

Interview with Dr Barry Lycka & Dr Eric Bernstein

Dr Barry Lycka cosmetic dermatologist from Edmonton, Alberta is talking today with

Dr Eric Bernstein board certified dermatologist from Ardmore, Pennsylvania.

Today Dr Lycka is talking with Dr Eric Bernstein – ‘the laser guy’ – and Dr. Bernstein is widely regarded as one of the world’s authorities on laser medicine and laser technology. We are talking about using lasers to treat acne rosacea, the irritating skin condition where people have that characteristic red face and red nose, plus other applications and new trends in laser technology.

Welcome, Dr Bernstein!

How long have you been treating Rosacea with lasers?

I’m embarrassed to tell you – since I was 5 years old! Seriously though, probably since early 1990s and the lasers have improved tremendously since then.

Can we actually cure rosacea with lasers?

Well we sort of can. Most of the treatments for rosacea don’t aim at the root cause. So the first question to ask is ‘what is the cause?’ Rosacea is a condition where people acquire extra blood vessels in their face from the sun. The sun is 90% the cause of rosacea, and people who smoke, make up probably another 5% to 10% from pollutants and free radicals. It occurs mostly in light skinned people but it is not limited to them, but it is really from the sun. It is so prevalent it is estimated that at least 5% of the US population has rosacea. Once we acquire these extra blood vessels from the sun, all these stimuli from the fun things in life then make them fill up temporarily - so things like alcohol, coffee, hot, cold, and exercise trigger it. Really it’s so funny when doctors tell you to avoid all these things – who in the world can avoid hot and cold? And exercise, coffee, wine and so on – its life! We can’t avoid life and whilst we can try and moderate some of these influences we certainly can’t avoid them.

And the fact is that it doesn’t help the underlying condition. There are 5 things that happen to our skin from the sun that we don’t like. Fine lines and wrinkles, enlarged pores, brown spots, cancer, and facial redness, and these veins that we acquire from the sun, we weren’t born with them, we don’t need them and so the only thing that attacks rosacea at the source are lasers to get rid of those veins. What often comes with rosacea are pimples on the face from over active oil glands and you can even get ocular rosacea which is another story which affects your eyes. There are medicines which treat the pimples associated with rosacea but they really don’t do a lot to address the redness, and to take away those veins.

So that is where the lasers are really important for this, and the lasers we have today are better fine-tuned to treat those fine blood vessels plus they don’t cause scarring like the old lasers used to.

Yes that is absolutely correct. The oldest lasers could indeed cause scarring. But the less old lasers that Dr Bernstein started using, when they were used to treat a person’s face, they would be purple like an eggplant for up to ten days. That is a very tough thing to cope with, telling someone that yes we can get rid of your veins but you have to come in 6 times and each time we will turn you purple for 10 days afterward.

But that is not the case anymore! People generally leave the office puffy, not bruised, and they can go to work the next day. And it also takes less treatments these days too because the lasers are so much better. The main laser that Dr Bernstein uses is a pulsed dye laser called the Candela Perfecta Laser and he has been dealing with that company since 1992 and it has improved and changed very dramatically over the years. There are other lasers that treat rosacea such as a green light laser called the Excel V, but what these lasers do is that they target the blood vessels so the light is

taken up by the hemoglobin but not seen by the surrounding skin so you can remove the blood vessels without hurting the skin – that is key!

The other thing about these machines is that a fraction of a second before the laser hits the skin, a nice cool spray hits the skin which cools it and makes it not bruise as much and makes it more permeable to the light as well.

The Candela Perfecta Laser uses a cooling spray to cool the skin and the Excel V uses chilled sapphire point which touches the skin but the reason that we want to cool the surface of the skin is because melanin pigment is designed to take out light but we are not angry with the melanin, we are angry with those blood vessels so we cool the top of the skin where the melanin lives and we very rapidly heat those vessels underneath so that they disappear without making a bruise and there is no pain after, just a bit puffy and then that is it.

Dr Bernstein thinks it is a miracle! He does this every single day and every day he is still fascinated watching the effect of these lasers on the skin, because you can see a lot of the blood vessels disappear right as you treat them.

Dr Lycka is always amazed with them also. He saw the results and also the trauma caused by those first lasers. But is so glad that the tools have got so much better now.

