



Contributed photos
Before, during and after laser therapy, after only five treatments. These photos come from a power point presentation that Dr. Randy Merrick uses to educate others about Low Intensity Laser Therapy (LILT).

rent standard of care for family medicine...because it would be irresponsible and possibly harm the patient." But the exciting possibilities for laser are both promising and seemingly limitless.

"We're at the tip of the iceberg with this kind of technology," continues Dr. Merrick.

In other parts of the world, doctors are using laser therapy to treat diabetes and heart disease. "They started lasering them, just putting the things right over their heart and built new blood vessels. Angina went away. How cool is that?" he queries, adding it was done "without the bypasses and all the drugs."

He's talked to doctors who have treated stroke victims with laser, resulting in 80 percent recovered brain function. "It gives us an idea of the plasticity and the ability of recuperation." He's talked to an Israeli surgeon who has watched, through a microscope, severed nerve axons actually close the gap in terrorist bombing victims. But it is still a tough sell in the U.S.

On a closet door in the cramped lunchroom at Merrick Family Medicine and Laser Therapy are taped several checks from Anthem. One check is for two cents; another is for a penny. Someone has scrawled the words, "We work for peanuts," underneath one of these insults. The irony of it all is not just that Anthem refused coverage and spent 42 cents to mail these worthless pieces of paper, but that it will pay much much more for an inevitable surgery that might have been healed with a light at a fraction of the cost.

"It's so new that a lot of people in the insurance industry, Medicare, Medicaid, they don't even know what it is," shrugs Dr. Merrick. "We have to charge for it because insurances won't pay. So it's all out of pocket now." Still, at \$45 per half hour session, it's a bargain if you are faced with carpal tunnel surgery such as Mary Ellen Bruno faced recently.

Thirty one years of repetitive stress as a dental hygienist is what did it to her. "I really thought I was going to have to give up my career because I did not want to have that surgery and I had seen too many horror stories." She points to the

machine. "I said to Dr. Merrick once, 'If it was a person, I would have kissed it.'" Debby Hanny chimes in, "I think one of the hardest things about this is to manage patient's expectations, because we're so enthusiastic about it."

As Dr. Merrick sees it, "The problem that it's going to be, to bring this into mainstream medicine, is the willingness of the allopathic world to think out of the box, without relying on the scientific standard which is the double blind placebo-controlled crossover studies that are demanded by medicine to prove that anything works." And the allopathic world, which is the regular traditional community of physicians in this country; they are the



Part of laser therapy involves placing a red-light emitting diode over the affected area. Laser therapy is painless and has no known serious side affects.

ones who control the Federal Drug Administration.

"It goes back to what I keep calling energy medicine," says Dr. Merrick. "Acupuncture is a way to tap it. Laser is a way to tap it. There are people who can actually transfer energy through their hands. We call them touch healers. People laugh at that." He pauses and corrects, "Don't laugh at all. It works. And if a person has the knowledge and power to do it, they can do it...I am looking laterally to my colleagues in osteopathic, chiropractic, homeopathic, nature-pathic, physical therapy, massage therapy, all these others because they're healers as well. And they have a lot to teach me. I have a lot to learn from them."

And they too may have a lot to learn from a light that heals.

It's not magic, it's SCIENCE



Photo by Phil Audibert
A typical treatment involves three devices: one diode that emits red (visible) light, the second, an infrared diode, emits invisible light, and the third, known as the 3B (demonstrated here) focuses penetrating infrared light. It is painless, but because it is stronger and invisible, eye protection must be worn.

A LIGHT that heals

Roger Gibson's surgical wound stretched from his sternum to his pelvis when it "dehiscid." That's medi-speak for 'opened up.' Doctor Randy Merrick spreads his thumb and forefinger about two and a half inches apart to demonstrate the width of this gaping slit in Roger's belly. He uses the same measure to show its depth. Then he holds his hands about 14 inches apart to demonstrate its length....dehiscid down through the skin and fat to the muscle. Roger says it looked like "two pieces of steak lying in my belly." It was ugly. The usual treatment for something like this is to "pack and pull" with sterile gauze while the body gradually fills in

Actually it's a light...a cold laser. Another term that could be used is photo therapy. You might even call it high-tech acupuncture, except instead of needles, you use photons.
For many, it is a miracle.



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the gap with granulation tissue...a process that can take 15 to 20 weeks. "We had it closed in two and a half weeks, skin to skin with very little scar," says Dr. Merrick.

That's just one story. How about the patient, the one they call "the living miracle." He had a sacral ulcer big enough to swallow your fist that Registered Nurse, Debby Hanny says is the worst she has ever seen. "You could see right down to the bone," she shudders. That too has healed and even more significantly, the patient's damaged spinal cord is "responding."

Just ask Don Waugh who came back to work just three days after he broke some ribs. Or, Frank Walker, ask him how soon his left hand returned to normal size after a Copperhead bit him. Or ask his wife, Bernice who suffered terribly from sciatica. "I am pain-free," she testifies. "It's not magic; it's science."

