Summit Introduction and Red Light Overview

Welcome to the Mitochondrial Energy Summit. I'm here with Ari Whitten. Hi, Ari. Hey, Laura. I am so excited for this. We're going to help everyone boost their brainpower, energy, resiliency and longevity in Ari.

We couldn't produce a mitochondria summit without having you co-host this. So thank you so much. Thank you. I'm honored that you asked and it's absolutely a pleasure to be co-hosting this with you.

It is wonderful. We have a lot of magic in store for our viewers. You and I have created something extraordinary here. And we're going to kick it off with this talk today about red light therapy.

And so we're going to do a really, really educational presentation and help people really understand the ins and outs of red light, why it's important, why it's relevant, how to use it properly, how to dose it, what you should look for in a red light device, all of it.

And so for people who don't know who you are, let me give an introduction to you, Ari. You are the founder of the Energy Blueprint System. It's a comprehensive lifestyle and supplement program.

And you've helped more than 2 million people and counting. I mean, it's probably even higher than that by now. But you help people get optimal health, better performance, more energy.

And what's really relevant for this discussion today is you are the bestselling author of this book, The Ultimate Guide to Red Light Therapy, which is the most popular book ever written on the subject of red light therapy.

And you can see my copy is well-worn with all my dog tags on here. My, my dog years, sorry, my dog years and my colorful tag. Because when my clients ask me how to dose red light, what to do with it, what, what to use, I just reference your book.

So thank you for writing this book. My pleasure. It's actually at this point, it's slightly outdated in terms of some of the recommendations because it came out in 2018, which feels ancient at this point.

I'm about to do an update. It's really interesting, actually, because I just reached out to all the men. I don't want to get too detailed in the story, but the gist of it is there's a whole bunch of manufacturers that have emerged since 2018 producing red light devices.

The industry has expanded 30 fold and and fortunately, there were lots of manufacturers making claims that were not very accurate. So I went out and asked all of these manufacturers to submit their lights to a third party lab in Pennsylvania.

That's a specialty. It's like one of the only labs in the world that does specialty light testing. They have all sorts of million dollar equipment that does all this fancy sophisticated testing on on different aspects and nuances of devices that emit light and that the wavelengths and the spectrum and the spread of the light and all kinds of other dimensions.

And anyway, the short version of it is I'm also involved in helping to clean up the industry. I'm about to publish a new version of my book, a 2023 version of my book, with a whole bunch of third party lab data to clean up a lot of the misinformation that's out there from manufacturers that have been lying to some extent about about about the different aspects of light output of their devices.

So it's a wonderful book and I thank you for the kind words, and I'm about to make it quite a bit better updating it with that third party data and all the research that's that's been done in the last five years since I wrote that book.

You know, Ari, this is why I love you and trust you so much. And this is why I feel really confident when I'm having my own community and my own clients take your recommendations and follow you and buy your products because you are the first person to raise your hand and say, I created this thing and it's really amazing.

And I sold a bunch of copies of it and it's helped a lot of people, but we can make it better.

Why Red Light Therapy Matters

There is there are updates to it, and a lot of people are really lazy to go back to go make something better once they've already crushed it. I mean, you crushed it.

Why do you have to go make this better? Because you care. Because your legacy that you're leaving on this planet is really to help people. And so I just acknowledge you for that, because a lot of people wouldn't go back and put in the work to do this. Well, thank you. I appreciate that.

And I feel some responsibility to do that, because there was one thing in that book that I got wrong, which was I used a little home device to measure the light output of certain of these light devices.

And it turns out, and I should say that a whole bunch of other people in the industry started using the same device or type of device to measure their lights and putting out numbers based on that.

And it actually turns out, believe it or not, that those devices are across the board inaccurate in terms of measuring these kinds of light devices and any way the numbers get very inflated and the true numbers are different.

When you actually go to a third party lab that specializes in this area, you get the real numbers and they're quite a bit different. They're on average 30 to 40% lower.

And anyway, so I got something wrong in that book, which is a mistake I made. I feel the need to correct it and a whole bunch of other people got things wrong based on following what I did in that way.

And I should also say, when I email all these different manufacturers of in this industry, asking them to submit their lights to this third party lab, I got so many emails back from these these people saying I started my business because of you, because of your book.

And I don't want to take too much credit here because are some companies that that didn't start because of my work necessarily. But it is the case that to some extent I almost spawned an industry here with with the work that I did.

And I feel some responsibility to make sure that it's putting out good quality information that's accurate and truthful. Well, again, that's why we love you, because you're so honest and responsible.

So what we have created here for our audience today is nothing short of spectacular. So we're going to go through the devices, what works, how to use them, the reasons you would want to use them, what symptoms they support.

And so in a moment, you're going to share your screen and walk people through a wonderful presentation. So everyone viewing, get ready, put on your running shoes, you know, get ready to run a marathon with us, so to speak.

Get your pen and paper handy because we're going to share a lot of information with you today. Do you want to talk about these devices behind me before I have you share your screen and explain because that people are probably can see them over my shoulder.

And so. I'll get up and talk and you can talk about these. So, you know, I kind of jumped a little ahead of myself talking about the book and sort of all the third party lab data and all of these details.

But let me let me jump back that for people that are unfamiliar with this area and just say this technology, red light therapy, near-infrared light therapy is profoundly beneficial for human health and for mitochondrial function specifically.

And mitochondria, as it turns out, are really at the core of human health, at the core of energy levels, at the core of resiliency, at the core of brain function, at the core of mood, at the core of the rate of aging and the risk of many, many different diseases, chronic diseases of nutrition and lifestyle, environmental factors, which is 80 plus percent of the chronic disease burden.

Mitochondrial health is at the core of that. And this technology, red and near-infrared light therapy, is one of the most profoundly beneficial things that you can do to support your mitochondrial health.

So with that said, and I'm going to tell you a whole bunch of science in this presentation to back up that assertion. Now, with that said, ultimately, this is very simple what we're actually doing.

You get yourself one or two light panels like the kind that turn. These on while you're talking. Okay, so what they do. Go for, okay. So it's it's literally this simple, folks.

You get yourself one or two of these LED light panels. Like what? What Laura has there, and you flip the switch to turn them on just like that. And you let it you let the light shine on you.

And depending on your goal or what you're what you're after. And this can be many different things from skin anti-aging to yeah. So I think our audience couldn't see it because you were talking.

So here, let me talk for a second. So the carrots to me so they can see me standing in this now. So I put them on and I feel like a beautiful warmth going over my whole body.

So now they can see what these are like and what they experience is like. Okay, now, girl. Okay, so, so it's literally this simple. You walk over to the lights one or two of these LED panels, you flip them on and you sit or stand next to it.

And that is literally it. And for me, it's going to be the neighborhood of 3 to 10 minutes, most likely, you know, a maximum, maybe 20 minutes. But really in the neighborhood of 3 to 10 minutes is all that's needed.

Depending on the goal, you're going to either move closer or further away from it. You're going to shine it on different parts of your body, depending on exactly what you're after.

There's many different things. Everything from skin anti-aging to wound healing to anti-aging mechanisms to fighting autoimmune conditions to supporting fat loss, to supporting muscle gain recovery after exercise.

Many, many different things you might be trying to do with these lights and you know that that'll adjust the specifics. But basically the gist of it is get one of these lights, flip it on, be next to it for a few minutes per day.

And that's literally all it takes. And as simple as that sounds, we have literally over 6000 studies now on this subject showing absolutely profound benefits to human health and mitochondrial function in particular.

Well, so you can see them still on behind me. We're going to let the I'm going to shut these off in a moment. As we go through this together, there is a link on the page where you're watching this video for read therapy company or Read Therapy Co.

And Ari, before we switched your presentation, it's my understanding that this company built their lights to your exact specifications. And this is one of the companies that took your advice to go back and correct things.

And these lights were made to your connections and specifications if you could have any light you wanted. This is what the founder of the company read.

Their company created for you was the light you wanted. So as as luck would have it. And the founder of this company was smart enough to actually reach out to me personally and say, Hey, I'd like to hire you to help me build the best light on the market and what would you do?

And, you know, he he paid me as a as a consultant to to to help guide the process of building these lights. So everything from the wavelength to many different aspects of the design to the IMF blocking technology to the pulsing aspect of the light and numerous other aspects of what's going on with this.

Even the fact that you have to set up in the way that you do right there was my idea. So, you know, all of basically he he was the guy who was smart enough to say, hey, all right, let me go.

Not only just start my business, but let me hire the author of this book to be my consultant, to guide me to to build these lights. Now, I will say in full transparency to everybody listening, I am an affiliate for many different red light companies, essentially all of them I'm an affiliate for.

