter squared for a certain amount of time. That activates the healing systems in the cells in the body, and then let the body do its work. If you look at the LLLT literature, the reason it's called low-level light therapy is because it's also referred to as low-level laser therapy. The original light therapy studies were done with lasers, which are high-powered sources, where the irradiance is incredibly high.

What was found was that just like getting too much UV or getting too much of anything, it's too much energy for the system. You can damage it. If you see studies where near-infrared wavelengths have been shown to be damaging to the cells, you have to look at the irradiance levels that they use in the studies. You'll see that they're incredibly high. Just like if you get too much near-infrared or too much infrared, you can burn yourself.

JM: Absolutely.

BR: It's all about getting a natural level of dosage. It's the same thing with like the ROS species, the reactive oxygen species. Dr. Michael Hamblin has an article where he calls – it's called “Infrared and Skin: Friend or Foe” – “Is this a good thing for us? Is this a bad thing for us? If it's associated with so many problems because it's a free radical, if it's activated and produced by blue light exposure or another oxidative stress scenarios, why is it with mitochondrial stimulation when we do LLLT, it's a good thing?”

That's because we're doing it in this context of mitochondrial stimulation, where we're producing the nitric oxide release and increase adenosine triphosphate (ATP) production. They all work together in concert to promote healing effects, DNA repair effects and regenerative effects. It's all because it's at a measured dose that's natural and reasonable and not too high.

JM: Let's just finish up on the LEDs and then transfer them into the phototherapy for sauna detoxification. It's important to understand that I am unaware of any full-spectrum LED sauna or light therapy. It's theoretically possible, but one LED only goes over a very short wavelength, about 10 nm. You have to have hundreds of different frequencies all over the place, and just want to be practical. I don't know that one exists even. It's not full-spectrum. It's not analog LED. The only thing would be an incandescent, which is what you're focused on, and I couldn't agree more. I was pretty unaware of this until I connected with you at Bulletproof. I didn't realize the frequency of the spectrum, that it was mostly made up of – It was higher or lower. I was confused. It was really helpful.

In my personal experience in using a near-infrared therapy, which is what I use nearly every day that I'm home is it heats you up really darn good. You don't need – In fact, I do not preheat my sauna, because it's not a conductive. It goes right into your body. You just turn on the light and

you start heating up. You won't start to sweat for a few minutes, but you definitely can feel it, which does not happen in a far-infrared sauna. You have to heat that thing up for 10 or 15 minutes. Why don't you talk about phototherapy for light? Maybe expand a bit or elaborate on what I just mentioned.

BR: It's something that I discovered myself. I came to incandescent sauna for my own health problems. I had insomnia, some mind racing. I had what I now know is adrenal fatigue. I didn't know what that was. I just didn't feel good. I was negative with low energy. I had weird acne issues on my torso. But through my sort of Google research, as people do nowadays to get information and take action, I came across this concept. It dates back to Dr. Kellogg, actually, of the early 20th century. And then I subsequently learned and watched Alexander Wunsch's videos, as you mentioned, and many other folks.

Incandescent light therapy dates back 100 years. A long time ago, they were using it to heal lupus vulgaris and all these other things. A long time ago, before we had this word "photobiomodulation," before we could look at the microscopic level and see the mitochondria, we had an understanding that this light was healing.

I found an old doctor's manual that instructed on how to build your own incandescent lamp sauna. I built my own and had this amazing healing experience. It completely resolved all of my problems. Very immense insomnia, immediately, and over a period of months, everything else. It really blew me away. That's what got me into all of this, into incandescent sauna stuff.

But since then, I definitely tried other saunas. My parents, for example, had a far-infrared sauna growing up in our house. I never really used it very much. But it's striking how poorly the far-infrared sauna heats you. You sit in there for like 20 minutes and you're waiting, you're waiting. You're looking at your watch, and you're waiting. In my sauna and in any incandescent sauna, it's immediate. You start sweating. You could feel the heat. The heat is very brisk and vital. It's getting in there. But you know what? It feels good.

JM: Yeah, yeah.

BR: It feels good because it's mitochondrial stimulation. It's natural full-spectrum light in the natural shape and form of light as we're designed to get it. It's a feel-good heat and a great sweat. We know now too that it comes with all of these benefits of PBM. There are other kind of – how would you describe it – synergistic benefits that you can't just attribute to the detox of the heat and the mitochondrial stimulation of the light.