Yes, it's just incredible. It is very unusual to see a scar, for example from the pulse dye laser. It is used to treat port wine stain birthmarks, which we can now remove much easier, more quickly. We can treat red scars, not just removing the redness from it but also improving the disordered collagen in the scar and even improving range of motion for scars that are restrictive. Technology has really raced forward. There are places where you can get information on these lasers on the internet – obviously Dr Bernstein has put information on his site, (www.dermguy.com) which is good, and tells it like it is and shows pictures before and after.

We are talking about the wonderful world of lasers. Now we are going to look at a couple of new things with lasers.

Dr Bernstein has just touched on some of the scar correction work that we are doing now – it is fascinating. Dr Lycka got involved in the scar correction area very early and has been a Mohs micrographic surgeon so he has had to be involved in scar correction but the lasers have helped us go much further to help burn victims with very bad scars, to help free them up and return people to function as well as cosmesis, which is huge.

Are there other uses of lasers that you are seeing, Dr Bernstein that we are better at than we were 20 years ago?

Absolutely. Dr Bernstein wants to just touch on some of the scar work. When a scar is no longer red, people are using fractionated (which means lasers that make little holes) lasers to treat the whole area. Fractionated carbon dioxide lasers are used to treat scars and there is a Wounded Warrior project treating service personnel coming back from overseas for example that have scars. Dr Bernstein's good friend Dr Chad Hivnor who is in the military has been working on that project. He was a colonel in the marines, and has just moved over to private practice, Dr Lycka thinks. He trained Dr Lycka in some of the laser techniques, also Dr Jill Waibel has done so, and Peter Shumaker in San Diego. Dr Bernstein comments that they are the 'big three' in this field so he just wanted to mention the scar correction applications of lasers.

[NB. All three of these doctors have recorded interviews with Dr Lycka on this show. To find them go to <http://webtalkradio.net/internet-talk-radio/inside-cosmetic-surgery-today/> and enter each of their names in the search function]

What is new now, are the picosecond lasers. We like to match the pulse duration (how long the flashes of light from the laser stays on) to the size of the target. So for hair removal, the pulses are a 100th of a second, a 1000th of a second. For tattoos they have been in the range of billionths of a second (nanosecond) but now we are going into a trillionth of a second – the picosecond. There are 3 companies that have produced picosecond lasers for tattoo removal and the hope is that they will do a better job and a faster job of removing tattoos, with less trauma. Dr Bernstein has done one of the FDA clinical trials on the Candela Syneron Pico Wave laser. Cynosure was the first FDA cleared laser, the PicoSure which is an Alexandrite laser, and Dr Bernstein thinks that 'down the road' we will be seeing them fractionate (making those tiny little dots) those lasers and applying them to facial rejuvenation to perhaps treat people with darker skin types who are more difficult to treat with our existing fractionated lasers, the most popular brand name being the Fraxel which Dr Bernstein uses a great deal to treat acne scarring. Dr Lycka also uses the Ultrapulse laser and finds that amazing. Dr Bernstein also uses those a great deal.

Where do you think this technology will be in a couple of years from now, Dr Bernstein?

One of the big trends is that lasers are heading to a couple of places. They are heading to the home. There is a company called Tree Of Beauty that Bob Groves started who was one of the inventors of the first hair removal lasers years ago. There are home use laser devices available for hair removal, home fractionated lasers for rejuvenation. He thinks that we will see a lot of combinations where topical ingredients (creams & lotions) are used with fractionated lasers to deliver them deeper into the skin either in office or with home lasers.

The other things we are going to see is 'platforms of lasers' – meaning that we are going to have 3 or 4 lasers in one machine, so that a doctor instead of buying many lasers, (Dr Lycka & Dr Bernstein have offices full of them) they can buy less machines and it will make laser technology more accessible for more doctors. This will create greater accessibility at the office and great accessibility in the home.

Dr Lycka remembers when he went to an early talk back in 1990s when one of the doctors said 'one day a laser will be the size of a pin, and a doctor will have 20 different lasers the size of a pin!' When questioned, he said well that is the size of the laser inside of a guided missile going over Iraq right now with all the map of Iraq in its brain. Well we are certainly not there with lasers yet but Dr Lycka suspects that we are going to see more miniaturization and better understanding of the physics, so that we don't have to be carrying around an elephant gun to do the job of a nice precise rifle.