Light Deficiency and Sun Exposure

And and I'm also in the interest of just sharing the raw third party lab data, which I'm about to come out with the updated version of my book that does that.

So I'm, I don't only have, you know, sort of an alliance with only one company. I've had companies that have tried to do that and say, you can only promote our light.

And no, but you can't talk about or promote anybody else's light. And I said, no, and if you want me to sign that kind of deal, then I refuse. So I'm interested in just sharing the truth about these lights.

But this is the one company that I actually had a hand in a role in, in the design process, too, to make them the way that that I wanted to make them so good.

Okay. So why don't you why don't we jump into our presentation, Ari? I'll let you share your screen as you're getting that set up. So this is red there, big company that Ari is referring to.

These are the lights behind me. And if you click the link on the page here, you'll find it on all the summit pages. You'll get access to this. They do have a coupon code for you.

It's energy 23. It will take off anywhere from 25 to $50 off the unit, depending on what size unit you buy. Now, you can't see it right now. It's it's right behind me.

But there's a smaller unit here. And Ari, we can talk about this one also at some point during this presentation, but that's the coupon will work for any of those units.

So I'm you're not quite sharing your screen yet. Let's do it. Okay. Okay. How is that? Perfect. I see you. I see this beautiful woman with red light showing the base.

Okay, so here's what I want to suggest to you. I want to get this point across, maybe above all else. So think if there was a prescription drug that was proven to have powerful anti-aging effects on the skin, to combat neurological disease, to fight depression and anxiety, to speed up fat loss, to enhance recovery from exercise, to increase strength and endurance in response to exercise, to combat certain autoimmune conditions like hypothyroidism, autoimmune hypothyroidism, to fight hair loss and to speed healing from injury, all of which without side effects.

And if you think of a drug that had these all of these different kinds of effects, even if it just had to, let's say it fought depression and anxiety and combat neurological disease, or let's say it just enhanced the add up the effects of exercise.

It increased fat loss and it increased muscle gain and reductions and endurance and it sped up your recovery from exercise. Let's say it just had anti-aging effects, even just one of those things.

But let's imagine all of them and all of those benefits with basically no side effects. If there were a drug that could do this, it would be essentially the best selling drug of all time.

I prescribed a lot of drugs in my time already. And you ever seen a drug that that can do all of these things or even several of them without side effects?

Not even close. And this is why I cannot understand why every household in developed countries don't have a red light. I mean, I'm putting my teenage daughter in front of it.

She's an athlete. She you know, she has acne, she has hormonal stuff. I'm putting her in front of these red lights. My husband is a landscape contractor.

He does heavy labor his whole life. His muscles, his joints. Everything is stressed to the max every day. I'm putting him in front of these lights for 10 minutes a day to help with the pain that he feels.

At the end of the day. I mean, his body's getting older. He's done a lot of heavy labor and and, you know, I want support for his gallbladder and liver because we're dealing with saving his gallbladder right now.

I mean, I'm in front of it because I'm 50 years old and I want to stay looking youthful for as long as I possibly can. I want to look like this and I want the internal benefits to my body as well.

And I'm always on some kind of detox protocol of some kind trying to remove toxins that I'm exposed to in beautiful San Diego. And it's helping me detox.

I mean, so many benefits. Exactly. So so basically, again, if there were a drug that could do all of this with no side effects, this would be the best selling drug of all time.

The whole world would be going crazy for it. It would be all over the media. It would be all over newspapers. It would be your your doctor. The doctors would prescribe it to everyone on the planet.

Your doctor would look at you like you're absolutely mentally insane if you don't take it. And and again, this is literally the case. It would be this way if all of if if this treatment were encapsulated in a physical drug, because that's the culture, that's the paradigm that we live in.

Now, here's what I want to get across to you. This drug, as you just implied, Laura, exists. It's just in the form of red light therapy. It's not in the form of a prescription drug from a pharmaceutical company, but the drug exists.

It's in the form of those LED panels sitting behind Laura right now. Now, here's the paradigm that I want you to get the context for understanding what this is all about.

Because it might seem weird, like this seems like a weird thing. Again, because of our cultural narratives, the paradigms were brought up and it's like, no health comes in a bottle.

If I'm in the conventional paradigm, I take my drugs and that's what's going to keep me from, you know, dying and having lots of diseases. And if I of a more natural paradigm, well, maybe I take lots of supplements.

Well, I want you to understand this concept of now illumination, and it is the equivalent of malnutrition. We all know what malnutrition is. We typically that word is associated with like really poor diets, cassava only diets and really horrific diets, protein deficient diets in Africa and things like that.

You see little kids with big swollen bellies and that's kind of what we think of with malnutrition. But malnutrition is basically we need certain nutrients from our diet.

And if we are not getting those nutrients, inadequate amounts or we could also say if we're getting certain nutrients or certain things that are not great for us in too large of amounts, like in the form of processed food and things of that nature and sugar and, and, and refined oils and trans fats and things like that.

If we're getting too much of bad stuff or we're not getting we're deficient in the nutrients we need, we have malnutrition now. It is also the case that humans, believe it or not, and this is not well known by most people require certain nutrients from light.

We don't call them nutrients. And most people are unaware that light interacts with human physiology in the way that it actually does. But essentially there are many different components of natural sunlight and those different wavelengths, those different parts of the light spectrum.

You can think of them as light nutrients and they have different physiological functions in our body. They they are used by our body in different ways.

They interact with our physiology and they help keep us healthy. And if we are not getting enough of those light nutrients or if we're toxic in certain light nutrients, which maybe I'll talk a bit about, we are suffering from mal illumination and a majority of humans, especially those living in the Western world right now, are suffering from mal illumination.

Did you make up this word or is mal illumination something that you created or is that a technical diagnosis? It's not a technical diagnosis and it's not my original word.

It's it's a word from a guy named Jonathan UT, who is not well known, who wrote a book which I actually have on the bookshelf next to me called Light and Disease.

And he was the first researcher to really look at the connections between light and and human disease and looking at doing experiments with lab rats, either in natural sunlight or under artificial lighting in indoors, separate from from natural light, from window light and that sort of thing.

And he looked at the health effects of these different kinds of light. And and he's the one who coined this term mal illumination. I think it's brilliant.

It's a brilliant term. And basically what you just said was just like we have malnutrition and nutrients missing. We have light missing from our healing, from our health, from our bodies.

So it looks like here you're going to break down the types of light. Exactly. These these are the five different bioactive wavelengths of light, actually, when one quick little aside.

That's interesting. I bought that guy's book, you know, health, light and health. I think it's what it's called. I bought his book a few years ago, and just last year my dad was going through his old books that he's had for many, many, many decades since since he was a kid.

And he pulls out this old tiny little book that's like beat, beat to hell. And he found this book that he didn't even remember that he had from the 1950s or sixties.

And he he knows that I'm interested in light. So he thought to give it to me. And it was that book and it was the original book, you know, literally from the 1950s or sixties from this guy.

And my dad had it, you know, somewhere in his bookshelf. So that was pretty cool. Irony is that you actually grew up with this book in your house and literally there all along.

Exactly. Exactly. So the different wavelengths that interact with human physiology, we have blue light, which primarily acts on the circadian rhythm. So we have these photons of blue light.

Think when you look at a blue sky, this is blue light entering your eyes and that blue light feeds through your eyes into receptors and then feeds as nerve single signals into a part of the brain called the super high asthmatic nucleus, which regulates our circadian rhythm, which impacts on many, many different neurotransmitters and hormones that impact basically all of our physiology, our mood, our energy level, our wakefulness, our sleep cycle, our libido, pretty much everything, you know, thyroid hormones, sex hormone, cortisol, stress hormones.

It's impacting our entirety of our physiology. Blue light now and again, you know, deficiencies and toxicities most people have a deficiency of natural outdoor light during the day and a toxicity in blue light in the evening before bed.

We're getting way too much blue light from indoor or fluorescent LED lighting, TV screens, phone screens, computer screens. And this has a profound impact on in particular, a hormone called melatonin, which everyone's heard of.

But most people don't really know the full story about something that we talk more about in the. Well, we have to amazing presentations on this summit on Blue Light.

So great excuse me on melatonin. I meant to say it, too. I mean, so Jason Paul did a whole talk on high dose melatonin and then Jon Lawrence of Midas then is here on this summit also.

And he also alluded to high dose melatonin dosing. So make sure you catch those interviews. Okay. Well, here's what I want to say to everyone listening.