There's this idea of structured water, interfacial water versus unstructured water, lazy water. Wunsch showed or talks a lot about how water nutrient delivery is improved when near-infrared light hits water. We need that for our eye health. We need that for every nutrient delivery in every cell of our body and in between the cells. But you also have other effects too.

Structured water is a really interesting thing. All of the wavelengths of sunlight structure water, some structured water better than others, like far-infrared, wavelengths at 3,000 nm do structure a

little more effectively than near-infrared. But all wavelengths – blue, visible light, near-infrared, mid-infrared and far-infrared – they all structure water.

If you look at the mitochondria, the inside of the mitochondria has been shown to almost be entirely structured water. There's something going on there, where it has like a biological significance and importance that we absolutely need. The more we study it at the microscopic level, we see that structured water can be its own chromophore. It can have non-thermal effects, where it is a vehicle to activate, improve and optimize biological systems, water in this special structured state. Just kind of another greater argument that we need all of the wavelength in the natural form, because they're all structuring the water. Some are heating. Some are light therapy-activating. This is all supposed to work in concert.

The light therapy, I think, for example, makes the detoxification less stressful, less energetic. For folks who have extreme illness, [who are] weak, or [who] are just dealing with serious problems, they can't use a regular sauna, even though they need to detox. They desperately need to. What we can really call a near-infrared sauna is an incandescent sauna. It gives them access to this desperately needed detoxification therapy. That includes folks who have neuropathic issues. This is just my experience, my humble experience, dealing with this for five to six years. It's folks with severe neuropathies, weakness and heat sensitivity. They can use an incandescent sauna. They can't use a regular sauna. They just can't tolerate it.

If you know Hope for Cancer, a world-famous cancer treatment clinic based in Mexico, they only use incandescent lamp saunas as their detoxification modality. Because they know that this is what the weaker folks, this is the only thing they can handle. It's another really important aspect here, that it's not just a better way to do this. It's a more accessible way to do this, particularly for folks on the weaker side of things.

JM: We'll talk about that in a bit. Part of the reason they can't tolerate [it] is the electrical frequencies, which you've addressed. It's one of the things I really appreciate about you. Even though you don't have any formal scientific training, it doesn't matter. You're just a smart guy. You know how to use the internet. You can think. Your brain works well. You've accomplished quite a bit. It's very impressive. Thank you for mentioning the structured water component.

In fact, I drink structured water, but I don't think it's necessary. I really don't. I think it's far more important to structure the water in your body through a modality like natural sunlight or the near-infrared bulbs. That's one of the reasons why I do it every day.

[-----40:00-----]

Now, theoretically, I don't need to use one in the summer. I could probably generate the same response just walking on the beach, and just almost sweat as much, depending on this time of year. But I still use it.

BR: You also live in Florida.

JM: Yeah, I know. But hardly anyone lives in the subtropics. Even in the winter, you can't do that. It's a very valuable tool. But I'm wondering, you had said you built your first near-infrared sauna.

It's not the one you're using today, because that's what you've focused on. I'm wondering if you could comment on Dr. Lawrence Wilson. I just call him Larry Wilson, but he opted to type it in the formal "Lawrence" to file it in Amazon. He has instructions. I think it's called sauna therapy. You can build a near-infrared sauna for a few hundred dollars. Is that what you did?

BR: Yes, yes, yes.

JM: Why don't you comment on that? And then we'll go on to what you've done.

BR: Yeah. Absolutely. I failed to mention that at the beginning. That is the doctor's book. That I stumbled upon, actually, online. Dr. Lawrence Wilson, *Sauna Therapy for Detoxification and Healing*. Back in the day, he was the only guy even talking about this. He was way out there. He was really way ahead of the science. He's still alive today. He's still alive and well. I'm endlessly thankful for his work in exploring this aspect and basically bringing it back.

It was used in Dr. Kellogg's sanitariums and his spas. It was used by this guy, Dr. Dinshah Ghadiali, a long time ago – this Indian physician – for light therapy. The incandescent bulb was in the 10s, 20s and the 30s. But somehow it died out, as so many natural modalities died out in the '20s, '30s and '40s. It's only recently that it's come back.

Although in many chiropractic schools, they used to teach single lamp therapy. That's what I have here. This is a single 250-watt bulb that we're using outside of the sauna. We're shining it close on the body for targeted, localized relief of localized issues. That was a part of many chiropractic schools in the educational curriculum, up until the '60s or '70s. And then it just kind of went away.

