

THE THERALASER

By

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The **THERALASER**, designed by Dennis Anderson of ATRONIX for the body therapy of horses, is an effective “Cold or Low Level LASER.” It is a LASER that operates safely at low power level to provide therapeutic energy without scarring or cutting soft tissues. After experimenting with several types of “Cold LASERS” on horses and on myself, I chose the **THERALASER**. I believe it is the most efficient and practical “Cold LASER” available for equine body and sport therapy today. I use it as an extension of my fingers to massage horses even when and where they are too sore to be touched.

This article relates my understanding of LASER THERAPY and my experience with “Cold LASERS” over the past three years. It explains why I prefer the **THERALASER**.

LASERS

Albert Einstein introduced the concept of LASERs (Light Amplification by Stimulated Emission of Radiation) in 1916. We trace the first surgical use of LASERs to 1961 as a cataract operation in New York. Since, LASERs have found increased worldwide popularity as medical precision tools, to cut, coagulate, also eliminate, and restore damaged cells.

There are several types of LASER transmitters characterized by the method and medium they use to produce, stimulate, and amplify a LASER beam. Each type of LASER serves specific technical and medical applications. There are four main types of LASERs:

- The GAS TYPE LASERs include Helium Neon (He Ne), Ionized Argon (Ar+), Krypton (Kr), Xenon (Xe), and Carbon Dioxide (CO₂) LASERs.
- The solid TYPE LASERs include Maiman’s ruby crystal and Neodymium in Yttrium Aluminum Garnet crystal (Nd:YAG) LASERs.
- The CHEMICAL TYPE LASER use Fluorine and Hydrogen to form Hydrogen Fluorite.
- The SEMI CONDUCTOR LASERs include Gallium Arsenide (GaAs) and Gallium Aluminum Arsenide (GaAlAs), excited by electrical energy LASERs.

A LASER transmitter emits a powerful monochromatic beam of light. Like all beams of light, a LASER beam has a conical spatial distribution (see fig. 1). The shape of the cone can be modified while passing through lenses and being reflected by mirrors. Thus, the energy in the beam can be diffused, focused, or collimated to control its intensity and its penetration. Several beams can be made to control further the supply of LASER energy. The amount of peak energy supplied by a single transmitter or a group of transmitters classifies a LASER as “Hot” or “Cold.”

The “Hot LASERS” produce an average power between 1 and 120 watts. They are very effective in surgery, ophthalmology, and radiation therapy. Some LASER beams can easily be focused on a very small dot. This allows fine cuts. Furthermore they trigger coagulation and vaporization. These irreversible photo-biothermal reactions allow clean cuts.

The gas type Ar⁺ and CO₂ LASERS supply power in the 1 to 50 watts range. They are excellent tools for surgical applications. The solid type Nd:YAG LASER, with power in the 20 to 120 watts range, is also used in surgery. The He Ne LASER visible red beam has a low power between 1 and 50 milliwatts (100 times less). It is a “Cold LASER”; however, in surgery, it guides the invisible infrared CO₂ and Nd:YAG LASERS. The semiconductor type GaAlAs LASERS can supply power up to 100 watts. They are available as “Hot or Cold LASERS.”

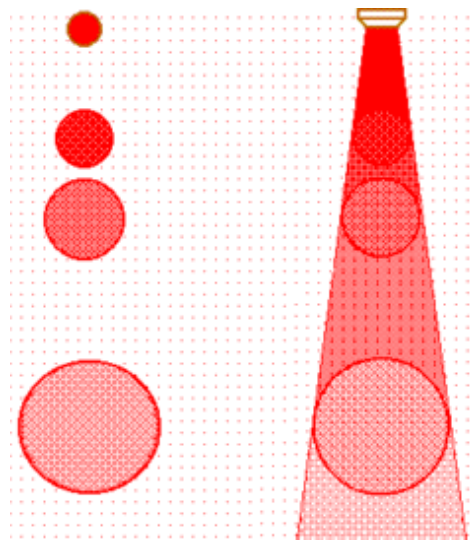


Figure 1 Typical Laser Diode Beam

LASER THERAPY WITH “COLD LASERS”

The study of “Cold LASERS,” operating at average powers under 500 milliwatts, started in the mid 60’s. Their photo-bioactivation produces low temperature or non thermal reactions. Their use started around 1980 in USA Their application is spreading rapidly all over the world in human and equine medicine. They are increasingly popular for treatment of scars, allergies, and pain , as related in “Low Level LASER THERAPY, A Practical Introduction,” by T. Oshiro and R. G. Calderhead, a 1988 Wiley Medical Publication. There are several other veterinary applications of “Cold LASERS” described in the literature, e.g., “Equine Injury & Therapy,” by Mary W. Bromiley, MCSP< SRP< RPT. (USA), Chartered Physiotherapist.