High dose melatonin, in my opinion, has a context and it has it has an appropriate context where there's plenty of research to support that. It has amazing benefits.

And that context is, for the most part, is specific disease states. And there's pretty amazing research in that context. However, here's what people don't know most people don't know, including most practitioners and experts.

As I'm going to tell you about in this presentation, one of the absolute most profound ways to elevate melatonin at the cellular level, which is itself a new scientific discovery most people don't know about, is red light therapy, which I'm going to tell you about.

Okay. And again, like 99.

How Red and Near-Infrared Light Work

99999% of even the most cutting edge functional medicine practitioners don't know this layer to the story, so we'll get there. But blue light is really important.

Blue light also has other effects. That's recently been shown to act directly on fat cells and liberating fat from fat cells. There's lots of layers to the story of how light interacts with human physiology.

UV light is the part of the story that most people know at least a little bit about. They know the vitamin D story. Most people think, Oh, sunlight, vitamin D.

You know, I don't really need sunlight. I can just pop this vitamin D pill. And that's a replacement for sunlight. No, no, no, no, no. We get way more from the sun than just vitamin D.

Vitamin D is only a small part of the story of what we get from sunlight. Obviously, I just mentioned blue light, but even with that just UV light part of the story, there's other layers to that story, especially with nitric oxide, which there's experiments in rats, for example, where they do UV light irradiation in rats that are vitamin D knockout genetic knockout mice, meaning they they can't synthesize vitamin D in response to UV light exposure.

And we still see that UV light exposure has a hugely protective effect against cardiovascular disease and other

diseases, irrespective of vitamin D. So we get a lot from sunlight beyond vitamin D, but not to minimize vitamin D.

It's also a huge benefit of of UV light exposure. Then we have far infrared, which is essentially heat. When you go into a sauna that's called an infrared sauna, it's far infrared energy.

It's wavelengths, invisible wavelengths of the electromagnetic spectrum, which is also part of the sun's energy that we feel as heat and that heat up our body and generally cause us to sweat.

And then we have red light and near-infrared light and red and your infrared light act on the same mechanisms, which I'm going to tell you about. And the gist of what they do is these are this is really the only type of light that penetrates deeply into the human body.

And like, if you were when you were a kid and shined a flashlight up against your hand in the dark, the only light that comes out the other side of your hand is red light and near-infrared light, which the human off.

On that little experiment as kids always. Yeah. Yeah. So and all the other colors, all the other wavelengths of light are absorbed at the skin or near the skin surface.

Red in your infrared light penetrate deeply into the human body. And here's the important part. It's not just photons of light that are inert, that penetrate in there and don't do anything.

It turns out they do all kinds of things in the human body. You know, we we humans think, oh, yeah, light interacts with plants. Plants use light to do this whole photosynthesis process.

But most humans don't realize light also impacts their cell function in a profound way. And so light is bioactive, and especially red, and near-infrared light is hugely bioactive and does a whole lot in human physiology, which I'm going to tell you about.

So this is this is what normal illumination looks like. I want you to get this this context. You know, our ancestors didn't have to worry about getting mal illumination and having to use technology to to deal with this state of mal illumination.

They existed in a mostly outdoor lifestyle. They got lots and lots of sun exposure. And hey, if if you live that kind of lifestyle where you are getting lots of sun exposure on a daily basis, the truth is red light therapy is probably not that necessary for you.

But if you're like most modern humans and you are not living like hunter gatherers live with lots of hours of daily sun exposure. This is a necessity for you.

This is hugely important. It is pretty much a guarantee that you have now illumination. And what we're learning about here and what Laura has right behind her, these these light panels is the correction for this.

It is the main way that you can fix it in a very easy and simple way to fix. And I know, Ari, that I have Mal illumination because I spend even though I'm sitting in front of a big window in front of me that you can't see, the sun is shining directly on me.

Plus the sun coming through the glass is not the same as being out in the sun. And I spend the majority of all daylight hours right here at this desk working and so that's critical for me to get in front of these panels every day.

Yep, I agree. I live in Costa Rica. I spend usually at least a couple hours a day in the sun between surfing and tennis and going for walks with my dogs and things like that.

And I still use this technology. So it's, you know, it's amazingly beneficial even for someone living the way I live. Okay. So diseases linked with sunlight deficiency, just to emphasize this point, neurodegenerative diseases, dozens of types of cancer, obesity, diabetes, metabolic syndrome, many, many other diseases, heart disease,

hugely linked with it.

Now, most importantly is what's called all cause mortality, risk of dying from any cause. And we have this study from Sweden on almost 30,000 Swedish women showing that avoiding sun exposure is a risk factor for all cause mortality that is on par with smoking a pack of cigarets per day.

That is how big of a risk factor it is to avoid sun exposure. They actually quantified it in this way. They looked at different categories of women as far as their, whether they got lots of sun exposure or whether they were avoiding sun exposure and got very little.

And they found that the women avoiding sun exposure had the same risk of death, died at essentially the same ages compared to women who were chronic smokers who smoked a pack a day.

This is really scary for women who are avoiding sun for anti-aging reasons to keep their skin youthful. And I also see the title of this study has to do with melanoma.

So what I'm hearing is, well, you know, our Western dermatologists are saying stay out of the sun to prevent melanoma. If you stay out of the sun, you actually have a higher risk.

You're at higher risk of melanoma. Yeah. And I don't want to go too deep into this, but just to to briefly talk about this, the reason that all cause mortality is very important is, well, let's let's just imagine as a thought experiment, a drug that is highly effective in lowering your risk of Alzheimer's disease, just as an example.

Okay. And it takes your chances, let's say your chances of getting Alzheimer's disease just to make up numbers were were 50%. You had a 50% chance of developing Alzheimer's.

And if you take this drug every day from the time you're age 50 and beyond, then it will reduce your chances of getting Alzheimer's from 50% down to 5%.

Okay. And you might think, wow, that's amazing. What an incredible thing. And if you just look only at the only data you're examining, the only output that you're examining is risk of Alzheimer's.

There's no question that this is an amazingly beneficial thing to do. But let's say you expand the outcomes that you're you're examining and you find out that while that drug is highly effective in reducing your risk of Alzheimer's, it increases your risk of a dozen types of cancer by 90%, and it increases your risk of diabetes by 70%, and it predisposes you to fat gain.

So your risk of obesity goes up by 130% and so on and so forth. Okay. Now the big picture of what that drug is doing is, is it beneficial or is it harmful? Right. You know, so if we look at things in a very myopic way, we might conclude something is beneficial.

The avoidance of sun exposure is very important because it reduces your risk of this type of skin cancer. Okay, maybe that's true. And I actually I've looked at the data extensively on melanoma, by the way, and it's actually not true for melanoma.

Indoor office workers have higher rates of melanoma compared to outdoor workers who get ten times more sun. The short version of that story, without getting too detailed, is actually intermittent sun exposure is what's most dangerous, not chronic sun exposure, intermittent sun exposure where you don't get sun normally and then occasionally you get lots of sun and then you get burns.

You get way more sun than your skin is capable of. Tolerating, tolerating. You get burned, you get DNA damage that predisposes to melanoma. But chronic regular outdoor time and sun exposure actually doesn't increase risk of melanoma.

It decreases it. Outdoor workers have lower risk of melanoma than indoor workers. But let's just say as a thought

experiment, sun exposure increased your risk of melanoma.

And then one may conclude, oh, well, I don't want to get melanoma, I got to avoid the sun. But if you expand the full picture of what you're looking at to all diseases and risk of dying from anything, that's what actually matters.

And that's what all cause mortality is. And we know that all cause mortality in terms of that, avoid ins of sun exposure is equivalent to smoking a pack of cigarets a day that's that's how much it increases your risk of dying from any cause from all causes.

So not a good idea. Not to. Get your sun exposure is the bottom line here. I'm glad we went down this little rabbit hole, Ari, because I know in my own practice lots of people are confused about melanomas.

I think that was a worthwhile or worthwhile rabbit hole. Yeah, I think so too. I think it's important to context. Okay, so there is another type of light deficiency other than sort of this this this story of vitamin D that that most people are unaware of.

And it is near-infrared and red light deficiency for for people to understand this, the electromagnetic spectrum consists of everything from gamma rays and x rays to ultraviolet spectrum to the visible light spectrum, which is just this tiny little sliver here, which is really give the colors of the rainbow that the human eye and brain visual system is capable of seeing.

Then we get back into stuff that the brain, the human eye and brain can't see, the infrared part of the spectrum. And then we get into things like radio waves, radar waves and things like that.

Okay. So this is the electromagnetic magnetic spectrum. What we are talking about here is this very small sliver in the red and infrared part of the spectrum.