But Dr. Wilson definitely brought this back with his book and popularized it again. I built mine based on his plans. It was a very bricolage product. He, for example, recommends using PVC plumbing pipe to construct the framework of the sauna and just use painters' cloth from the hardware store and use hardware cloth or what farmers call chicken wire for the bulbs. Yeah. That's what I made. It did work. It worked incredibly well for me, but it does have some serious disadvantages.

JM: From experience, what are the disadvantages?

BR: One, we want it to be hypoallergenic. Number one, we want natural materials. We don't want a bunch of off-gassing of plastics. You need to address that. That's a real big issue. Two, these bulbs are hot. We need to protect ourselves from the bulbs. Just a hardware cloth or some flexible wire is not sufficient.

JM: You can burn yourself.

BR: Yeah. You don't want to touch the surface of incandescent bulb. You can burn yourself. You need professional protection from that. Something that's not negligently designed. Those are some basic product design issues that I've addressed in my saunas.

But more interestingly, and harder to address, are the electric field and magnetic field mitigation. EMFs, they stress us out. They're nervous system stressors. We need to address both of them. They're actually addressed in totally different ways. This is a big misnomer that you touched on earlier, Dr. Mercola – these so-called far-infrared saunas that are described as low-EMF.

When they say they're low-EMF, they're only talking about magnetic field. They're only talking about one-half of the picture here. Both magnetic field and electric field and magnetic field are nervous system stressors. We don't want either of them from our electrical device. They interact with our bodies in different ways, certainly, but they also are different in nature. Magnetic fields are hard to mitigate. They're really hard to shield, to shield them in big physical permanent structures you use in new metals and special metallic plating to make the magnetic field go around the volume, because you can't really shield it. You just kind of divert it.

JM: Deflect it. Yeah.

BR: But what else you can do is to use two magnetic fields to cancel each other out. That's been my solution in the saunas that we're making here. It's to take one magnetic field and use a different magnetic field to cancel it out, so that the effective magnetic field from the device that you measure with a gauss meter doesn't extend farther than a few inches from the electrical body of the device. That's the case. We can empirically show that. That's been a solution that took a while to figure out. But that only addresses the magnetic fields. Again, what about electric field? All of these far-infrared saunas, like that – I believe the sauna you used to have was the far-infrared sort of –

JM: Absolutely. A tent.

BR: A bag-style sauna that your head sticks out off, also the half-saunas that I've seen that are kind of a half-cabinet, to the full-blown cabinet far-infrared saunas. They all have extremely high electric fields. Electric field is measured in volts per meter, whereas magnetic field is measured in milligauss.

JM: Or nanotesla.

BR: Or nanotesla. Correct. But we're using totally different meters to measure this. You can measure all day long with a gauss meter to measure magnetic field, it would show that it's low, and yet the electric field is very high. You're still getting that nervous system stress. You need to be disclosing and showing both sides of the EMF and show that they're both not present.

These far-infrared saunas that you find, every single one that I've ever measured, not just my parents', but others out there, if you contact far-infrared sauna manufacturers and ask them about EMFs, they'll say, "Yeah, yeah. We're really low. It's only a few milligauss, a few milligauss." And then you say, "Well, what about electric field?" They don't even have that measurement. But if you measure these, they're in many volts, hundreds to thousands of millivolts.

JM: Yeah. My sauna was putting 65,000 millivolts (mV) in me.

BR: Wow. So 65 volts. That's very high.

JM: Sixty-five volts. I mean that's crazy.

BR: That's in a healing space. That's a space that you're supposed to –

JM: Yeah, yeah.

BR: It's something that the manufacturers aren't aware of, and the public's not necessarily so aware of. It kind of goes under the radar. But here, I've been aware of this for a while. I've spent a lot of time thinking about how to address it. I've basically done so through shielding and grounding principles.

JM: Okay. Before we go there, I just want to establish the challenge it is to measure electric fields. It's not an easy thing to measure. Some of the meters you mentioned do have it, like the TriField, which is a fairly good screen for magnetic fields. It does have the ability to measure electric field, but it's kind of worthless. It doesn't measure it well. The only way you can do it is you have to reference it to a ground, which in itself is a challenge because of dirty electricity, which is far more complex than we have time for to address today.

But nevertheless, these instruments are hundreds and hundreds of dollars, some of them thousands of dollars, to measure this accurately, to get a good idea of what your electric field exposure is in your body.

