



EPISODE 940

The Truth About Red Light Therapy

You are now listening to The Model Health Show with Shawn Stevenson. For more, visit themodelhealthshow.com.

SHAWN STEVENSON: I'm about to share four ways that light is being used as medicine, so prepare to have your mind blown. Number one, to reduce pain. A meta-analysis published in the BMJ sought to see if red light therapy could reduce pain in people with osteoarthritis versus a placebo. The study included 1063 people and found that red light therapy significantly reduced knee pain and study participants. Not only that, the results appeared to have semi lasting effects with benefits seen up to three months after treatment. The researchers stated, " the positive effect from red light therapy seems to last longer than those of a widely recommended painkiller drugs" , and to laser the icing on the cake.

Red light therapy was also found to not only reduce pain, but to improve the function of the participant's knees. Number two, light therapy can dramatically improve skin health. A double-blind, randomized placebo controlled trial took 76 patients with notable wrinkles and treated half of their face with red light therapy near infrared therapy, or both. While other patients received a fake light treatment that was used as a placebo. Participants received two light therapy treatments each week for four weeks. Now here's what happened. With just four weeks of treatment, participants had up to a 36% reduction in wrinkles and up to a 20% increase in skin elasticity.

Phenomenal. Number three, what about killing pathogens? Well, a particular type of far ultraviolet light that's deemed to be safe for humans is absolutely killer to staph bacteria. This light functions like an invisible John Wick, the Vaga taking out 98.4% of the pathogen load in a room within minutes. Again, this bacteria is the leading cause of staph infections and light can take it out like a luminous assassin. Number four, light can improve muscular strength gains. This incredible, randomized controlled human trial published in the journal, lasers and Medical Science tested the effect of red light therapy on muscle performance and physical strength gains.

The study took 36 men who were beginners and or moderately physically active and placed them into one of three groups. Group one implemented strength training only. Group two implemented strength training plus a short near infrared light therapy session on their

quads. After training, group three was used as a control who were not put onto any consistent strength training or red light therapy.

The scientists specifically tracked leg muscle performance with progressive leg press training for 12 weeks. Now here's what happened at the end of the 12 week study. The group that utilized strength training only improved their one rep max on the leg press by 26%. Now, that's not too shabby. While the group that combined the leg press training with red light therapy improved their one rep leg press by 55%. This was more than double the improvement seen in the training only group. That is outrageous. Same training, but just adding in light therapy post-workout to the quads by training alone. The researchers also noted that although not statistically significant, there were slightly greater gains in muscle size in the Red Light therapy group as well.

Now, what we just covered is just the appetizer for what you're going to learn today. Scientists have known for years that certain wavelengths of light can instantly transform human biology. Various forms of light therapy have been found to accelerate healing, improve physical function, improve metabolic health, and much, much more. But how? Well, let's take a look at this from multiple levels because it works on multiple levels and level one, the human body is highly sensitive to light inputs. We don't just have photoreceptors in our eyes. We have photoreceptors all over our skin, all the way to deep within our central nervous system.

We have these photoreceptors that pick up light and send data to virtually every single cell and every single cellular organelle in our bodies instantaneously, and this process is specifically to control your circadian timing system. Now this matters very much. So listen closely. You have circadian clocks that are nestled within trillions of cells in your body, and these circadian clocks are functional genes and proteins that control the function of all of your other genes and proteins.

Essentially, everything your body does and the rate at which it does things are controlled by the circadian clocks. From which hormones are getting produced and at what amounts to digestive function, to cognitive function, to regulating inflammation and repairing tissues

and much, much more. These circadian clocks are master regulators of your biology and their number one influencer is the light.

This is precisely why so many studies are noting how light influences our gene expression. Take getting A BBL for example. Not that BBL. I'm talking about something called broadband light therapy. And a study conducted by scientists at Stanford University and published in the Journal of Investigative Dermatology found that over 1,200 of our genes associated with skin aging were rejuvenated after broadband light treatment. IE said another way, the expression of these genes became similar to a more youthful version of their skin. So again, level one is the fact that our circadian system, genes and overall biology is highly influenced by light. Now, level two is where we find most of the notable scientific explanation as to why light therapy, specifically red light therapy is so effective and it has to do with the impact that light has on the energy power plants of our cells.