Only part of the infrared part of the spectrum. It's red and near infrared. So crazy that tiny spectrum is so important, right? With all the wavelengths of light, when we focus on this narrow range right here, you can have so much benefit.

Exactly. And it's this. I just want to show this really quick. It's it's this specific part of the spectrum from 600 nanometers to you could say to about a thousand, but really in the 900 nanometers.

And as I said to you before, with the flashlight thing, we were a kid. It's specifically these wavelengths, this part of the light spectrum, red and near-infrared that penetrates deeply into human tissue.

The other parts of the wavelengths get absorbed very much in the surface tissue, the blue, the the ultraviolet. They're getting absorbed very much in the surface layers.

When you get into orange amber wavelengths, it starts to penetrate a bit deeper and then you get into red and you're infrared. Now it can actually go inches deep into the human body. So what can it actually do?

What is this? What is this part of the light spectrum? How is how is it how is it that humans have co-evolved for millions of years in the sun on the planet Earth, such that this part of the spectrum has all these profound effects on our on human physiology.

And this is what it actually does. And we have over 6000 studies showing this wavelengths in this part of light spectrum has anti-aging effects, and the skin lowers inflammation, enhances fat loss, improves hormones.

Sex hormones like testosterone has a beneficial impact on the brain in terms of cognitive decline, neurodegenerative disease and depression and anxiety, enhances fertility, improves oral health, improves wound healing, improves skin anti-aging effects, enhances recovery on and on and on.

So many amazing effects. And I'm going to show you the science. This is a quote from Michael Hamblin, who is a

Harvard professor. He's the author of the most popular textbook clinical textbook for practitioners and clinicians using Technology.

I'm the author of the most popular book on the subject for laypeople. He's the author of this 500 page trying to see if I have it next to me. I do not at the moment.

I don't want to go search for it, but I have a like it's it's probably a five or 600 page clinical textbook for practitioners that textbook of photo medicine, something, something like that.

But he's he's the most prolific researcher. I think he's got over a thousand studies that he's done on this subject. And what he says on read in your infrared light therapy and this is also called low level light therapy or photo bio modulation.

Photo is light. Bio is biology and modulation is change. It's using light to change your biology. He says this is more than an alternative kind of medical treatment.

It is a whole new method to control cellular processes and modulate living organisms by precise alterations in the chemistry of biomolecules. Okay, so how does this work?

Let's talk mechanisms. How is this this interacting with our physiology? Again, you know, I mentioned blue light before going into our eyes, feeding back into the circadian clock, the suprachiasmatic nucleus in our brain, all these different neurotransmitters and hormones are affected.

UV light hits our skin and leads to the synthesis of a hormone that we call vitamin D, which has an impact and influence on over 2000 genes in our body as involved in immune health, musculoskeletal health, and many other aspects of our physiology.

How does this red and near-infrared light thing work? Well, here's a list. If you go into the the textbook written by Michael Hamblin, you'll find a list like this of like 50 different mechanisms that we know are affected by red light.

Go on. You know, you know, the E. R. K Fox M1 pathway and the P part Gamma and the R you and x two pathway and the transforming growth factor pathway and the hypoxia inducible fact on and on and on.

Right. And all of this sounds very overwhelming. I'm going to simplify this for you. Okay. Good. Thank you. Because I know all of that. That's not the that's not the slide to take a picture of.

That's not what matters. Matters is what he's going to break down for you. So here's what it boils down to. There's three primary mechanisms that you need to understand as far as how this works.

The first one is the photons are out in your infrared light, directly interact with our mitochondria and stimulate mitochondrial energy production. Okay.

So there's a very direct, very simple way, light photons, literally physically the photons are interacting with part of the mitochondria, enhancing the ability of the mitochondria to produce energy.

And number two is automatic stress. And this is something that you're going to you're going to hear from me in many of the interviews that that I do in the summit, in particular, the one that I do with.

That's crazy. And it's something that we emphasize there and core medic stress is basically transient metabolic stress, beneficial stress that stimulates adaptations that make us stronger.

So exercise is the classic automatic stressor, but also things like intermittent fasting, heat exposure like sauna, cold exposure like cold, plunging breath holding practices, certain phytochemicals, certain other chemicals and red in near-infrared light therapy are medic stressors.

It is a transient, low level, beneficial stress that stimulates adaptations that make you stronger and more resilient. And a lot of that has to do with how the mitochondria respond.

And the third one also involves mitochondria, and it's something called retrograde signaling. For a long time in biology, the central dogma of biology was that DNA was the big boss.

DNA controls everything else. DNA your genes give the instructions for what proteins are made and how your biology behaves. And we now know that whole paradigm got upended by that.

Melatonin, Mitochondria, and Cellular Health

The discovery of the field of epigenetics and the realization that actually our genes are responding, which genes get turned on and which get turned off is a function of the inputs from the environment.

And what is a huge factor in sensing those inputs from the environment and then translating those messages back to the nucleus of the cell that contains our DNA and deciding which genes get turned on and which genes get turned off is our mitochondria.

Our mitochondria, our sending signals are sensing things, sensing the environment and, then sending signals back to the nucleus of the cell. So it's actually in large part what's going on at the mitochondrial level that is deciding which genes get expressed or not expressed and read in your infrared light.

Therapy is a way that we send signals to our mitochondria to beneficially modulate gene expression. Literally your DNA, what genes are getting turned on and off?

Well, so the first mechanism just stimulating ATP production at the level of the mitochondria. So these photons of light are directly interacting with our mitochondria in a way that stimulates mitochondrial energy production.

So this this is a paper from Michael Hamblin that's the same Harvard researcher I mentioned before, a Harvard professor. He said several pieces of evidence suggest that mitochondria are responsible for the cellular response to red visible and near-infrared light.

And he goes on to describe the different experiments. This is this is basically what's going on. We have these different complexes on the respiratory chain or the electron transport chain in our mitochondria complex.

One, two, three, four and five. And this red and near-infrared light photons act on a part of this. These complexes in our electron transport chain called cytochrome c oxidase and it's literally like a receptor for photons of light.

So it's put there, it's in our biology. It's designed in such a way to accept photons of light, specifically in the red and near-infrared spectrum, and that that facilitates our mitochondria being able to efficiently produce ATP.

Another way of saying this sorry. So literally we were not engineered to be inside and out of the sun. We literally are. What I'm hearing you say is we are engineered to accept light as a way to help us make energy.

So sorry I interrupted you, but that's what I'm hearing here. That that's exactly what I was going to say. So you said exactly what I, what I, what I wanted people to get from it.

So thank. You. Good. Okay, so and this just emphasizes it. So when we look at the absorption of light by the cytochrome c oxidase, it is specifically only in the red part of the spectrum, 600 to 700 nanometers and the near-infrared part of the spectrum that cytochrome c oxidase.

This part of the mitochondria absorbs light. It's only those parts of the light spectrum that activate this the mitochondria in this way. Okay, the, the way that the way that this works is nitric oxide largely due to various kinds of stressors can build up in the mitochondria and nitric oxide competes with oxygen for sort of entry into the electron transport chain in mitochondria to help energy production.

When you get red in your infrared light exposure in there, it boots out the nitric oxide and allows oxygen in to facilitate healthy energy production at the mitochondrial level.

So again, you can think of this as a required essential nutrient. In the same way we think about food, we have certain essential nutrients that our body needs to function properly.

Red and near-infrared light are an essential light nutrient for your mitochondria to to produce energy efficiently. Okay. Mechanism number two or medic stress. Again, this is transient metabolic stress that by stressing us out temporarily stimulates our body to make adaptations that ultimately make it stronger literally in response to exercise, to heat, to cold, to read.

In near-infrared light it increases autophagy. It increases the robustness of the internal antioxidant system. So the next time that we're exposed to oxidative stress that internal antioxidants system can neutralize that stress more efficiently.

There's many other mechanisms heat shock proteins, FOXO three there's several other mechanisms that are involved in sort of building up the armor that protects us against damage from future exposures to stress.

But this is basically how it works. You use in the same way that challenging your bicep muscle by lifting a heavyweight stimulus to that muscle to grow bigger and stronger.

We do the exact same thing internally at the cellular level, at at the mitochondrial level, we turn challenges into strength. Okay. And human biology is designed to respond in highly beneficial ways to certain types of biological challenges, certain types of core medic stressors, exercise, fasting, heat, cold retina or infrared light breath holding practices are the main ones.

And in as a way, as we build these things up, basically we become just as muscle grows stronger in response to challenge, we become stronger internally at the mitochondrial level and in terms of our oxidant free radical neutralization system, we become more strong and more robust in our ability to prevent damage upon exposure to future stressors.

