Discover Laser Therapy For Pain Relief Transcript

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Introduction and Speaker Background

Welcome to another interview of the MS and Neuroimmune Summit. I'm Dr. Terry Wahls, your host. I'm here with Jim Ohneck, who is a fellow. let's make sure I've got this right.

American Society of Laser Medicine & Surgery. He's going to explain to us what that is. he is a, entrepreneur. He has, degrees in business, for which we're lucky.

So we can help, commercialize these wonderful products. He has 35 years of device development. and, he has expertise in Microelectronic Packaging Association, He's Adjunct Faculty at Notre Dame.

where he teaches International Finance and Marketing. and, there is a long history of laser being used to help people with chronic pain. and, I know a lot about pain because I have tried general neuralgia.

and so I've had, 27 years of, progressively, severe, disabling levels of pain. and I still like to use, laser, devices, in my practice. so, Jim, I'm thrilled that you are open to being part of this summit now.

Was there anything else? that I missed? No, thank you very much. Thanks for inviting me to be on here. And could you explain what, the American Society of Laser Medicine & Surgery is, for our audience?

Sure. It's known as the ASLMS is an organization that brings together, researchers that are involved in utilizing lasers, for different functions, whether it be, cosmetic treatments or, pain management.

but they get in deep down into the science and research, of lasers used really for non-surgical purposes, more for other purposes like the pain management, like for cosmetic, procedures.

You know, it's super interesting that the first people who were using lasers and I was, introduced to, laser therapy in dermatology when I was a medical student.

And, you know, I think the dermatologists were the first folks, using light therapy. And then the pain clinic, I believe, was the second round of practitioners that were using, laser therapy.

So, can you speak a little bit to how how, the the pain specialties got interested in laser as a strategy for managing pain. sure.

What ASLMS Is and Early Laser Therapy

Many, many years ago, back in the late 70s, early 80s, there were devices known as cold lasers. And they were all different wavelengths. And people were doing some experimenting and testing with them.

There was research around the world that was being done to show that these cold lasers could help different functions and different people, but unfortunately, there wasn't good control on the technology, and there wasn't really good technology available at the time.

And people didn't really understand the underlying reasons of why the laser worked to help alleviate pain. But fast forward many, many years, and now it's quite well known how it works and that it does work.

And from all lasers came another whole avenue known as, high power laser therapy. And this uses a class four laser to help stimulate tissue. And the the goal there is to do it in a quicker fashion, to make it more convenient for the patient, mass treatments, less time for each treatment, and better outcomes.

And so this is where the technology has developed. So what is what is class 4 mean? I'm not familiar with that term. But imagine our audience as I. Yeah, very good question.

People think product medical classifications in terms of is it a consumer or is it surgical class one two. Class three. Is it implantable? But in lasers they have class one two, three, four.

And those classifications are based on power levels. And so any laser over 500mW is considered a class for laser. And it has to do with are the eye safety hazards.

What, what happens to the to the beam. And so class one laser or might be lasers that are used in a CD player. Know those old fashioned CD players. That's a laser inside there.

but it's not visible to the eye. You can't see it. You can't get to it. this is a functions, but there's no, biological change or harm in a class. Four lasers, over 500mW is perfectly safe when used properly.

But when you go to a class for a laser, you wear goggles as an example. And so these are the the differences. okay. and so commercially available for practitioners.

so there are probably class for device devices that we can use in my clinic when I'm treating somebody with chronic pain. are there class four devices that are available for home use?

So the the regulation is really anybody can use the laser if they're certified by the company to use it. So yes, you could conceivably, buy a class four laser for home use.

but then the reality of is it makes sense to try to treat your back with something that has a fiber optic cable that becomes maybe difficult to use. But yes, if you're certified by the company that makes the laser, then you're able to acquire a class for laser and use it.

So, what type of, initial research did you do, on developing, laser devices, for the management of Pain? That's a great question. And it really started from the recognition that, I've been familiar with lasers for a long time, since my days in the field of ophthalmology, so since the early 80s.

And so I was really fascinated with this cold lasers and why they worked. But then a lot of them didn't work. So I the very first step got to do a meta analysis and try to determine what the why did these things work in some cases, but not and through that analysis of of hundreds of of clinical papers that were published, what I discovered was, there was a specific wavelength and a specific, power density that worked.