BR: Yes. That's the issue, definitely with magnetic field, but also electric field. We don't care so much what's going on around us as we care on what is the influence on the body. You have to use specialized voltage meters called body voltage meters. We're measuring the voltage reading of the person's body. That's what we want to minimize, address and mitigate.

You can use the TriField meter, which is not grounded. It's not nearly as sensitive as a more expensive grounded voltage meter or electric field meter, but you're still not getting an accurate picture of what's going on with you. You're measuring the air in front of you or the desk in front of you. When you use the body voltage meter – and there are a few of them. The one that I use is very sensitive. It has gold componentry. It's one of the most sensitive. It is very expensive as well. But there are some body voltage meters out there that are only a couple hundred dollars or less.

For folks who are really interested in it, it is a fascinating experience to get your body voltage meter and go around your house and lay in your bed and realize how much voltage you actually have everywhere all around. But yeah, that's it. Once a proper body voltage meter is grounded because the voltage meter is measuring the difference in electrical potential between where it's at and what you're measuring. Your body influences the voltage rating if it's not grounded. It gives you an inaccurate measurement.

When you use a proper grounded body voltage meter, and you're measuring body voltage instead of just the voltage around the sauna, you find that when you sit inside a far-infrared sauna with a body voltage meter, you'll get thousands of volts per meter, thousands of millivolts, depending on the meter you're using. Very high.

[-----50:00-----]

JM: A hundred thousand sometimes.

BR: In your case, tens of thousands. It really varies. But all of that is way higher than it should be. Let's talk about ancestral context. Our natural body voltage is only a few millivolts or less even. It's almost zero. It fluctuates and whatnot, but it's never above 10 mV ever ancestrally, pre-1888. We never had this in our life.

For a million years, we never had any of these manmade electric field stress. We have it now 24 hours a day, from dirty electricity, from our computers, and what I'm talking through you with. Even driving around in the car, you have a synthetic magnetic field generated by the wheels. We have this magnetic field and electric field stress that's with us 24 hours a day, not to mention –

JM: That's from the steel-belted radials that are rotating, which generates that.

BR: Yeah.

JM: Yeah.

BR: Not to mention probably the most pernicious source of modern electric field stress. That's cellphone signal. It's just such high wattage. It's so much higher. The older generations grew up only with dirty electricity, but only in the last 20 years or more have we begun to increase dramatically the amounts of wattage of microwave signals flying through the air that get us 24 hours a day. I mean where can you go where you don't get a cellphone signal now?

JM: We've had radio frequencies in the '30s and '40s from TVs and radio towers. They could be pretty high, but they weren't as pervasive as cellphones for sure.

BR: Yeah. Just the wattages is just so much greater now. It's so much more ubiquitous now. It's a real problem. But basically, in the incandescent saunas that I've been making and dealing with for many years, it took many years for me to get to this point in the product development. But I got to a point where it's like, "Hey. We need to address this electric field issue. We can't be sitting in the sauna and be stressing ourselves out with electric field stress."

We basically use grounding and shielding principles to ground out, block out and shield out all the electric fields so they don't get to the user, so they don't increase the body voltage. You see that in my sauna. You measure it with a body voltage meter, either measuring RF, radio frequency, or measuring dirty electricity, the low frequency. You'll see that it's almost zero.

JM: Yup.

BR: It's pretty much zero. That is really unique.

JM: It's pretty significant. Yes.

BR: Yeah. There's no sauna on Earth that's ever done that before.

JM: You should get an award for that, by the way, I think.

BR: Thank you.

JM: It really is quite an achievement. You're so ahead of the curve on this, because one of the building biologists who uses Geovital, who is an Austrian, specifically in your case, is Brian Hoyer. He's one of your consultants, and actually consulted with my own too. He went around – and I have to applaud you for this – to all different sauna manufacturers.

Every single one that he contacted refused to address this electric field component. You were the only sauna company that wanted to work with him, the only one he contacted. It's just part of your personality. You're open. You always want the best. You want to do it the best way possible, and you did. Now, you've created what I think is the ultimate near-infrared sauna.

BR: Yeah. It's a thing where if you don't know you're doing something wrong, then you can't address it. But once you get out of the cave and you're aware of the problem, it's not just unethical to not address that. I mean it's just against my very nature. That's really what's carried me this far. It's once I became aware of how to measure body voltage really, really precisely and all the principles involved, I endlessly sought a design solution for it. The design solutions are actually really tricky, but it's something that does need to be addressed.