So red near-infrared light is a way that we do that. Number three, as I mentioned before, retrograde signaling. So when we use red, when we have red and near-infrared light exposure, it interacts with our mitochondria, which then send signals back to the nucleus of the cell that contains our DNA, that influences which genes get turned on and off.

It influences the proteins that are made, which ultimately dictates. Is the cell functioning in a healthy or unhealthy way. So we can literally influence very directly whether we are expressing healthy or unhealthy genes by using red and near-infrared light mechanism.

Number four, and this is what I was alluding to earlier about melatonin. This is a new, new scientific discovery. Really, just in the last year or two, it used to be thought that melatonin was produced by the pineal gland.

So we have the pineal gland in the brain and the primary thing that is influencing it is blue light entering the eyes again, feeding back into the circadian clock in the brain.

And that blue light signal, and specifically that blue light suppresses melatonin levels from the pineal gland. And then the absence of blue light, when the sun goes down, when we have darkness, the pineal gland starts producing more melatonin.

And that's been the whole story about melatonin. It's produced by the pineal gland in the brain. It's involved in sleep. It's a sleep hormone, right. That that's the melatonin story as it's existed now.

Several years ago, it was discovered that melatonin, it turns out, is the most important mitochondrial oil antioxidant in existence and that our cells, our mitochondria throughout our whole body need to be bathed, are designed to be

bathed in mitochondria every single night.

And our mitochondria need to be made. Mitochondria are designed to be bathed in melatonin single night, and that melatonin acts as a direct antioxidant, which helps protect mitochondria and it interacts with our internal antioxidant defense system, things like glutathione, iron and superoxide dismutase and catalase and heme oxygenates.

These very powerful antioxidant and detoxification enzymes inside of our cells, inside of our mitochondria, that that ultimately protect ourselves from damage and aging and melatonin recharges that system every night.

Well, it turns out if you and sort of that that's that's how the story was talked about and we knew that artificial light at night when you get too much blue light from indoor lighting and screens, computers, phones, things like that, that it suppresses the melatonin production from the pineal gland massively.

Okay, now what's new and largely thanks to the work of a sort of legendary melatonin researcher named Russell, writer who's been doing melatonin research for decades, they did experiments a few years ago on mice where they removed the pineal gland and then they measured levels of melatonin at the mitochondrial level in cells throughout the body.

And they found that that mice that had no pineal gland had the same levels of melatonin at the level of mitochondria throughout their body as mice with a pineal gland.

And that that removing the pineal gland source of melatonin didn't influence how much melatonin was actually in their body. And what they then discovered after that is that melatonin is such an important molecule for mitochondrial health that millions and millions of years ago, melatonin, mitochondria, I should say, evolved the ability to produce their own supply of melatonin.

Okay. So all of the mitochondria throughout our whole body and our brain and our muscles and our bones in our liver and our intestines, they all produce melatonin.

It doesn't only come from the pineal gland, it's coming from the mitochondria throughout our whole body. Guess what, Laura? Guess what? The number one thing is that stimulates those mitochondria to produce melatonin.

Red light. You got it. So that that's the big discovery. Interestingly, it turns out actually X exercise and several other types of automatic stress actually cause the mitochondria to produce a lot more melatonin.

But red and near-infrared light stimulated very strongly. And and this is this is quite an amazing discovery. So there's lots going on with melatonin.

We have other people in the summit that are speaking about this. But melatonin has very profound effect on on protecting mitochondria and preventing some of the the process is that that drives cellular aging, senescence, impaired autophagy, accumulation of of cellular damage, loss of of healthy protein folding and so on.

And melatonin is is directly fighting those processes. Again, it's also interacting with our internal antioxidant defense system, the glutathione system in particular, and recharging that system every night while we sleep.

The again, the big shift in thinking is to realize that this doesn't only come from our pineal gland at night while we sleep, and it doesn't only come from taking melatonin supplements.

I would actually argue that the most important source and the most powerful source and the one that is most likely to be regulated in a balanced way without side effects is by using red and your infrared light to stimulate your own cellular mitochondrial supply of melatonin.

So powerful, this may be the single most critical point that people can get out of this presentation today. Ari, in the 10 minutes or so that we left, believe it or not, we've been talking for near an hour already.

But in the time we have left, I want to make sure we covered dosing and whatever other high points you want. So I just want to have you thinking in your.

Mind, give me more. You got to give me more than 10 minutes and I'll skim the rest. Okay? Okay. Okay. So I want to emphasize this because I again, this is a new discovery.

I think it's going to turn out that melatonin is playing a way bigger role in human physiology and human health and disease prevention and aging. And than than people realize.

And I think that red and near-infrared light and sunlight are way more important than people realize, that humans need sunlight and we need red and near-infrared light.

It's a big, big aspect of slowing down the aging process and preventing disease at the cellular level. Okay. So there's other potential mechanisms that I could talk about here.

I'm going to skip over this easy water. Gerald Pollock's work, it turns out red and near-infrared light also influence the essentially the health, the structure of the water in our cells.

And there's research is suggesting this also relates to how efficiently mitochondria work. There's other more theoretical mechanisms at play, including how light specifically red light interacts with chlorophyl metabolites.

So we get certain compounds from our diet. This can interact with light and it turns out that this also influences energy production and mitochondrial function at the cellular level. And ultimately what this is doing is translating into increases in cell energy production, decreased inflammation, speeding up wound healing, boosting fat loss and so on and so forth.

Okay, so some of the benefits reversing skin aging and I won't go over all the studies, but you can see some of the studies and maybe we can do after I get through this, Laura, you can ask me any questions and I can show you some studies if you'd like.

And I'd also I just want to say I know you're coming out with the updated version of this book, but here's the beauty about Ari's work is in the back of this book, are all of the studies that you reference, I mean, literally, it's all in here, everything.

I mean, your books are very complete. Yeah. So as far as reversing skin aging, it has been shown to reduce signs of damage, DNA damage, DNA damage and reducing wrinkles, reducing color patches and hyperpigmentation, enhancing collagen synthesis and fibroblast production of collagen.

It's been shown to combat other skin conditions like acne, keloids, vitiligo, burns and psoriasis and so on, speeding up, wound healing, etc. Along in the same vein, it's been shown to reduce cellulite really through the same mechanisms of supporting healthy collagen and skin skin health more broadly, collagen and elastin boosting blood circulation and blood vessel health.

And this whole cellulite thing is huge. I mean, do you know how many women want to know? How do I get rid of cellulite? Totally. And it's it's supporting healthy skin more than anything.

Okay. Skipping over studies, hair loss, hair loss and and regrowing hair, basically, there are three phases that hair goes through the antigen telogen and cardigan phases.

And one is sort of new growth and one is sort of stalling and dying off and basically red. And your infrared light supports the growth phasing, the growth phase and the maintenance phase. And minimizes the amount of hair follicles that are dying.

And I pause you. I know we're hearing, but I really want to spend 1/2 on hair loss. So there's different types of hair loss. There's hair loss that is just part of as we age our hair thins.

Then there's autoimmune hair loss. Are there studies that show even people with an autoimmune condition causing their hair loss can benefit from this?

I don't know. That's a good question. I'm not aware of any studies on autoimmune hair loss, just based just based on the mechanisms. I would suspect that it would help at least a little bit.

Skin, Hair, Wound Healing, and Autoimmune Support

But if it's driven by autoimmunity, I don't know how much it's going to impact that. Now, what I will show you in a second here relating to autoimmunity is that it can also slow down autoimmune processes.

But let me let me get there in a second. So again, by supporting collagen production, it's also going to speed up wound healing. And we have lots and lots of of evidence supporting that various kinds of wounds, everything from from cuts to diabetic ulcers to athletic injuries and sprained ankles.

Everything heals faster. There are studies in athletes with sprained ankles where they go with no red light therapy or with red light therapy. And the ones that do red light therapy get back on the field literally twice as fast.

Instead of being out for six weeks, they're out for three weeks. Wow. And it's very consistent in its ability to essentially double the rate of of healing, of injuries, of various kinds.

And it works in all tissues. It works in skin, it works in tendons, it works in bone, it works in muscle. Okay. It's and the reason why is because the reason why it has all of these different effects, everything from skin effects to supporting hair follicles to lots and lots of other areas that I'm going to tell you about.

It sounds almost like snake oil, that it could affect all these different physiological systems. But the reason why is very simple. Virtually all of the energy that virtually all of that the trillions of cells in our body run on from our brain to our thyroid gland, our muscles to our skin to our bone.