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When you use the word laser, images of a red-hot, focused beam of light boring through anything and everything come to mind; something the Borg would use to carve up the Enterprise like a roast. This is anything but.

"A lot of people are scared," says Mary Ellen Bruno, one of Dr. Merrick's laser therapists. "Am I going to get zapped? Am I going to feel a lot of pain?" they ask. She reassures them they won't. "It feels like putting a nice warm hot pack on you."

What they're doing at Merrick Family Medicine and Laser Therapy in Orange is not radiating you, but sending pulses of red (visible) and infrared (invisible) light to the affected area. And for some reason, in most people, the affected area heals.

Doctor Merrick tries to explain it as simply as possible. "In our cells are little organelles called mitochondria...the analogous cell in plant cells would be the chloroplast. As a matter of fact they are about the same size...The mitochondria have photo receptors in the membranes that can accept photons," he explains. And for reasons not entirely understood, these photo receptors stimulate the cell to produce a substance known as ATP.

"If we shine the right light at the right wave length at the right power to the cell, we will see excitation of that chemical in the mitochondrial membrane that will then generate ATP," continues Dr. Merrick. In layman's terms, ATP causes cells to "get off their duff and do what they are supposed to do...So all the tissues exposed are going to wake up and do their thing whatever that thing is that they do; whether it's build bone, build cartilage, build blood vessels, serve as a nerve, serve as a

muscle cell...So, this is not magic; this is science."

The problem is, it does not lend itself well to the U.S. medical community standard for testing. But still, laser therapy has proven itself to work. "If we're going to deal with evidence-based medicine, there is evidence that it works," says Doctor Merrick, confidently. "Wounds and acute injuries are almost 100 percent responsive." Even in what he calls "chronic hard nuts" such as arthritic joint problems, he has seen an immediate improvement in 10 to 15 percent of the patients on their very first session, with another 50 percent to 70 per-



Photo by Phil Audibert

The laser therapy team: from left to right, Mary Ellen Bruno, Dr. Randy Merrick, and Debby Hanny. Sometimes patients, like Mark Bruno (seated) just fall asleep during the painless laser therapy process. The squawking chicken in the corner alerts therapists that treatment time is up.

cent experiencing improvement over the course of several treatments.

That leaves 5 to 10 percent who do not see improvement. Dr. Merrick thinks that has something to do with the machine's preset wavelength. "My theory is those outliers, the 5 to 10 percent who don't respond to laser are probably outside of that wavelength, and if I could change that wavelength, I would capture them too."

Low Intensity Laser Therapy (LILT) is not the end-all, cure-all. "I can't work on tissue that's not there," he warns. If you've got bone rubbing on bone in your knee, you need a knee replacement. But if there's still some cartilage and synovial fluid in that joint, "I can actually

get the cartilage stimulated to resurface the bone. That's huge, and that's been shown to happen."

Dr. Merrick also quickly adds that in patients with what are known as deteriorating conditions, "you helped the cells out, but you're going to still deteriorate over time ...So you do tune ups like you would change the oil in your car."

Dr. Merrick has noticed something else...evidence that cells may share bio photons. For example, when he treats for psoriasis on both elbows and knees, he'll treat only one spot, yet, "it disappears on all four limbs." And he has

noticed, "a patient will say 'you know, my neck feels better since we've been working on it, but I feel better all over. I generally feel better,' which is a phenomenon that we often hear. And that's probably because of that shared energy issue, that this bio photon can travel."

Undergoing laser therapy is so non-eventful that many patients fall asleep. Yours truly volunteered for three treatments to alleviate shoulder pain that dates back to an injury on the rugby pitch many years ago. I was 18 and foolish enough to think I could put a Welshman on his butt without the benefit of pads. To this day my right shoulder is a little lower than my left.

So I gave LILT a try. Armed with a diagnosis, the computer designed a protocol, and a

strange looking contraption called a diode was placed over the affected shoulder. There it sat and glowed for a specified amount of time. Then, Debby Hanny moved it and set it to go again. A rather pleasant sensation of warmth permeated my shoulder. When it came time to put the second diode on, the infrared one, I felt nothing. In fact some patients summon the therapist and say the machine isn't working. The final stage of the treatment involves wearing protective goggles while the therapist shines a focused and more powerful beam of infrared light to penetrate deep. Again, you see and feel nothing.

After one treatment, I slept all the way through that night because the pain was gone. It came back, but to a lesser degree, and after three treatments it had significantly subsided, but not disappeared. The problem here may be that this is one of those "chronic hard nuts." After all we're talking about a 41-year-old injury here. Also, patients typically require more than three treatments.

When you come back for your second treatment, laser therapists Debby Hanny and Mary Ellen Bruno will ask you some simple questions: Did we make you feel better? Did we make you feel worse? Or did we make you feel about the same. If you answer 'yes' to the first question, they leave the dosage alone. If you answer 'yes' to the second, they will lower the exposure, because sometimes it can cause minor soreness. A 'yes' answer to the third, they will raise the exposure level.