As soon as I had the tools and the knowledge and the awareness to do so, I did so immediately. That's a journey that we're all on in life. Even in the humble world of consumer products, we're also on that. The consumers, they deserve a better product. They deserve a safer option that's more effective with less problems and more guarantee. That's been my ultimate goal. It's to widen this access to this. Because this incandescent therapy, it just works so well.

JM: Yeah, yeah. Let's go back to that. Because affordability becomes an issue, because this technological innovation you put together is kind of pricey. But it's, in my view, the ultimate. But if you don't have the funds to afford that, you can go all the way down like you started with this.

These near-infrared bulbs, that's the core of your sauna. These four 250-watt Philip incandescent bulbs. You can buy those collectively for under 25 dollars total. That doesn't buy any of the fixtures or the cords or everything to set it up. But probably for a few hundred dollars, you can set up something like you did.

I have this sauna and I'd like your feedback on this. I don't really think you need an enclosure if you're not addressing the electric fields. I mean you can just put it up in your shower.

BR: Yeah, yeah.

JM: It's still exposure. If you think you need to be in a tent, no. This is not a far-infrared sauna. This is a near-infrared. The heating occurs from the light going into your body. You don't need a tent for that.

BR: Yeah. Really, all you need is – The radiant heat works so well. You are correct, Dr. Mercola. All you really need is air around you to be above body temperature.

JM: Exposure. Yeah, yeah, yeah.

BR: Above 100 degrees. We manufactured, we handcrafted an entire catalogue here, including the core of our sauna, these four lights. These four 250-watt lights on our shielded device, with all the lifetime warranty and the quality that we manufacture. We sell just that as well, because you can use it in a closet. You can use it in a shower.

JM: A shower would probably be the most –

BR: We have a lot of folks who have far-infrared cabinet saunas. They're purchasing just that.

JM: "Who put that in there?"

BR: They have buyer remorse and they want to upgrade to near-infrared and to full-spectrum and to be shielded. You can put one of ours into a far-infrared sauna very affordably and not have to deal with any of the EMF stress at all from the product. You just don't have to turn it on. You just use the four walls and ceiling. The same goes with the shower or other innovative enclosures that people can think of.

JM: Yes. Yes, indeed. That is definitely a strategy.

BR: Even beyond that, for folks who are skeptical of the concept, the proof's in the pudding. I follow that as well. I want to see and feel the results. You can start out with one bulb. You can start out with what's called this targeted therapy, so single lamp incandescent therapy. And just use that for a localized issue.

Folks are using it for everything, from headaches to cramps, to skin issues, to neuropathies in the limbs, to just aches and pains from old injuries and stuff. That's something that anybody can start out with and get a feel for this concept, and then understand. For the full body and the real detoxification, you do need to sweat passively.

To sweat passively, we need air around us to be of 100 degrees. Typically, it's nice to have an enclosure to do that for convenience. But depending on the environment, the sauna room could be the size of a football stadium. If it was above 100 degrees and you would just sit happily in front of your four 250-watt, red-filtered, incandescent lamps –

JM: Is that because 100 degrees is hotter than body temperature?

BR: Yeah, yeah.

JM: Okay.

BR: We didn't talk too much yet about the detoxification, but that's really what we need. That's why at the end of the day, it doesn't matter what heat source you use. You can even use a hot tub. You need to raise core temperature.

JM: [inaudible 58:38] exercise sweat.

BR: Well, if we're talking about detoxification and the elimination of heavy metals and things like that from the body, it's really that difference between passive and active sweating that's really key.

JM: Please expand on that. Elaborate.

BR: There's a big misnomer about this. There's actually a National Geographic article that touches on this, where it's claimed that sweating doesn't detox you. The example they proffer is someone who's vigorously, actively sweating on a treadmill for two hours, and the concentration of toxins in their sweat is very low. That's true because of this idea of sympathetic and parasympathetic.

JM: Okay.

BR: The autonomic nervous system has two states. We learned in high school biology it's fight or flight, rest and digest. When we're running on the treadmill, all the cellular and body's energy is going towards locomotion. All the energy's going to the muscles, the lungs and the heart basically. There's no cellular reserves or kind of hormonal gearing for detoxification or cellular repair or anything like that.