They're they're running they're doing their jobs based on the energy produced by mitochondria. If the energy supply is better, if those cells are producing energy in greater abundance and more efficiently, those cells work more efficiently.

They do their job better if their brain cells they do their brain cell job better if their thyroid gland cells, they produce thyroid gland, thyroid hormone better if they're muscle cells, they produce strength and energy.

Better to to support muscle function better. Everything works better when the energy supply to those cells is better. And this is one of the essential nutrients to support the energy supply of your cells.

That's why it affects essentially everything in a beneficial way. So it's such a good explanation. Ari That's such a good explanation. I mean, everybody has been in a situation where the electricity was cut off at your house and nothing works.

Don't open the fridge. You don't want to lose the cold air in the fridge. You can't run. You know your TV anymore. You can't run cold, you know, air conditioning or heating in some cases, if it's not a get, I mean, it's no different, right?

You shut off the energy in your body. It's not going to run. You boost the energy in your body. Everything runs. That's right. So it's also been shown in the context of chronic fatigue and fibromyalgia to reduce pain symptoms and to increase energy levels.

And again, you're supporting energy production at the cellular level. So enhance quality of life, decrease pain, decreased muscle spasm, decreased morning stiffness, decreased total tender point number in fibromyalgia cases on and on and on.

Hashimoto's hypothyroidism there's several amazing studies here where in one in one study from 2010, 47% of the Hypothyroid patients who just received ten sessions of red light therapy maintained normal thyroid hormones without thyroid medication.

At the end of the nine month follow up, 47% of of people were able to do that. They also noticed a decline in TPO antibodies by 39% and there's there are several other studies where whereas the one I'm looking for, okay, in this one from 2003 in in the Ukraine, they found 50 to 75% of people who had post-surgical hypothyroidism were able to decrease their medication requirements by using red light therapy.

And there's several other studies where they've shown that a huge proportion of people are either able to reduce or completely eliminate their thyroid medication as a result of doing red light therapy.

Cancer. I'm going to skip over this one. Don't use red light therapy direct on cancer tumors themselves. But when it's used systemically, it's been shown to enhance cancer survival in cancer patients of various kinds.

So what you're saying is don't put it right over cancer. Like if it's an internal cancer, you wouldn't use it in some kind of it's okay on the outside of your body if you have cancer to use, but.

Basically don't don't use it directly on tumors. Got it. Just to air on the side of caution. It's actually hasn't been studied. We don't know yet. But just to err on the side of caution, basically researchers in that field maybe are saying like don't if you've got a tumor here on your arm, don't do red light therapy direct on the tumor.

Do it on other parts of your body to enhance overall immune function, to help your immune system better fight off that that cancer. Okay. Other types of autoimmune conditions have also been shown to to benefit from this rheumatoid arthritis.

For example, there's new studies that have come out very recently showing improvements in eHealth using red light therapy, depression and anxiety. Several studies here showing it combats depression and anxiety in a very significant way.

This is seven out of ten achieved remission on based on the six out of ten achieved a score of remission and depression based on the Hamdy Scale, the Hamilton depression score and in terms of anxiety, seven out of ten achieved remission on the Hamilton anxiety score.

So powerful effects there by using this on your brain. And again, because this light penetrates deep into the tissues of the body, it actually has the capacity to penetrate not only through the skin, not only through layers of fat, but also even through the human skull, so that you get photons of light directly into the brain, improving cognitive performance again for the same reason, and combating neurological disease, improving fertility.

And let me show you some of my favorite benefits here. One is that that's relevant to a lot of people is combating osteoarthritis and reducing pain. This is a huge thing for a lot of people.

And it's it's very effective for that. Oral health and fighting gum disease in particular, improving gum health is another major one. And let me skip ahead here since I know we're running short on time.

Actually, I do want to mention this one. STEM cells, actually, this is a bit of a deeper discussion, so maybe I'll just do a very, very short version.

The short version is this. There's a lot of research to show that even, you know, our whole focus of the health care paradigm right now as it stands, especially the conventional medical paradigm, even to a large extent to the alternative and functional medicine paradigm, is about disease.

It's focused on disease and it's focused on understanding disease and reversing disease. And we all grew up in a cultural and cultural narrative where we think if only we had a cure for heart disease, if only we had a cure for cancer, then everything would be so much better.

We'd be so much healthier, healthier. We'd live so much longer. Here's the reality. There's a lot of research that exists. Very few people are aware of it, but there's research that exists that shows that even if we tomorrow completely cured all cancers, it actually would have a very minimal impact on overall lifespan of our population, even if we had a cure for all heart disease, which is the number one killer in our society, it would have a minimal impact on our overall lifespan one or two years at the most and on and on for every other major killer neurological disease, whatever, other types of major diseases that you want to metabolic syndrome and obesity and things of this nature.

And the reason why is that if you if let's say you cured all cancers tomorrow, well, if you didn't die from cancer at age 79, now you're dying at heart disease at age 80.

And if you didn't die from heart disease at age 80. Now you're dying it neurological disease at age 81. And it turns out that actually, even if we cured all of those diseases, the lifespan wouldn't extend very much because most people are still dying of quote unquote old age, which is multi-organ system failure by about age 85 on average.

Okay. So this whole pursuit of if only we cured this disease and if only we cured that disease is very misguided for this reason because the main thing that is actually dictating whether we live closer to 120 or 85, 120 being that sort of genetically maximal human lifespan is actually the rate of cellular aging.

So again, the focus shouldn't be about reversing this or that disease. It should be about optimizing cellular health and mitochondrial health so that you slow the overall rate of aging might and red light therapy and near-infrared light therapy do this in multiple different ways through the mechanisms I've described so far.

In particular, I think melatonin is going to be a big part of that story. Another way that they do this is actually by supporting stem cell production and proliferation in our body.

When we produce our own supply of stem cells in abundance, we repair the damaged cells. And by repairing the damage cells, we accumulate much less damage.

We slow the rate of aging. So this is another way that, you know, forgive me for the lengthy explanation there, but I think it's important for people to understand that if you want to live longer and you want to be healthier, you want to not only have a longer lifespan, but a longer health span, slowing the rate of cellular aging is really where it's at.

And things like optimizing mitochondrial health, mitochondrial biogenesis through hermetic stress and supporting melatonin levels at the cellular level, mitochondrial production of melatonin and stem cell proliferation.

These are some of the most powerful ways that we can do that. I thank you, Ari, for taking a moment to break that down, because that was profound. It truly was.

We are so fixated on solving disease rather than enhancing cellular health. It's true 100%. Okay. There's some research on neurological disease. I want to get to this because this is some of my favorite aspects of how red and near-infrared light work, fat gain, fat loss, I should say, and muscle gain, strength, endurance and recovery basically read in near-infrared light pair synergistically with exercise in a in an amazing way.

There's research showing depending on which outcome you measure that red light therapy essentially amplifies oftentimes by about double whatever specific benefit you're looking at when it comes to exercise.

So this is Michael Hamblin again saying sports medicine will benefit from photo by a modulation red light therapy because both professional and amateur athletes can better recover from intense exercise and the process also AIDS training regimens in the near future.

Sports agencies must must deal with laser doping by at least openly discussing it, because the aforementioned beneficial effects and the preconditioning achieved by laser and led irradiation will highly improve athletic performance, basically saying athlete athletes will perform much better and recover much faster as a result of this technology.

Let me just show you a couple of visuals to this. There's many, many different mechanisms by which this supports optimal performance and enhances recovery from exercise.

This is doing LED exposure and then having them do exercise, showing that there was a 27% increase in the amount of work that was able to be done with just 1 to 2 minutes of red light therapy exposure on the muscle groups that were being used and a significant reduction in the amount of lactate produced by the muscles.

So the muscles are doing more work and producing less lactic acid as a. Pre-Workout you're getting the red light exposure pre-workout. Yeah. And I recommend doing it.

Pre-workout and post-workout. I had a discussion with Michael Hamblin several years ago and I said, there's all this research, you know, some of it does it pre workout to enhance performance other research does it apply to it after the workout to enhance recovery or enhance adaptations to the exercise?

I'm like, I'm so confused. What do what do I do? Do I use it before or after? He's like, use it both. Yeah. And I just want to want to put this in a context for people viewing who might not be athletes, because the majority of our viewers are not professional athletes.

And yeah, Ari's showing studies that were done on athletes because there's RV for obvious reasons. We do studies on that group of people. But this is going to benefit even somebody who has a non aggressive workout routine compared to an athlete.

Yeah. And actually a lot of the studies that have been done in this area are not necessarily done on athletes. They're done on regular people who are just performing exercise great.