It's interesting to read the patient directives that they send home with you. For wounds, they recommend not doing most of the traditional things, such as treating topically with anti-bacterial salve and swaddling it in bandages. "Leave the ulcer open to the atmosphere," reads one directive, "that the wound be allowed to be exposed to the air, as long as it's clean and relatively moist." Another says, "Relieve the wounds from pressure and irritation such as padding, dressing etc," and don't be smothering it with goopy bactericides. "Pharmaceuticals locally, intravenously and orally applied should be avoided as much as possible," it concludes. Dr. Merrick explains that antibiotics "may impair some of the normal cell function," and anti-inflammatories impede the body's natural healing process.

There are no known permanent or serious side effects to laser therapy. However, "We don't laser cancer tumors and we don't laser fetuses." (This makes perfect sense; the last thing you want to do is wake up cancer cells) "Everything else is fair game and we can do no harm," he continues, "but those are the two things that we don't know whether we do harm, so we don't do it."

He also says he will not go "outside the cur-

It all started with a horse

One day Randy Merrick noticed a German friend of his treating a lame horse with an odd looking device. He asked what he was doing and the friend replied, "I am healing zee tendon."

Widely used today in Europe, the technology actually stemmed from the development of laser surgery in the Soviet Union. This is the smoking hot beam that cuts through anything. "The cut a laser will make is not only cleaner but it cauterizes as it goes, just a real handy tool," points out Dr. Merrick. "But these wounds healed 10 times faster than a scalpel wound. Why?"

Well, it turns out, "Something's going on with that scattered light. It was that red and infrared light that was hitting the tissues from that laser. In other words the scattered light was low intensity as you moved away from the hot light."

A couple of years later, a Hungarian scientist named Endre Mester ran an experiment to see if low-level laser exposure would cause cancer in mice. He shaved the hair on the mice, exposed them to the light, and found that not only did they not develop cancer, the hair grew back on the test mice more quickly than on an untreated group.

One thing led to another. They started treating for diabetic ulcers that no one else could heal. Now, the technology is widely used in Europe, Japan, China, and Canada. "The United States is behind in this whole science." Doctor Merrick buys his BioFlex laser equipment from Toronto-based, Meditech International Corporation.

He arrived at laser therapy from two directions at once. Upon graduating from med school and completing his residency, he set up his family practice in Orange, not

a dozen miles from where he was born and raised outside Gordonsville. For the past 20 years, he has earned a reputation as an uncannily intuitive and accurate diagnostician. He has also been highly dedicated to alleviating suffering, working closely with Hospice of the Rapidan, making the last days of dying patients as pain free as possible.

"I've been interested in pain my entire career," says the good doctor. "The reason is the suffering of humanity." He looks up and asks the question, "What brings you to the doctor? It's pain, right? It's a no-brainer." Then he asks another rhetorical question, "If we are willing to treat the dying for pain they cannot stand, why shouldn't we be treating those that have to live horrible chronic pain?"

Ironically, Randy himself started suffering chronic acute pain in his neck, the kind of pain he was trying to help "manage" in others. "I was in horrible shape," he rues. He tried everything: chiropractic, physical therapy, injections, "and I was talking to neurosurgeons, and one of them was saying I'd have to fuse you (the cervical spine) on one level, and another one was saying I'll have to fuse you on three levels. And I went, 'Ahem, let me think about that one gent's.'"

He went to San Diego to learn about laser therapy from a Dr. Leonard Rudnick. And in the process of learning about it, he was treated for his neck problem. "After five treatments I was 75 percent better. The pain was leaving my arm. The numbness



Photo by Phil Audibert

Dr. Randy Merrick was born and raised in this area. He came back as soon as he finished his residency to establish a family practice in Orange.

was leaving my hand...and then after five more treatments, 95 percent of my pain was gone."

Randy Merrick wears many hats. Protected and adored by his employees, he has a tendency to overextend himself. Although he won't take credit for it, he founded the Free Clinic. He is also Orange County's Medical Examiner, Woodberry Forest's physician, and he teaches visiting med students from VCU, his alma mater. Active in many philanthropic endeavors from the Boys & Girls Club to the Rescue Squad and Grymes School, he is still focused on continuing his family practice in Orange. Not long ago, Randy won a standing ovation at the International Laser Conference in Toronto.

"I'm happy with the hats and I'm happy with my life," he says when asked if he'll

expand his laser therapy clinic to other communities. Not willing to give up his family practice, he is encouraging others to open clinics. Just recently his older brother, Gordon established Albemarle Laser Therapy in Charlottesville. Something says both brothers will have their work cut out for them as word catches on about LILT.

"It is the future of medicine," says Dr. Merrick with deep commitment. He remembers Meditech's President and CEO, Dr. Fred Kahn asking him a question once. "Randy, why are you talking about managing pain when you can cure the condition that's causing the pain? Which one would you rather do?"