And so in starting there, I then had this idea to say, you know, it doesn't have to be a cold laser. We can use a bigger laser with a bigger beam and achieve the the power density.

We need to be effective, like in the studies. But the first thing you have to do is say, does it work at a cellular level? If you don't know what you're doing at the cellular level, you have no way to know what what you're applying.

It's a guess.

Class 4 Lasers and Home Use

And so I started working with the, University of Toledo, and we did a study with, neonatal cells spray on a glass slide, and we put a score down the middle of them.

And we took a control group and a group for being laser put in at 37 degrees C, and then we, would laser the one group, and we wouldn't laser the control group.

And the laser group, at the 980 nanometer wavelength grew together really fast. And so we demonstrated at that point that there was something happening at a certain level here.

And, we had a very nice article published in a peer reviewed journal that that talked about this, reaction. And so this is what really started the ball rolling to say, okay, if we know the, the, the power level and the time that it takes to stimulate the cell growth, and we have to figure out what the power dissipation is as it goes through each tissue layer, then we know what power density we need to have at the surface of the skin to affect the tissue deep down.

And that was the second part of the research and study. So I've been doing this for over 20 years. But I started from the ground up. I didn't take a device and say, hey, I'm just going to grab a laser that's used in another field and try to wave it over there and heal.

People actually started from the cell level up to to develop the equipment. You know, and I've got a redirect for just a moment. because I know the listeners, many of whom also like me, have dealt with pain at a very major level, whether it's from a central pain to the MS or peripheral pain, because you have a painful, neuropathy.

Do you have any patients stories, recovery stories of people who were really helped by your laser that we could share and then I'll get back to the questions, that I have in mind.

But, you know, patients stories are so inspiring because I want people to have hope. This this is this is great. And I have it absolutely wonderful patient story because I've been involved this for so long.

I've treated many patients around the world. And, we had a clinic in, Ecuador with MDs. This isn't some fly by night type of place. This is a legitimate medical clinic.

And we had a person with MS. who came in and he had the classic, but, you know, head to the side and couldn't really move his neck and tilt it back and, and his neck was almost frozen.

And so he, he came in and I treated him. I treated his neck and the back of his neck with the with the laser. And then he went back out to sit with his wife in the waiting room where we were treating other, other patients that day.

And, I happened to walk out in the waiting room with a lunch break, and he had turned his head the other way and was talking to his wife. And I stopped in my tracks and I said, I walked over and I said, do you see what you're doing?

And he says, no, that's why I said, what do you mean? I said, he's talking to looking at you. Naturally, with his head turned in a normal position. And the recognition of that and what had happened was just unbelievable.

Research Foundations and Cellular Effects

And it was an incredible experience. It really sent the message that, hey, this thing really has some opportunity here in this field. So here's a fellow who had, a very stiff, rigid neck, and, probably muscle spasms. Yep.

and, probably quite painful. You gave him, treatments, over his muscles and exposed nerve roots. Yep. and you were not expecting such a dramatic improvement.

So, this was a matter of minutes. It was a it's a 20 minute treatment I normally would. You do ten minute treatments, but if I have a person like this the first time out and and, with the severity of what I saw, I said, I'm going to give a solid treatment if he tolerates it.

And what he did. And I did not expect that dramatic of a change. I knew there'd be some change, but how much was unbelievable. It was really, incredible.

So, now I'm going to be curious, did he have, multiple treatments then, or, sequentially, probably over several days or several weeks to really calm down the, spasms in his neck.

Yes, yes. And so they they continue to treat him in the clinic. he progressed really well. Did it 100% sore was a problem. Not that I'm aware of, but did it make the quality of, you know, his life form better? Absolutely.

Yeah. You know, and I think, again, for the listeners, when I, have these conversations about the various, lifestyle interventions and device interventions, this is an adjunct to what you are doing with your conventional therapies.

And I don't anticipate any of these will take the problem to zero, but it will probably have a major impact on improving the quality of your life and improving your functional level.