So this this was a study where they had a control group, which is this this bar in blue here, the training group, and then the training group plus exposure in addition to the training.

And you can see this is muscle size. You can see significant gains above training alone, sometimes close to double, you know, 60 to to 80 to 100% improvement over just exercise alone by doing light therapy.

In addition to the exercise. This in terms of the muscle size gains and this is in terms of performance, you can see in terms of peak torque generated how strong the muscles were.

It's improving that as well, improving fat loss. I want to say a caveat here, which is I want to be clear that red light therapy will will not be super effective for fat loss in the absence of nutrition and lifestyle and exercise regimen that is supportive of fat loss.

So if you're not happy. If you're just expecting to use light therapy and have fat melt off without being in the overall context of a diet and lifestyle that's supporting fat loss, it will not work very well, but it pairs very, very, very well.

Exercise Recovery, Fat Loss, and Muscle Gains

Like, again, showing you these these graphs here to give you a sense of this, like in the control group that didn't do any exercise, there was really no no benefit, no improvements in muscle size.

Okay. If you add exercise now, you've got a nice effect. You're boosting muscle size. And if you add light on top of that now, you have an even better effect.

And a similar thing exists with fat loss. You got to have the base stimulus of exercise and diet to support fat loss. But if you add light therapy into it, it amplifies that greatly.

And I'll show you. And there are studies where they show inches of fat lost off different parts of the body and they have low level laser therapy, low level light therapy, body contouring.

You can go to clinics and get this done, but can do it at home with LED panels. And this is. Like the when you say LED panels, that's exactly what's behind me is LCD panels.

That's exactly what I'm talking about. So in terms of fat, mass lost, this is exercise alone and this is exercise with light therapy. So instead of a 6% loss of body fat, you had an 11% almost double by adding light therapy in terms of insulin levels, the exercise only group had a 19% reduction.

The exercise plus light therapy had a 38% reduction double in terms of insulin sensitivity and improved by 22% in the exercise only group, almost double 40% in the exercise plus light therapy group.

So you can see literally it's acting on mechanisms including insulin and insulin sensitivity to modulate fat loss. Okay. Now real quick, dosing and dosing lots.

There's lots of complexity that we could talk about and I could take you through the formulas to calculate dosing. But since we're simplifying it here and I don't need to take you through navigate all the different lights on the market and the different light output.

Some lights are very weak, some lights are very strong. The dosing here is very simple. If you get lights from red therapy CO, it basically just boils down to this.

If you're using it for superficial issues like skin anti-aging or wound healing on the surface, you're looking at using it for somewhere in the neighborhood of 30 seconds to 5 minutes.

Really, 2 to 5 minutes, I would say, is, is what's going to be optimal that so 2 to 5 minutes on any area that you're trying to get skin anti-aging effects.

So most likely the face 2 to 5 minute treatment boom you're done. That's all you need for the day. You could do it every day or you could do it four times a week, something like that.

For deeper tissues, you need longer times because you're trying to get more of those light photons beneath the layer of the skin into those deeper tissues.

You want to use the light from from closer up, more like three or six inches away. And you want to be doing it more in the neighborhood of 5 to 10 minutes on each area that you're trying to treat.

So let's say you've got a shoulder injury, you want to treat that or you got a knee injury or a hip injury or something like that, or you want to use it on your leg muscles since you just did a hard leg workout or your back muscles.

If you did a hard back workout, you do right after your workout, you go and you do a five or 10 minutes on the area that you just exercise and you're going to notice you're much less sore, you're going to recover way faster, you're going to feel good and strong again.

You're going to recover your energy way faster and and you are going to actually amplify the strength and the muscle gains or the endurance effects of the exercise, depending on which exercise what kind of exercise you're doing.

You're you're going to enhance all of that dramatically while you recover faster and feel better quicker. So every question here, you if you go back to this 20 minute, you go back to the last slide, it says you suggest no more than 20 minutes total treatment time.

So here's the deal with what happens to me. My body craves this so much. I love it so much. And this is my me time. I'm a I'm a person who likes to habit stock.

So what can I do while I'm doing red light that's also filling me up. And so I will read this and I'm also getting it into my eyes. I don't put eye covers on actually. My eyes are open.

I'm reading during this time and I find myself wanting to stay in there for 3040. Like I literally have to force myself to be like, okay, treatment's done, I get addicting treatments done.

I need to stop now. Yeah. Yeah. So, look, here's the bottom line. There is something called a biphasic dose response. And it's also called the aunt shunts Schultz law by the two people who the two physiologists who were crusty.

Germans. That yeah. Who are credited with discovering this but basically it's a principle that extends to almost everything including exercise and including sun exposure and including if the general principle even applies to something as simple as water consumption or food consumption.

And the principle is this when it comes to exercise or red light therapy, if you don't do any or you do very little, you don't get any benefits. And if you do way too much, you create more harm than good.

So if you're if you go out and you're not a very fit person and you decide tomorrow, I think I'm going to go for an ultramarathon 50 mile race, you are not doing your self of any favors.

You are just creating a lot of harm in your body and it is not beneficial for you to do that amount of exercise. The same as I mentioned in the context of melanoma and sun exposure.

If you if your skin is not conditioned for sun exposure and you haven't built a good base layer of a tan melanin, which is your body's own protective mechanism to minimize DNA damage, it's like an internal sunscreen.

And then you go out and get go on a vacation to Hawaii and get 8 hours of sun. You've now caused yourself a whole bunch of DNA damage. That doesn't mean sun is bad.

It doesn't mean exercise is bad. It means you did way too much relative to what your body is conditioned to handle. Okay. And this principle of a biphasic dose response is also true.

Like everything becomes toxic if you do way too much of it. If you drink two gallons of water in the next 10 minutes, pure great pristine spring water.

If you drink two gallons of it in the next 10 minutes, you can cause yourself permanent brain damage and put yourself into a coma and maybe die. It's legitimate. Look it up, okay?

If you eat too much food, you put on body fat. Body fat you become insulin resistant. And that itself is toxic to your cells and toxic to your mitochondria, even if it's healthy food.

If you ate way too much of it, it becomes toxic, exercise becomes toxic, sun becomes toxic. Everything is toxic if you do way too much. So the same is true.

Of course, with red and near-infrared light therapy. If you were to do hours and hours of this every day, it would create more harm than good. And and what we need to do is, like everything else, you get the dose right.

And if you do enough to get the benefits and you don't way overdo it to create harm, then you're in what's called the Goldilocks zone, which is what we need to be in with food, what we need to be in with water, with exercise, with sun exposure, with everything else in our life.

And if you're in that Goldilocks zone, you get the benefits with no harm. And every specific thing has, you know, sort of a a how easy it is to overdo it and end up in the toxic zone.

And actually, relative to something like exercise, it's way harder to overdo red in near-infrared light. It's way easier for a person, especially a person who's not very well, who has chronic illness to overdo exercise to the point where they feel really bad.

And it's actually much harder to do that with red in your infrared light. It's possible you do enough hours of it. You can certainly do that. You can certainly make yourself feel bad.

But yeah, that that the dosage here is conservative. And I will say also that I've had a discussion with Michael Hamblin about this and he he's even less cautious than this.

He would say you could go up to 30, 40 minutes an hour and you're probably not not even going to be overdoing it if you if you double or triple the recommendations that I that I have laid out here.

So my recommendations here are fairly cautious in that regard. Thank you for explaining that. So with all of that in mind, if you want to do this very simply, we've set an ability to get a discount from read therapy CO on the two lights that I personally had a hand in designing.

As I said, Eric, the founder of Red Therapy CO, consulted me and asked me, you know, exactly how to to build the lights, the wavelengths, the spectrum, the pulsing and pulsing.

Unlike most manufacturers, pulsing is built into this. This is another thing that we didn't have time to talk about. But basically light can either be emitted constantly or it can be pulsing.

Boop, boop, boop, boop, boop. And there's a number of studies that have shown that pulsed pulsed light output as opposed to continuous wave output, constant light output, the pulsing actually increases the effectiveness.

Then somewhere in the neighborhood of probably 15 to 30% improvements in the effectiveness. So he's built that into the system. He's also built in an ion based internal shield to massively reduce the EMFs from these devices, which is also something that I had a hand in.

And, you know, ultimately I think these are the best lights on the market when all things considered. And of course, I would think that I'm biased since I had a hand in designing them.

But they're amazing lights and I know the third. I'm the only person in the world right now that knows all the the third party lab data on all the different companies out there that have submitted to this third party lab.