[-----1:00:00-----]

We see that in studies too. If you look at the studies where they use the L. Ron Hubbard detoxification modality on the 9/11 rescue workers. You can just google those studies as well. When they put them in the sauna for a couple of hours a day – and this was a wet sauna – the toxin concentration in the tissue samples taken, the blood samples taken, and the sweat samples as well, over a period of time, they reduce like the toluene, the xylene and these terrible petrochemical levels like 90 percent. There were massive concentrations of toxins that they were sweating out. But it's because they were doing it passively in the sauna.

That has to do with that parasympathetic gearing of the body. Rest and digest literally needs that. When you have all this energy that's going into the body with the incandescent sauna, all this near-infrared light, well, you're just sitting there. You're not responding to the environment and escaping the bear or the environmental stress. The body is using all this amazing energy from the incandescent light to repair, to heal, to detox, to eliminate and to fix itself.

JM: Yeah. But you can do that with the regular near-infrared that's not yours. You're still going to get some environmental stress, because of the electric and radio frequency fields. Even though you're not doing anything active yourself, you're still getting the stress and activating your sympathetic nervous system. Where when you go into your sauna, you're like parasympathetic neutral.

BR: Yeah. You can't. You can't get it in your parasympathetic.

JM: You're activating parasympathetic. No sympathetic stress is like the near-perfect ideal.

BR: Yeah. That's addressing all the issues. We're using an electrical device to heat the body. First, let's get the right spectrum, the right technology that's incandescent. But then we really need to incorporate EMF, electric field and magnetic field mitigation principles, so that we're not bringing in another nervous system stressor and putting us back in the sympathetic dominance.

So, yeah. We really created something unique here in addressing all of these issues, so that you can sit inside and have maximum healing going on. We see that from the light, from the heat. It's all magnified, doing all the light, key and the structure in the water all together, without the EMF stress. That's two-fold.

With our products, we've ensured that there's no electric field or magnetic field stress from our products, but the special kind of upgraded version that you have actually protects the user from external electromagnetic stress. The external RF and the external dirty electricity that sneak inside and stress us out in all saunas and all areas on Earth, that doesn't exist in what I've created through a lot of tests and a lot of hard work here from the whole team, actually. That's really unique. To do all these in the space that's basically pre-electricity, pre-cellphone.

JM: Yeah. You're a real major innovator, because no one's done this prior to you. Congratulations on that accomplishment and achievement. I'm wondering if you could comment, because I'm sure you know the studies. I believe they're out at Finland. These were done recently. They looked at people who saunaed regularly, from once a week to everyday. They observed the mortality rates, I believe, from cancer and heart disease. Do you know what terms I'm referring to?

BR: Yeah. There are so many of them.

JM: Why don't you summarize them for us? Because I'm sure you're more familiar with the details than I am.

BR: Yeah. Of course they do these studies in Finland usually, because the entire population does sauna or has a sauna at home.

JM: That's the clue.

BR: Hello. That's a big part of keeping them happy and healthy. But we see across the board in massive decades' long, many-person studies, very impressive studies. We see a reduction in all-cause mortality, reduction in risk of Alzheimer's and risk of stroke and risk of heart attack, increased longevity, reduction of neuropathy and so many things. People are living longer and they're more healthy by using saunas.

Interestingly, it's not just the duration of the sauna session. It's the frequency per week. Folks who are using the saunas more per week and longer sessions – most of these studies are with wet saunas – but the Finnish style sauna, we see that much greater results. More is better in this case, in terms of frequency. If we can use it five and six days a week, even better than one or two days a week.

But even two days a week is a magnitude better than not using a sauna at all. That's because we've just gotten so far away from this ancestral context that the Finnish population understand so well, the people who do sauna understand so well. It hits all the avenues. It's healing everything in all ways.

JM: The magnitude of the reduction of the more frequent users were greater than a 50-percent reduction in heart disease. It was just crazy good. It's almost as good as vitamin D.

BR: Yeah. It's really stunning. It's not well-known. But in terms of one thing that you can do for 20 minutes a day, with all this health gadgetry and all these things you could do, and "I have this solution and that solution," one thing, to sit there and sweat passively under full-spectrum light, protected from electromagnetic stress, is probably the most impactful thing you could ever do as kind of a healing activity you do, for everything, for all issues.

JM: I couldn't agree more. Without a doubt, it is my favorite biohacking device, and literally the thing I miss the most when I travel. I don't get too paranoid about it because I don't want to get away or go back home. I would say 95 percent of the time, I'm doing the near-infrared sauna every day.