Dr Bernstein agrees and notes that right now it is a matter of cost. Yes they might be able to make them that small now but nobody can afford to buy them, except for the military. But yes, that is exactly where things are heading with lasers.

Both doctors also expect some more big breakthroughs as well. That's not to 'pooh pooh' any of the breakthroughs that we have had, but there is a lot of new stuff on the horizon. The other thing about the scar removal lasers is that they are not only being used as lasers, they are also being used as drug delivery mechanisms. Those tiny little holes that they put into the skin can be used to put drugs directly into the scar which is helping to remake the scar and making it a totally different situation than without this.

We are seeing that now on a smaller scale just with home fractionated lasers combined with topical products dramatically enhancing the effect of those products, in the opinion of Dr Bernstein. Both doctors think we are going to see a lot more of that, as well as using things in combination. Red lasers to treat red spots, brown lasers to treat brown spots, lasers to stimulate and remodel collagen, plus combined with Botox and fillers to make much better results for our patients.

Another trend for the future is body sculpting – cryolipolysis as it is correctly known – which uses cold to dissolve fat or ultrasound or radio frequency energy to heat fat so that it undergoes cell death and disappears. These devices really work. Dr Lycka has been using Coolsculpting for a couple of years now, it doesn't replace liposuction, but it has been amazing, it is not invasive and is incredibly safe and the results persist. In fact Dr Bernstein has treated one person on one side of their body only and it is still flat on one side and bigger on the other! He was the first person he ever treated and he was his sales rep, and he never got the other side treated.

Other technologies are coming out – Dr Lycka has also been using micro-needling of the skin because it is less traumatic than the laser. It gives very good results on superficial scars without even having to use the laser and with less downtime. It is one of those inventions that has been sort of 'rediscovered'. We went to the laser and the laser reminded everyone of the micro-needling that we used to do in the past. It is a beautiful example of resurrecting a technology and will certainly find more of a place. It has given patients more options to choose from.

Oh, Dr Bernstein forgot to make an important point on Rosacea and sun damage. He has 3 key points that he tells his patients when they come to see him.

1. We get 90% of our sun (probably more) from driving around in a car which is quite sad because we should be outside having fun but most of us spend most of our outside time in the car. 71% of ultraviolet A comes in the car window. So get some clear window film (www.llumar.com) is Dr Bernstein's recommendation to every single patient. Most don't listen, they come back and they only need treatment on the left side because they have been driving around with no sun film so the left side of their face is getting more sun than the other side. Llumar have a film called Formula One. It is clear and doesn't inhibit your ability to see out and Dr Bernstein doesn't have any ties to the company but he thinks every car should have it fitted.

2. Wear a sunscreen every day, every patient. If you get laser treatment and then don't protect your skin with sunscreen you are wasting your money and Dr Bernstein's time.
3. Sunglasses. Dr Bernstein recommends brown lenses because we want to block the shorter blue wave lengths from the retina and brown sunglass lenses do that better than blue ones or green ones.

These are all protective and we should use them more than we do.

Dr Bernstein also recommends patients to find a good topical regimen that works for them. Use these every day for sunscreen and protection and a night regime also – don't get laser treatment if you are not willing to protect your skin because it's a waste of time and all the problems will come back if you don't protect your skin from what is causing the problems in the first place, particularly from the sun.

Before we finish today, Dr Lycka would like Dr Bernstein to tell the listeners about the Patient Guide.

5 or 6 years ago, to cut a long story short Dr Bernstein got involved with a website – now there are 22 related sites, called the Patients Guide, which give a tremendous amount of information (<http://www.patientsguide.com/>) from experts on every procedure that you can imagine. You can also find practitioners in your area too.

People are welcome to reach out to Dr Bernstein with regard to questions about lasers. As Dr Lycka highlights, this is the communication age and Dr Bernstein is to be commended for being a master communicator and breaking down subjects so people can understand them. It is an essential skill for doctors these days.

The best solutions are usually simple and if we can't explain something in simple terms, it usually means we don't understand it well enough.

And thank you Dr Lycka for being a communicator and doing this show – without a way for us to spread our ideas no-one will hear them.

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