The gas type LASER HeNe and the semiconductor type LASER GaAlAs and GaAs find a wide range of applications as “Cold LASERS.” Their wavelength, respectively 633 and 904 nanometers, seems appropriate for intense tissue absorption. And, the first law of photobiology states that there must be absorption before any reaction occurs. There are extensive applications of the HeNe LASER found in dermatology. The GaAlAs and GaAs LASER beam resists absorption by hemoglobin and water. This explains its deep penetration even in richly vascularized areas. Which justifies its application to a wide range of deep therapies. Both LASERS can replace needles for non intrusive acupuncture treatment.

Clinical studies, started in the mid 70’s, have shown the many therapeutic effects of “Cold LASERS.” All LASER THERAPY theories agree that “Cold LASERS” stimulate positively photobiological and physiological functions of the body. They produce energy to the treated area that generates low temperature or non thermal effects. The best results are obtained when the energy produced enters in resonance with the whole organism. The whole organism includes the cells, tissues, and organs, integrated as an “energetic globality” directed by the central nervous system. The therapeutic quality of these effects depends on the choice of transmitter and the setting of its user controlled parameters. Researchers use computer programs to support this choice. The most sophisticated consider the interactive impact of the following parameters:

- Beam mode or spatial distribution of power across the beam
- Beam type or temporal distribution of power (continuous or pulsed)
- Wavelength
- Frequency modulation
- Absorption into water
- Absorption into hemoglobin
- Tissue penetration
- Organism stimulation effect

From my own experience in applying “Cold LASERS” to horses, myself, relative, and friends, I observe mechanical, low thermal, and biological benefits.

- Mechanically, the “Cold LASERS” vibrate soft tissues at wavelengths higher than ultrasound machines. They are not intrusive. These LASERS are easy to apply to areas too sore to be touched.
- Thermally, some are infrared lights. Holding these long enough over one’s skin, one can feel the heat they provide. The heat seems to penetrate deeper as the application time increases.
- Biologically, the healing effect around scars is very noticeable. This confirms that LASERS can reverse protein denaturation. This process is essential to provoke cell regeneration. In addition, When they stimulate an acupuncture point, endorphins are released, producing a mild long lasting analgesic effect on the treated area.

I am always searching for painless ways to eliminate spasms from tight muscles, especially around scars. The “Cold LASER” is an answer to my search. It is a healing tool without being invasive. It is the fastest relaxing tool I have used, and it works as a long-lasting pain reliever.

Referring to my personal experiments, I have applied “Cold LASERS” over the past three years to spasms, scars, open wounds, edema and arthritic joints, also around old fractures, and injured

articulations. There were several dozens of beneficiaries that included, besides me, most of my relatives, many friends, my horses, and most of the horses my students and I have treated.

The response was consistent. The direct or indirect sensation perceived was a slight warmth, or a feeling similar to the tingling of a healing scab. At most, the response was a twinge or a mild flinching. Always, people and horses would relax to a soothing influence of the beam.

Drawn to body therapy for my own needs, to recover from the sequels of a fractured back and other injuries, I am my first guinea pig in experimenting with new healing devices. I felt the warmth and tingling sensations, also the relief of latent pain, when I first applied the “Cold LASER” on the strained external ligaments of my right knee. I experienced a twinge, then instant pain relief when I first directed it to my compression fractured 12th thoracic vertebra. I feel immediate relief, when I use it on deep scars of my injured right shoulder, and on the injuries of both my legs. Without listing more of my aches and pains, do believe it: “I never leave home without it.”

My mother has had a **THERALASER** for nearly two years. It helps her cope with back pains, headaches, arthritic pains in the joints. It also helps her reduce the swelling of her feet and ankles. She tells me, she uses it at least one half hour every day, and even more during the cold Parisian winter months.

A dramatic demonstration of the healing effects of the “Cold LASERs” led me to buy my first one. It helped me recover a gorgeous 3-year-old Andalusian stallion that was recommended to be put down. After four months of treatment and tests, he could not bear weight on his hind right leg. He walked like a wobbler. When I first saw him, his right sacroiliac muscle was hard as a rock. I had to apply extreme methods to relax it. I wish I had a LASER on that day. A month later, he spent a few weeks at my place for his rehabilitation. I rented a LASER to use on him for a week, which did accelerate his recovery. Two days before he left, he hit his right hip against a door jam. That set him back. This time, I rented **THERALASER** and used it immediately, which furthered his rapid recovery. This incident sold me in buying a **THERALASER**, it was more effective and practical than the first one I rented.