The mitochondria. Yes, our mitochondria are the primary producers of the energy to run all of our cellular processes, but our mitochondria are far more than glorified power plans. They're also environmental sensors based on the inputs that they receive. They influence everything from cellular maintenance and repair to programmed cell death and recycling. Our mitochondria are so vital to our biology that they make up a huge chunk of our physical body. In fact, mitochondria account for about 10% of the weight of an adult human's body.

That's a lot of mitochondria. Now being environmental sensors, one of the most impactful controllers of mitochondrial function is light specific wavelengths of light, like what's utilized in red light therapy, pass through the walls of your mitochondria and interact with a key enzyme called cytochrome c oxidase.

This enzyme acts sort of like a gatekeeper that helps to move electrons along the electron transport chain so that ATP, the energy currency of the body can be produced efficiently. The red light is actually absorbed by cytochrome C oxidase triggering it to release nitric oxide, which instantly makes oxygen more accessible.

SHAWN STEVENSON: The mitochondria can now make more ATP, giving the cell more usable energy. Said in super simple terms, red light and near infrared light, act like a gentle nudge to your cell's power plants freeing up the machinery that makes energy more efficient. Mitochondria means more ATP, means better cellular repair and regeneration reduced oxidative stress and vastly healthier tissues overall. Now, that's two levels down, and level three is where we get to the very real, but largely unexplainable domain of quantum science. When we talk about photons or light absorption by molecules, we are inherently talking about the realm of quantum mechanics. Not only do we as human beings emit light.

Now you are emitting infrared light. And if you had on some of those night vision goggles, you could see that you are emitting light. You are a light being in many different ways, but again, we wanna stay more grounded and tangible. In this description, and with that being said, the light channels that we are emitting, we are also highly influenced and susceptible to light inputs as well. This is truly what's making us up and influencing us as sentient beings. Now, there was a time when we believed that the atoms that make us up were mostly empty space. Today, we know that the empty spaces are essentially fuzzy clouds of probability. The so-called empty space is full of fluctuations with particles popping in and out of existence.

This is truly mind bending stuff, but this is the reality that we exist in. The way that light influences us is beyond anything that we can fully understand. But what we do know is absolutely amazing. And with that said, let's take a look at another profound effect that light therapy AKA photobiomodulation has on human health. It's well established that our thyroid is a master regulator of our overall metabolism, and the prevalence of hypothyroidism has grown over 1000%. Since the 1970s, largely driven by chronic autoimmune thyroiditis, the most common treatment is lifelong medication. But what if there was something else that could be helpful?

Well, a team of scientists took 43 patients with a history of levothyroxine medication use for autoimmune hypothyroidism to analyze the impact that red light therapy could have on their thyroid function. The randomized placebo controlled trial had about half of the patients received 10 sessions of red light therapy, and the other half received 10 sessions of fake red light therapy. Again, we can create an appearance, but it doesn't necessarily mean that it has

the wavelengths that we're actually looking for. Now, the results of this study were shocking. Here's what they found at the end of the nine month follow-up period. At the end of the study, the participants in the Red light therapy group were able to cut their medication dose by two thirds.

Versus the placebo group. The red light therapy enabled the patients to have approximately 64% less medication, a 64% reduction in level thyroxine requirement. Additionally, the researchers found that red light therapy led to a significant reduction in some of their autoimmune parameters as well. And listen to this, they noted improvements to the thyroid tissue itself. These are things that aren't supposed to be possible in conventional medicine to regenerate thyroid tissue. This is so remarkable. So remarkable. We have so many incredible tools that are available to us. And again, it's about education and it's about empowerment.

And what's so amazing is that we can utilize this incredible technology right in our own homes. This is something that I've been utilizing for myself and my family's health for many years. And of course, like being able to over time get these different highfalutin red light box panels. Like some of this stuff can be very expensive and also going places for various treatments. And now you probably see out there they've got these incredible innovations with like red light mask. But this is one of the things that's seen, whether it's physical therapy, whether it is again, treatment for autoimmune conditions, whether this is treatments for aestheticians and skin health.