And this is right at the top tier, there's two or three companies that have the highest light output of any different devices. And this is one of them.

And this one has pulsing built into it and it has very strong EMF protection built into it. So I can't recommend device more highly to you. The Pulse 800 or the Pulse 400 are the ones we recommend.

Laura has two pulsed eight hundreds so. Just a quick their pulse eight forties so just there's no confusion it's a pulse 840 behind me and then there is a pulse 840 max which is even more powerful.

And that's all be shown on the website just so people don't get confused about what they're looking at. And then the little guy is right here on the floor to me and this is the 400 you can see it right here.

And it says here on your slide, new for 22. That's because it came out in 22. The you you could say these eight forties are new for 23 because he just had had them put out on the market.

And the other thing I want to share is price is much more affordable with red therapy code than any other company out there. His whole thing was, I want to do twice the strength for half the price.

That's why we love Eric so much is he's really putting out product that's exceptionally ahead of everyone else and affordable too. So you guys can, you can get a discount on this 25 off the pulse.

$450 off the pulse. 840 Thank you for correcting me on that, Laura. And that he's he's brought the newest 2023 versions of the market.

Dosing, Device Selection, and Final Recommendations

The discount code to get it is energy 23. And you know, again, I just want to emphasize like if I were to summarize everything that I've gone over in this presentation, this isn't just some weird technology that like, hey, you know, this LED light is this crazy, weird hack thing and does this manipulates your physiology to do these weird things that it's actually the case?

Human beings require up adequate amounts of red and near-infrared light. We require it for our cells to function normally. It is an essential nutrient for our cells to express normal health.

And we know that it it affects everything from brain health to skin health to healing of all the tissues of our body to muscular performance and recovery and adaptations, to exercise fat loss and muscle gain and and so much more to our to our mood, to our energy levels.

Like really, this is this is a reset for your mitochondria. And again, emphasizing what I said in the context of anti-aging, this is one of the most powerful technologies available for optimizing your health and the regenerative mechanisms, including stem cells that slow down aging at a cellular level that are that are ultimately your most powerful weapon in your arsenal to live a long life and have a long health span.

You know, don't count on modern medicine to cure this or that disease with a drug. Do the work now to optimize your cellular and mitochondrial health, to prevent those diseases and to extend your lifespan.

So good. So good. That is a perfect way to end this presentation. Hey, Ari, if you want to stop sharing screen, I just have a couple of questions for you.

And my first question is, what's the benefit of of doing this with two lights simultaneously? So this is one of things you asked you wanted, Eric, to create the stability for people.

So right there, because we're talking about it's important to have two units. Why why don't you back up and show people so let's let's have you go back there, flip on both your lights, and then I'll talk through it.

And we can literally show people the visual of what I'm talking about. Okay. Okay. Now phase one of that. Yeah, just face one of them. Okay. And talk.

So we make sure that people are seeing you hear me? Okay. You can see. Okay. Okay. So she's got it shining, the one she's facing right now. Let's imagine only that one was there.

Well, she's now only doing that side of her body. So her face, her in the front, her belly, her chest and the front of her legs. Okay. And then if she wanted to also do her backside, she's got to now double the treatment time.

So having two of these lights basically makes you way more efficient where you can now do your whole body in half the time as it would take you to do.

And with only one light, that's that's the main benefit is it's essentially the equivalent of one of the light beds that exists there. For example, there's a company called what's the I forget the company name, but the light bed is called Nova Thor and there's lots of clinics around the world that have this light bed.

It's like a tanning bed, but it's red and you're infrared light therapy and you lay down in it and it it's got lights on on your top side and your bottom side. So it does your whole body at once.

And it's amazing. Here's the big problem with it. It's over $100,000. Once it's over it's it's the cost of a fancy sports car to get one of those light therapy beds.

And this is the few thousand dollar. Like, what's the cost of this? It's like $3,000 or something like that. Anyway, it's it's 1/25 or 1/30, the cost of one of those light beds.

And it's essentially, for the most part the same thing. You're, you're just not in a laying down position, but you're getting the same basic benefit of one of those, those light therapy beds for, again, 1/25 or 1/30, the cost for a very small amount of money instead of a small fortune.

Yeah. And that cost you just quoted is if you buy two, right. So you could go the route of get one and just spend 10 minutes front, 10 minutes back, it and and the small.

Now can you talk. My other question is these panels behind me are stronger than the smaller one that I have right next to me on the floor here. So this guy is the 400 and these guys back here, the eight forties, what does that mean to people?

Basically, what we're ultimately talking about is just how much of your total body can you do at one time? And the main thing here is just efficiency of time.

And I think that this is an important issue just because of ease more than anything, like ease, how how easy and time efficient is it is to do something will greatly influence how likely you are to actually do it, right?

Totally. Oh, totally. And if you know, something takes like half an hour to do and oh, it takes 10 minutes to set the thing up and to, you know, like and I've got to move it around and I've got to set a timer in this position and then a timer in this position, like all of those dimensions, to, to it make it way less likely that you will actually do it on a regular basis.

So if something's easy and quick and it takes 5 minutes, if you can do 5 minutes and boom, you've got your whole body covered. And like every time I go do my workout, I go and flip my my red light therapy units on like the ones you have 5 minutes after workout done super easy.

If if I have a smaller light it's still totally possible to do it. And if you're on a budget, get the smaller light because you know, get get what you can afford basically is the short version.

If you can afford a larger light, if you can afford multiple lights, do that. If you can't, no big deal. You Still get all the same benefits from the smaller light.

It's just a question of it takes longer to use it and that's it. So you just got to use it for a longer of time. Use it on this part of your body than on this part of your body and so on.

You can do your full body, both sides, all at once in 5 minutes. That's all it amounts to. But you still get all the same benefits with a smaller light, and if that's all you can afford, don't feel bad at all.

That's still an absolutely great option. I wouldn't recommend the really small lights because they're just you get to a point where it's just too inefficient, they're too weak, and they're covering too small of an area to to really be meaningful.

But the 400 is an is an awesome thing and will still work exceptionally well. It's how big is it, Laura? Can you can you maybe hold it up so people. Can see it not and it's right here.

Yeah. So people can see it's like it's like two feet tall. I think if I put it on my head, you can see it hits like my, it almost. Yeah. So from 12 inches away it'll cover basically your, your, your whole frontal torso.

It won't cover your legs, but it'll cover from your head to your, to your belly button or so. But with this you can do. Yeah, I do as I when I so I started out with this one and this is the only one I had.

I would sit in front of it cross-legged and sit in front of it so I could get the majority of my body and then turn and get the back of my body. But I still couldn't get my whole body right.

It was still yeah. There are still parts missing. Yeah. So yeah. So that's, that's basically the gist of it is again, you

know, anything from the 400 to the larger 840 panel or 2 to 840 panels, essentially.

Again, it's it's just how much of your body can you cover at once? How easy and quick can the process be? But the 400, as you just showed, is is plenty, plenty big.

It's going to cover half your body at one time, and it's still fairly efficient to do it that way. Again, I wouldn't recommend the really tiny lights that a lot of companies are selling now that are like portable for travel, you know, for small of your body.

Just just get at least the 400 size and and you'll have a very efficient, very powerful anti-aging tool in your in your arsenal. Excellent. So for everyone wanting to grab this read therapy CO has a link on the page where you're watching this interview.

It's on all the pages of the summit to make it easy for you to get access to this. Clearly, as as Ari has demonstrated throughout this presentation as a company, that he has had a hand in helping develop their their products.

We know they're safe. We know they're effective. We know they're honest, all those important things. And so you can get yours. We'd love to hear back from you and hear how it goes, too.

So be sure to connect with us and let us know how you feel. I mean, just those few minutes that I was demonstrating this in front of you, I felt my whole body shift.

It is so it feels so good. It's really addicting. So healthy addiction. Thank you so much, Ari, for bringing your brilliance and expertize to this and making such a usable presentation that people can really understand so simply.

So thank you so much. Yeah, it's it always feels to me like I'm doing a disservice to the overall body of of evidence because, like I said there's over 6000 studies now on this and for literally dozens and dozens of conditions and uses that I didn't even get to mention here.

So the research is just so robust. And again, it works on all these different systems of the body, from the skin to the brain to the muscles, to supporting fat loss, to, you know, all these different benefits, because fundamentally it's just optimizing mitochondrial energy production, making your cells work better, whether it's thyroid cells or brain cells or muscle cells or skin cells, they work better when you give them the nutrients, the food nutrients and the light nutrients that they require to express optimal health.

Thank you so much, Ari. We'll end on that note until next time, everyone. Take care. Bye now.