BR: As am I.

JM: Yeah, yeah. But when you travel. I mean your device could be packed, but it's not the easiest thing to do. It's probably the risk-benefit challenge. I mean you can pack it and travel with it, but it's just sort of –

BR: Yeah, I know. It's very portable. But, yeah. The thing is if you have a core discipline and you're using the incandescent sauna at home, when you're at home every day, you can do what you want. You can travel. You can goof off. You can cheat, because you have that core discipline where you're restoring and repairing the DNA and doing all this stuff every day, getting the toxins out, getting all this junk that we're exposed to out. That's what it's all about. We can't get dogmatic here. We just need to take daily small steps toward better health. It's a simple thing to do, actually.

JM: Yeah. Now that you've heard Brian talk for over an hour, I'm sure you're just as impressed as I was when I first talked to him at Bulletproof. Gosh. I just love dialoging with someone who understands this at a very deep level and really studied it very carefully. Further, he has put together really one of the most innovative devices out there, with respect to sauna therapy. I'm a firm believer, as are many others clinicians, that if you want to detox, you really need some type of sauna. Brian's very eloquently [discussed] the difference between the far- and the near-infrared ones. I couldn't endorse near-infrared more. Even if you're making it yourself with the limited incandescents, there still could be some benefits.

There are some downsides, yes, so you've got to be really careful because those bulbs are hot. They can burn you big time. It's going to be electric fields. But you can still do it. Brian offers a whole variety of different strategies that you could implement from the range of a few thousands to less than 10,000. But it still gets up there. There are resources out there that you can avail yourself too that would really make a big difference. Any closing words, Brian?

BR: Just that people always want to know, like, “How is this going to make me feel better? How am I going to look and feel better from this? All I care about are my problems.” I’ve talked to – and I’m sure you have as well on the course of your health career. I’m no healthcare provider, but I have talked to about 20,000 or 30,000 people on the phone, literally, in the course of dealing with incandescent sauna therapy and doing what I do.

What I found is that this really benefits everybody. Everybody has mitochondria. Everybody has terrible toxic stress. Everybody is getting hit with EMF stress every day. Everybody is designed to heal in the same way, no matter how we look. We’re all different, [but] at the cell level, we’re all the same. It’s the great equalizer.

I’m just very passionate in this being the most impactful thing you could possibly do. If you can address some lifestyle choices and good diet choices with a healing practice like this that returns you to what you did ancestrally, you can improve your lot in life. You can get out of where you are. If you can just have a little discipline and just use the darn thing, you will see impact and positive impact. It’s just guaranteed. I mean this stuff works for everybody.

JM: Yeah. Two points I neglected to mention is that you use four bulbs. Each bulb is 250 watts. That’s a kilowatt of power used. It’s going to definitely crank up your electric bill. But it’s only for 20 to 30 minutes.

The other point is that unlike many biohacking devices, which are customized, or you can only use yourself, your whole family can use this. Your friends can use it. Although, before we leave, I neglected to mention one of the issues, which is an important caution that I think people need to know about – I’m pretty sure you have a good answer – which is the fact that you are detoxing.

[-----1:10:00-----]

You’re volatilizing these petrochemicals and, in some cases, heavy metals, into the environment, the space around them. Could you comment on the maintenance of the sauna, so that you’re not acquiring toxins that the person before you liberated once when they were in the sauna?

BR: Yeah. I mean the primary toxic load that is excreted by your body in passive sauna therapy is through the sweat. It’s not really exclusively projecting out into the air. It’s mostly you’re sweating it, so the toxins’ in your sweat.

JM: I mean objectively versus volatilizing through your skin, versus sweating, is it like 99 percent of it is through the sweat?

BR: I don’t know if I could quantify that here on the spot, if you put me on the spot. But I know that, for example, there’s like a 2016 or 2015 BUS – blood, urine, stool – study where they found out, for the first time ever, that you can sweat out mercury. That was something that was previously considered the only excreted via the stool.

The more we look into sweating and passive sweating, we see that the body can almost get rid of everything through the sweat. The primary excretion is through the sweat. Although, definitely,

some is through the organ's elimination as well, the other organs. But the skin, the biggest and most powerful organ in your body, is the major detoxifier. It's all coming through the sweat.