There's so many science backed applications, but again, those treatments can be very expensive and really add up. But what I've found to be my personal favorite when it comes to red light therapy, and I actually keep this device right on the arm of my couch at all times. It's a portable device and it's designed by an incredible physician and inventor Dr. Vivian Chen, and it's registered with the FDA red light therapy and near infrared light therapy in one device, without the damaging UV rays. The wavelengths and radiance have been verified in third party labs, and it meets the IEC safety standards for electrical and EMF safety. It's literally the Swiss Army knife of red light devices.

SHAWN STEVENSON: It's lightweight, it's portable. I actually have mine right here, and again, it's portable. This is always on the arm of my couch, and I travel with this as well. It's great for post-workout recovery for my son, who plays a U basketball post-game, so we got a lot of uses for it when we're traveling as well. But again, it's great for skin health and so many other applications that we've already covered. Again, if we're talking about, an aspect of the human body and a certain treatment that we want to undertake, we gotta understand. Certain things can be just a few minutes, a couple times a week. Certain other things can take months of consistent use to see notable difference.

But truly, there is nothing else like the loom box. The loom box is the very best red light therapy device. Again, it's like a Swiss Army knife. Super easy to use. And Dr. Vivian Chen, the inventor and incredible physician as well. She's also one of the most intelligent, most insightful, and also most generous people that I've ever met.

She's absolutely amazing, and she shared with me that for my family, my friends and my community, she's going to be giving \$260 off of the loom box. So you can grab your own loom box right now by going to theloombox.com/model. That's T-H-E-L-U-M-E-B-O XT com slash model, and you're going to automatically receive the Shawn model code that will get you \$260 off. It's an incredible opportunity to own your very own science backed red light therapy device. Head over to theloombox.com/model. Now, as of this recording, there are over 2000 peer-reviewed published studies on red light therapy in a variety of benefits to human health. Light is one of the most versatile.

And powerful tools being utilized in medicine today and its applications are only growing. Let's take a look at some of the other uses in medicine and physical transformation that are being utilized today. Another way that red light is being utilized today is for its impact on body fat reduction. In a study titled Efficacy of low Level Laser Therapy, that's red light therapy for body contouring and spot fat reduction. This study took 40 men and women ages 18 to 65 with obesity and randomly placed them into red light treatment group or a control group. This was an intensive treatment. Keep in mind, subjects waistlines were treated. For 30 minutes, twice a week for four weeks. Again, this is intensive. It's a lot. And subjects were

asked not to change their diets or exercise habits, so no changes to the lifestyle, just getting this red light therapy treatment.

Here's what happened. The researchers found that cumulative girth loss after four weeks was about 2.15 centimeters in participants. Who utilized the red light therapy? The researcher stated, "red light therapy achieved safe and significant girth loss, sustained over repeated treatments and cumulative over four weeks of eight treatments, the girth loss from the waist gave clinically and statistically significant cosmetic improvement". I've never heard girth said so much in a study. But there you have it. Now, I want you to keep in mind, light is incredibly powerful. It's incredibly diverse, and it operates in ways far beyond our understanding. And there isn't just one spectrum of light, obviously, there is an entire vast cascade of wavelengths of light.

And another type of light therapy that has been used to great effect is green light therapy. And let's look at a study specifically in regards to green light therapy. In migraines. A study conducted by researchers at the University of Arizona recruited 29 patients who were suffering with episodic or chronic migraines.

This was a well constructed crossover study that treated patients with white light therapy for one phase for 10 weeks, and they have a washout period and they treated them with green light therapy for a separate 10 weeks. Here's what they found after compiling the data. Green light therapy far outperformed white light therapy and significantly reduced the number of migraine days in people with episodic migraines or chronic migraines. Additionally, green light therapy significantly improved multiple secondary outcome measures, including quality of life. It reduced the intensity and duration. Of the migraine attacks if they did happen. That's incredible. Again, just being able to have something to help. Now, what about mental health, right?