Would that be an accurate way of describing. Absolutely. Absolutely. I always say that that the the laser makes a fantastic adjunctive therapy, because sometimes you have to approach things from many different directions and it may not be 100% curative, but if you can back people off of medications in the case of pain, or you can help people gain range of motion on the case of this, this patient, then you've really done a service for them and they really feel good about it.

And, they make progress. You know, and I would anticipate that one of the benefits is improves in addition to improve quality of life during the day. I bet people are having much better sleep at night.

but the pain is much more manageable. The one thing I've I've recognized is a lot of my patients tell me, hey, I sleep a lot better after I get the laser treatment.

You know? And that's always been my experience. when I've had a flare of pain, in my patients have a flare of pain. Getting them to increase their use of their laser can quiet that down, make the days more comfortable, and have a dramatic impact.

on sleep at night. And, of course, sleep is so important to our overall health and vitality. Absolutely. So, let's talk a little bit more. you mentioned the frequency.

900 something. 980 nanometers. Yes. So what's magical about that frequency? So, this is I wouldn't necessarily say it's magic. I would say it's science because, different wavelengths of light pass through tissues differently.

And so you have to look for balance. There are, wavelengths that this is, near infrared. If you go down to 830 nanometers, as an example, you say, well, it's not that much of a change in a number, but all of a sudden you get a lot of absorption that the lower frequency in, melanin.

And so then the, the laser propagation through a, body with different skin color works differently. So the 980 has little or no absorption of melanin, meaning it works the same across our Caucasian and our Caucasian person.

And, the predictability besides, you know, a business degree and an engineering degree. So predictability for me is, is very important. And so I don't want to be adjusting dials and knobs for every person that comes in that has a different skin tone.

So, that was one of the main reasons why I picked it. Some absorption and, and water and there's some absorption and hemoglobin. but they're all in a kind of on the, on the low side.

So you get really deep penetration with it. But the melanin, the lack of melanin absorption, I think is what we do. and then, this can penetrate, through the surface of the skin into the, muscles pretty well.

yes. Yeah, we did a really cool, cool study. So I go back to the cellular level. Study is we had to figure out what level of power we started with to get to the level of power we needed to stimulate the cells deep down.

And then we did a, a fresh cadaver study and that fresh cadaver study. on the lake, we were able to put sensors in a spiral in the lake and put the laser at the top, and then physically take measurements as to how far down we were seeing cellular cellular reactions.

And there were reactions ten centimeters into the body. But we also we also did a, Fourier transform computer based, thank goodness. which really let us predict what the loss of power is between each tissue layer.

What people don't realize is over 60% of infrared energy gets lost through the first couple layers of skin. Well, and so you lose a lot of energy. So you have to start with enough to get deep down.

and so I'm sort of thinking about spinal cord, in case, you know, in our spinal bones, brain encased in our brain, does this light therapy go through and address any spinal cord symptoms or, you know, pathology or any brain pathology?

Patient Success Stories in MS and Paralysis

Or is this really, more of a muscle? in peripheral nerve, device? Can I tell you another story? Oh, yeah. Let's let's have these stories. I love these stories.

At at the same clinic, we took a patient that had, fallen off a roof and had, you know, major paralysis, very little motion left. And his his hands and, no motion in his legs.

And so that as I was lasering them and this was a I gave him a 30 minute treatment with the laser as it was lasering his neck, his toes started to twitch, and he looked down and he saw that his his toes were twitching and he he knew that was happening from the laser.

And we we kind of made the demonstration that, you know, there's there's a nerve connection here. And so if you think of that, the basic chemistry of how the laser works, which is, the laser stimulates the cell's, mitochondria to produce ATP, then you can say, well, the myelin sheath is certainly repairable.

we're supplying the energy, you know, the extra ATP energy to help the cells to their job to make the repairs. And so in neuropathy, in spinal cord, stimulation, the laser works very well.

And we we've seen the evidence of that just by seeing the progress that even this quadriplegic made. so now I'm going to be really curious. what how old was that?

injury to a spinal cord? he had been probably out for seven months. I think. Okay, so this is beyond the spontaneous twitching movement that you might have, expected if you.

I just had in my my hair stretch, to a spinal cord. so his physicians must have been, like, in the family. Must have been so inspired, like, oh, my God, there there is hope.

It really gave them hope. And after the after the treatment, the kind of the rest of the story, as they would say, the rest of the story was, the doctor walked, he was in a wheelchair.