THE **THERALASER**

The **THERALASER** is a “Cold LASER” of the GaAs semiconductor type LASER. It produces 210 peak watts of infrared LASER power. The **THERALASER** beam has a wavelength of 904 nanometers. A Nickel-Metal Hydride rechargeable battery powers it. The **THERALASER** uses sophisticated pulse drive circuitry to supply extremely short high intensity pulses of 904 nanometer LASER energy. This provides for the deepest penetration for maximum healing power. The penetration is 4-5 inches into the muscle tissue and delivers deep healing to the tissue. The resulting photochemical reaction increases the cellular metabolism rate that expedites cell repair and the stimulation of the immune, lymphatic and vascular systems. It provides four adjustable frequencies and has seven LASER diodes placed at the center and corners of a regular hexagon. Don't be misled or fooled by other products on the market that use LEDs (Light Emitting Diodes). By grouping many LEDs together they come up with very high average powers but LEDs are not LASERs. The **THERALASER** puts out a monochromatic light at 904 nanometers which gives the deepest penetration and the maximum *Photon Activation* at the cellular level. The LED systems are only effective near the surface of the skin due to the dramatic power losses and absorption by the skin, soft tissue and blood. The



THERALASER is packaged conveniently in a hand held small equine grooming brush size container. These specifications qualify the **THERALASER** as the handiest deep penetrating “Cold LASER” available in the market today. All these qualities for a price under two thousand dollars (\$1995), make it, without question, the best economic investment for equine health, well being and peak performance.

The **THERALASER** is designed to provide low thermal power with maximum penetration:

- The 904 nanometer wavelength of the GaAs LASER guarantees best muscle and tissue penetration.
- Easy to place in contact with the skin, it has minimum power and penetration loss. There is less than 1/2 inch between the end of the LASER diodes and the skin.
- Each of the seven LASER diodes produces a conically diffused LASER beam of energy.
- The geometric arrangement of these seven LASER diodes causes the infrared light cone to overlap (see fig. 3) which maintains maximum peak power across the core of the combined LASER beams.
- Each frequency modulation setting provides a measurable energy density, and a corresponding depth of penetration. These are based on the Nogier frequencies.

In addition, the four frequency settings correspond to successful clinical applications of LASERs most often reported in the medical literature. They match the vibrations often felt by supersensitive therapists around energy imbalanced acupuncture points. I believe that they are close to the frequencies that are causing the resonance of the “energetic globality” for the bodies healing system.

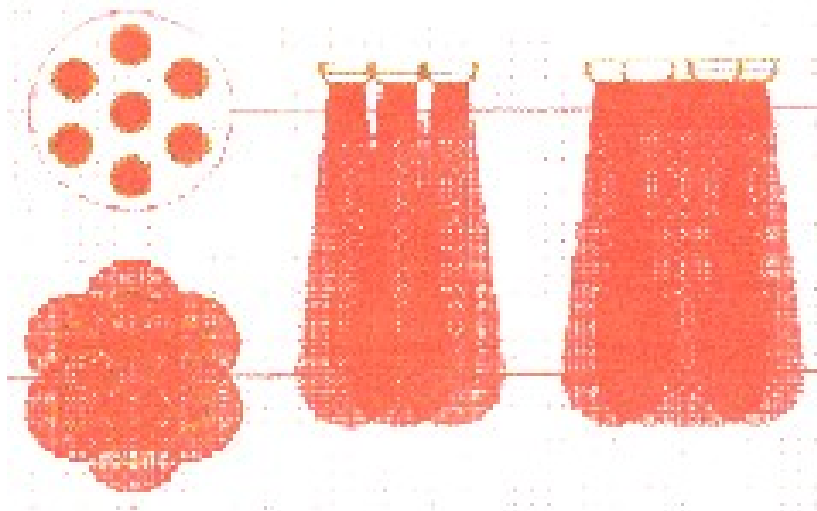
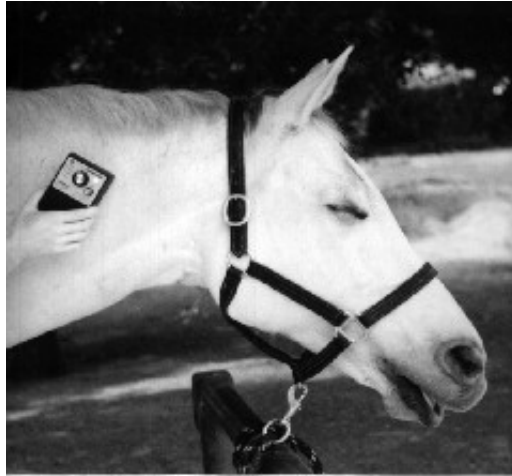


Figure 3 The Seven Overlapping LASER Diode Beams

Start Using The **ThERALASER** Immediately

The **ThERALASER** is very handy to use. It holds comfortably in the palm of the hand (see fig. 2 and fig. 4), It looks no more threatening than a grooming brush, even a small one. Like a brush, it can reach any part of a horse. It makes a hardly noticeable whistling noise. The **ThERALASER** works up to five hours or more of continuous use until it needs to be recharged.



Thanks to its handiness and its deep penetration, the **ThERALASER** can stimulate all acupuncture points on equine or human bodies. Its powerful infrared beam provides the mechanical, low thermal, and photo- biological effect deeper than any other portable "Cold LASER" I have tried. And it is portable. The LASER, its charger, and a pair of infrared safety glasses are carried in a small protective case.

FOR MORE INFORMATION

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