So we've been talking a lot about physical health, but what about mental health applications? And now it's important to keep in mind that physical health and mental health are one in the same. They're intimately combined, and separating them has been a big part of the reason

why we've been failing at successfully treating mental health conditions and they've continued to skyrocket in our culture.

Mental health is a physical health and vice versa. Now, keeping that in mind with all the context and the data that we have on supporting mental health with addressing the basics that our genes expect from us. Plenty of quality movement, high quality sleep. Good nutrition, being able to manage and modulate and process stress. Just checking some of these basic boxes can make dramatic changes with our physical and mental health, of course, but alongside our high level of treatment for mental health conditions with pharmaceutical medications. Are there any other tools that can be utilized to great advantage? And an analysis cited in the journal, *frontiers in Psychology* detailed how light therapy significantly improves symptoms of depression, increases mental alertness, stimulates serotonin production, and even helps to improve sleep quality.

There really isn't a place where light isn't impactful for. I wanted to provide this masterclass on this subject matter so that you understand the power that these influences have, but also keeping in mind that a lot of the science has been pointing to the negative impacts of specifically blue light in our culture today due to our tech devices.

Now, if we had a different context where maybe it was just a little therapeutic amount of this stuff, it might stimulate some benefit, but chronically being on our devices, we know that this blue light deeply impacts our circadian timing system leading to, for example, using our devices in the evening. We've got several studies on this now, finding that it suppresses our production and release of melatonin and increases our stress hormones like cortisol. So the timing of these things, the exposure, but in particular when it comes to blue light, not labeling it as bad light, but just being able to keep things in their proper perspective and understand that all these forms of light that we would naturally be exposed to if we were living in natural conditions.

And this is where we give a special shout out to the sun, shout out to that flaming ball that enables us to have life here on planet Earth. All right. The ultimate source of light therapy and being able to have a healthy amount of time with sunlight exposure on a regular basis is

a vital to our health in so many different ways. And we evolved with this exposure and this interaction, and what happens when we pull ourselves away from that and live most of our lives indoors. The amount of time we spend indoors now is absurd. It doesn't even remotely compare to our ancestors. With that being said, having that as a practice, and also there are some really fascinating things regarding Moonlight as well, but moonlight is sunlight. All right. Moonlight is sunlight, but that influence on our circadian timing system as well and our hormones as well.

Are we getting these inputs or are we flooding ourselves with all of this blue light in the evening versus getting some exposure to moonlight and or, this is one of the great innovations, mimicking these light exposures by having those reddish lights, reddish orange hues, right? So. Whether this is a red light lamp or like a salt lamp or those kind of things in the evening, a lot of people have really hopped on board with that and changing the spectrum of light that we're exposed to what our families are exposed to in the evening.

So it's just keeping all of these things in perspective and utilizing light to our benefit. It's what we have the science and the capability to do today, and it's just another tool in our superhero utility belt to deliver incredible health and wellness, and also to help us to treat and recover from the things that ail us, whether this is accelerating the healing of an injury or it's helping to improve an autoimmune condition. We've got science on all of this now when it comes to light therapy. I appreciate you so very much for hanging out with me today and making a decision to learn to be empowered. And most importantly, again, knowledge is not power. Knowledge applied is power.

So share what you've learned with the people that you care about. Put some things into practice. Be proactive about utilizing light therapy because it is one of the incredible tools that we have access to today. And of course, you could share this out on your favorite podcast app. Take a screenshot of this episode.

Share it on Instagram, X face, Facebook, wherever you're hanging out. And listen, I've got some incredible, I can't even begin to tell you some incredible masterclasses and world-class guests coming your way very, very soon. So make sure to stay tuned. Take care, have an

amazing day, and I'll talk with you soon. And for more after the show, make sure to head over to the [model health show.com](http://modelhealthshow.com). That's where you can find all of the show notes. You can find transcriptions videos for each episode, and if you've got a comment, you can leave me a comment there as well. And please make sure to head over to iTunes and leave us a rating to let everybody know that the show is awesome and I appreciate that so much and take care. I promise to keep giving you more powerful and powering great content to help you transform your life. Thanks for tuning in.