And so he pushed the wheelchair out with the family to the, to the van. And the the gentleman said, I, I'm going to stand up. And he lifted himself out of the wheelchair and stood up for not a long period of time, couldn't step into the van, but he stood up on his own.

and the doctor came in teary eyed, and he says, you're not going to believe this. And then, you know, he told me what happened. And so I know that he's still getting laser treatments today, and he's making, you know, little bits of progress at a time.

But the the idea of hope that this gave him this, to show that something could happen, that sometimes is a very powerful healing tool as well. And, you know, again, to everyone who's listening, Jim's not claiming that he's going to reverse the spinal cord damage for, but he is reporting that he's seen a lot of improvements in function that, in the conventional world, I would say, you know, after the acute injury, that's what you've got, in recovery isn't possible.

But if we provide the right environment, help the cells make the ATP a little better, we can be surprised that there is more recovery potential for acute traumatic injury.

And for the other, and I'm going to ask you to comment on this because I'm theorizing now, nutritional injuries of people had, you know, severe B12 and Europe through that was caught late.

toxic neuropathies, from a variety of heavy metals, autoimmune neuropathies. And I think of my dad with mono neuritis multiplexing the, decades of immense suffering that he had, and then the people with M. S.

and other neuro immune conditions that have an autoimmune damage to our spinal cord, which are, is intensely painful, pain, in the torso or in the limbs.

could you comment, as to what your laser might do for those people who have a spinal cord damage? that that wasn't traumatic, but that might have been autoimmune or, toxin related.

sure. So, you know, oftentimes they say the laser may not cure the underlying problem if if you don't take the patient and, and change their ways, sometimes modify their nutrition or, deploy something like a little, meditation routine or get them to do, you know, exercise if you don't use these adjunctive therapies together, then you can't necessarily be curative.

But in neuropathies in general, my experience has been with diabetic neuropathies, and these caused by cancer treatments. And in both of these cases, the the laser has dramatically helped people in the cancer patient cases that that get better from their treatment.

So totally alleviated it. And the diabetic neuropathy it's really helped reduce the discomfort. There's people that again feeling back on their feet to 100%.

So but it doesn't necessarily cure the diabetes but it helps the reconnect the nerves and help with their off base. And so there's no doubt in my mind that from a spinal cord standpoint, you do get renovation.

you know, with the laser applications. So I think, this is very powerful for, people with multiple sclerosis, particularly when we have a spinal cord hit, and you may have, severe pain with the Ms.. Hug.

you know, that's wrapping around your chest that is so painful. or that, you have, really, intense pain in one of your limbs. This may be a very helpful adjunct.

Now, you're still one to talk with your neurologist about your disease modifying treatments and and sort out what is the best treatment for for you, and address a better diet, a better, routine to support, better sleep and think about reducing your toxin exposure.

but using laser, and so, a spinal cord, let's say somebody got spinal cord lesions. They, they, they, they can look at their MRI, report. They can see what the location of the laser of the lesions are.

and, they're like, okay, I think I'd like to try one of these devices. what would that process look like? do they have to get the device, with a prescription from their neurologist or their primary care person?

How Laser May Help Neuropathy and Spinal Cord Injury

We always, want to talk to the primary care physician if we can, to make sure that they're on board with with what we're doing with the laser. And, so not necessarily, a prescription is not necessarily needed.

But I think in fairness to the primary care physician, there has to be a collective of what we're doing with the patient as a whole. to see the results.

And so the, the treatment, we do sell a home device, which can help for some more with some of the more mild neuropathies. but in terms of laser treatment, then it would be something, we would want to get into the physician's office.

and he or somebody that's trained at the facility could easily give the treatment, which could be, you know, 10 to 20 minutes in length for these kinds of issues, depending on the severity of it.

Yeah. You know, and and what I'm thinking is that, your neurologist is going to do a great job of helping you sort out the damages. They aren't really equipped to do a 20 minute, treatment, in your back.

And they may not know about this device. but talking with your primary care person who should hopefully be excited about your having a better diet, exercising according to your capacity, and they may be very open towards, trying to, to help you with a laser therapy.