For your own sake, as well as the sake of anyone else who's using the same incandescent sauna at home, you want to collect the sweat is all. You want to use a vigorous amount of towels on the stool, a couple of towels on the floor, to collect all the sweat so it doesn't reach the product. You just take the towels out and you have a couple sets of towels. You use those. And then you wash them because the sauna sweat is very caustic. It's very toxin-laden. It is actually caustic.

The same thing goes with your body. Typically after a sauna session, people get in the shower and they rinse off with a bristle brush and exfoliate all the skin. The toxins can cling to the dead skin cells. Dr. Lawrence Wilson talks about this a little bit. We want to get the dead skin cells off the body. Plus, it feels amazing on the skin. It exfoliates. You'll find that if you do this a few times, you do this after your sauna, a few incandescent sauna sessions, and your skin will just feel great. You'll really start to glow. That's all you need to do. It's do a rinse-off with the scrubbing with a bristle brush after the session to get it off your skin, and then use towels in the product to keep the sweat from going everywhere basically.

JM: Good.

BR: Most folks using my saunas, the entire family is using it. And why not? Everybody needs it.

JM: Yeah.

BR: Our children need it. Our grandparents need it. We all need it every day really.

JM: Yeah. That's a good justification for getting into one of these. It's that your whole family is going to benefit from it. If you've got a large family, the cost goes down per person big time.

Just one recommendation to even further improve the benefits from the sauna, mitochondrially and metabolically, is that if you use cold water therapy afterwards. Because you can get pretty high – 130, 140 or 150. What's the temperature in your sauna? Actually, [inaudible 1:13:23] because it's your body that heats up.

BR: Yes. We're using radiant heat. But the temperature in the incandescent sauna never gets above 120. It's 100 or 120, maybe 125 max. But it doesn't get up to 150 like a far-infrared sauna or like a wet sauna. It's much more tolerable, again, for that reason. With our sauna design, for example, you can turn down some of the lamps. You can leave the curtain open.

Some people who are very weak and have heat sensitivity issues, dealing with multiple sclerosis (MS) and things like that, they start out with two lamps. They may only use it for five minutes and not initially provoke a profuse sweat as they slowly reactivate their body and ease into this concept. You've got to get them out of their homeostasis. They're stuck in this toxic state. But it seems to work for everybody slowly but surely. And yeah, even folks who really have great illness and are very weak, they can use this in a supervised fashion.

JM: Yeah. But doing a cold shower afterward would be better for you, if you can tolerate it. You have to build up to it, but that contrast is dramatically important to improve mitochondrial function.

One last point I neglected to mention too about that is that the exposure to the light source is imperative. Unlike a far-infrared sauna where you just sit in the darn thing and your whole body's going to heat up, not so with this. You've got to directionally change every few minutes or so. You're going to be rotating a lot. There's a little movement in there to expose different parts of your body.

BR: Yeah. The clothing, other than very fine white cotton, clothing blocks light. It blocks the near-infrared light, so we want to be naked. Also, we talked about photobiomodulation, PBM, at the beginning. Even though the deepest penetrating near-infrared in one National Aeronautics and Space Administration (NASA) study was shown to penetrate almost 9 inches, but on average, it's not penetrating that deep. It's probably 4 or 5 inches on average.

JM: That's still pretty deep.

BR: It's still very deep. It's still very effective. But if we rotate in the sauna every 5 minutes or something a quarter turn or so, that's the Dr. Lawrence Wilson recommended. That's the original protocol. We maximize our mitochondrial stimulation.

We also get an interesting heating effect going on. You heat one side of the body, so blood flows to the front, to the chest, and then we rotate a quarter turn, and now the blood is pooling from the front over to the side. We get a better sloshing of the blood around in the torso and even more efficient heating through rotation and really effective hypodermic therapy but without doing too much on any one tissue point. It's just another way that this incandescent sauna therapy is just a safer, more tolerable approach in detox.

JM: Yeah. I can't thank you enough for putting this together. What an amazing resource. What an innovator and really an inspiration for what you've done. If anyone watching this – I mean you could try to make a sauna like this, but the key example that Brian represents, in addition to providing such an excellent resource, is an inspiration. That whatever your passion is, just go for it. You can create the best product in the world or the best book in the world on your passion. I mean it's just amazing what you can do if you're really inspired. Brian's a good example. Thank you for what you put together. You're an inspiration as a human being.

BR: Thank you for having me, Dr. Mercola. I really appreciate it.

JM: Okay.

[END]