So if, if the person is like, okay, I'm curious, I'd like to talk to my primary care person. I probably can't just walk in and say, I want to do laser in my back.

Can you can you get that going, doc? and so would they contact your company first to say, I'm really curious. I'd like to do this. This is the name of my primary care person.

how would that conversation go, Jim? Yeah, that would really be the best bet. our our team is very experienced. Kelly Martin, who's our director of sales training and and, has been involved as long as I have with, with laser therapy.

And, either one of us are equipped to, to handle the conversation with a physician or with the patient. Usually what happens is the patients reach out to us directly.

They can just go to the website and leave a question. There's a form they can fill out and then we'll respond to them quickly, and have a discussion with them.

And then we can make the determination. Do they do we need to get the physician involved or are they in the city where we have we have therapists kind of throughout the country that that own lasers and do laser therapy on behalf of physicians or on behalf of their role practices, so we can try to locate the nearest person for them.

For the laser, we can have them, depending on the severity. Try the home unit. So there's there's lots of different approaches, but it's really the best.

Is the patient or the patient's family to contact us directly first rather than just go to the doctor. Because if they if they just go to the doctor and say, hey, doc, I'm going to I heard this podcast and I'm going to get laser treatments.

The general answer to that will be, no, you're not. No, no. So we're very enthusiastic here. you know, and I know, physical therapy and chiropractors also use a laser in their practice, for managing a variety of pain, including, back pain and neuropathies.

do you guys work with physical therapy, occupational therapy, chiropractors? Or is this mostly physician? no. We work with all types. We work with, chiropractors, physical therapist, hand therapists, we work with people that, you know, have holistic practices where they, they look at whole body treatments with the nutrition.

yeah. So we, we work with the wide variety. That's the beauty of the product. It's, you know, does it have to be targeted to one specific area? We work with a lot of different types of people, practitioners.

this is excellent. and, if so, I still practically laser, I have, laser. So if my pain, increases, I get back to laser, and I occasionally have trouble with, some back pain, and I have my spouse, laser in my back when that gets to be trouble, to get everything quieted down, which works, super. Well, Let's say we have someone who has, the spinal cord lesions they've gotten, the laser, they're seeing their, chiropractor, physical therapist, and they're getting lasered, probably a little more frequently in the beginning.

Forever long. That takes to get things quieted down. do you think it's likely that there would be a infrequent maintenance that would happen once things get quieted down?

Or, is it more likely that after a period of, a set, unpredictable number of sessions that, they could be hopeful that they're pain is much more manageable?

So it varies from patient to patient. But my experience over the years is, has been that, patients do need a maintenance. I have one patient that calls them a tuneup.

They'll just say, Jim, I need to tune up. And so you go through the first course of treatments, maybe 6 to 10 treatments, you get to a level where there's some, significant improvement, and then you say, okay, let's see what happens over the next 30 days or the next 60 days.

Do you digress? Do you continue to, to be stable, that you continue to improve? A lot of patients that I treat, once they feel better, they suddenly are inspired to change the nutrition and start to exercise.

I've seen this time and time again where it acts as a switch to get the person to pay more attention to their health. And so I really think that, you know, with each patient it varies.

But sometimes I think I have one patient now that I treat him once or twice a year, and he had all sorts of complications, but he just said, I need a tune up.

Some people I never see again because it's fully resolved. A lot has to do with their underlying, you know, problems that they may have because you're not necessarily curing the disease, per se.

They're making it more manageable, you know, and, I had, pretty intense back pain, for a while.

Treatment Process, Maintenance, and Safety

the laser and a variety of other technologies got it under much better control. and, very occasionally, it's like the it's a little more troublesome. And then I have to, go back, in and use the laser again to get everything quiet down.

what is the, issue? If you have someone today who's pregnant or, a child under the age of 18, are there any restrictions on using laser in those two special populations.

Under the age of 18? just you really need the parents permission. There's really no, you know, harm, there's a lot of, high school athletes that use their home based product as an example.

And, or come in for late treatments because they hurt their, their ankle during their training. so that's not really an issue, pregnant. And, unfortunately, we live in a society that's highly litigious.

And so to treat a pregnant woman, even though it if I'm treating her ankle, it wouldn't do anybody any harm. Because you just think about what it's doing.

It's it's the raising the levels of ATP. If if that pregnant woman were to go trip over a curb, unfortunately, then they would be problematic and I would never treat over the baby.

So really laser therapies contraindicated on yeah. Pregnant women for many reasons. But you know, both for litigation and medical reasons. Yeah. Yeah. I, I wanted to reinforce that we aren't going to do any kind of lasering over the tummy ever.

And you just you wouldn't do that. and then, people are understandably what we all remember too. Well, the, what happened with thalidomide, and it made everybody, all the drug companies and all of the device companies very, very cautious around pregnant, women because we don't want to accidentally create harm.

Right. and so that makes sense. I do know many, many athletes, or, in their sports teams, their coaches are using laser to, accelerate, the recovery, which, certainly is very, very helpful.

As, as we are as well we, sponsoring an Olympic athlete, Camino Baki. And she's a triathlete, and it's been using our product through all of her training.

And, she's, you know, heading for the Olympics here next month or, you know, in July. So. Super. Yeah. Pretty clear, super, exciting. and so again, the device that you have, with yours, so putting that on my skin at 900 in, what was it?

980 nanometers. Is that visible light? I'm thinking that that's not visible light. Correct. It's, it's near infrared. It's invisible light. and so, if I had that home device, would I be wearing, goggles?

Not necessary. I also not sorry. The whole device is meant to be used in the home, and, not necessarily to have, you know, practitioners training, and the power density of it.

It's it's a good amount of power spread over a large surface area, but it's not focused like a laser beam. It's consistent and it's equal across the surface area.

But it's not like a laser beam would be. So there's not the eye safety hazard that would come from it. And so those. Goggles, something, that could be used, I'm thinking about the people with trigeminal neuralgia who are, trying to figure out how to treat their, trigeminal ganglion.

that's probably on their face, but that would probably be something you'd want to do in clinic as opposed to, letting people do at home. So, you know that this problem that you've described is one of the main reasons why I got into developing the laser.

It's because there was a family friend that, had dental surgery and they missed the nerve. And, the system put pressure on medications, addictive medications, and, you know, she just went went downhill and kind of lost her career and all from from this, and it was one of the incidences that stimulated me to say there has to be a better way.

There has to be something that that we can do. And so, yes, you can you can treat that in the clinic, but there's enough power density because you don't have that far to go.

through to the nerve that you can use the home device and put it on your face, you're not over the ice, so you're fine. You can put it on the face and get a, a treatment just by using the whole device.

No trigeminal neuralgia. certainly one of the most intense, painful neuropathies, that, have been described, in treatment, traditional treatments have limited efficacy.

They don't work very well. The surgery doesn't work that well. The, ablative techniques don't work that well. and, I don't think Jim is saying this is going to cure your trigeminal neuralgia, but it will, be a helpful adjunct and it's correct.

And and for me, you know, addressing my diet, target supplements, and all the other lifestyle things that I do. My pain is dramatically less, and it's, really, whenever I have a flare, I can identify what were the environmental factors that may have triggered it?

you know, perhaps a virus, perhaps accidentally got some gluten in the, salad, that I had.

Finding the Right Device and Closing Remarks

And so that will, trigger the pain. I've never thought to try my laser on my face. when that happens, it's sort of an interesting idea. I may add that, to my, toolkit.

so, yes, if you have tried general neuralgia, I think this could be, you know, certainly I want to do all of the diet and lifestyle stuff that I teach, but by all means, if you're still suffering, talk to your, to Jim and his team about the

possibility of adding laser.

So I know there is just such immense suffering that is out there with that. Jim, is there is there anything else that we haven't covered that you'd want to be sure that, our listeners, are told.

No, I think you've really ask some good questions and, you know, you've really been then careful about making sure that people understand that this is, isn't injunctive, and we're not here to say or promise it cures everything because it doesn't.

And so I just want to be sure to make that point clear, that this is a very helpful tool to have in your toolbox to help you treat all these things. And, this is an important and important point, I think.

And, Jim, how do I how do they find you? So they can go to our website www.epochlasers.com And they can find our website there. And there's lots of information.

There's articles they can download. it's a very informative website. Thank you so much Jim. This has been wonderful. Thank you very much. Really appreciate the time.