

A Webinar-Inspired eBook

Reinvent Your Approach to Common Chiropractic Conditions with **Laser Therapy**

with Dr. Maxine Cappel-Mayreis, DC, DACS

Watch the webinar that inspired this eBook at DynamicChiropractic.com.
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CUTTING
EDGE
LASER TECHNOLOGIES



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Dr. Maxine Cappel-Mayreis

Dr. Max is a 3rd generation Chiropractor and the 6th Chiropractor in her family practicing on Long Island for 30 years. Her Grandfather was a true pioneer, a graduate of Dr. Harley Institute of Chiropractic in 1914!

She earned Board Certified Diplomate status in Chiropractic Sciences and was adjunct faculty for the New York Chiropractic College's externship program, teaching responsible and successful practice to interns.



Dr. Max is very active in her community, presiding on a number of boards and has an impressive collection of distinctive awards and citations from many civic and Chiropractic organizations. Her purpose is to help as many people as possible become pain free and healthy. With over 136 years of family and personal Chiropractic experience, Dr. Max's holistic approach enables people of all ages to regain health through natural and effective methods.

The addition of laser therapy to her practice has expanded the scope of services and helped restore mobility and function to patients with difficult conditions, extremity pain or those who had plateaued, as well as bring a whole new chiropractic clientele under her care.

**“Laser therapy is wonderfully synergistic in my practice!
It's holistic and it helps get people the best results in
the shortest amount of time.”**

– Dr. Max



What is Laser Therapy?

Lightbulbs and lasers both generate light, which is the common name for electromagnetic energy that we can see.

Ordinarily visible light is composed of many different wavelengths moving irregularly in different directions. On the other hand, laser light is a highly concentrated beam in which all photons move in the same direction at the same wavelength.

Measured in nanometers, each wavelength of electromagnetic energy has unique properties, benefits, and, for therapeutic purposes, tissue penetration abilities.

Ordinary light in the visible region of the electromagnetic spectrum exists between 400nm and 700nm, while therapy lasers typically emit wavelengths of light between 600nm and 1200nm.

This has been deemed the “therapeutic window” because no chromophores have the ability to filter the light emission in this range. Therefore, all beneficial laser light energy is able to penetrate and stimulate photoreceptors.

By utilizing wavelengths within this range, therapy lasers are able to use light energy to favor and accelerate the body’s natural healing processes.

The laser beam is moved over the skin so that photons can penetrate the tissue and interact with chromophores causing different biological effects to:

- **Promote tissue regeneration** and wound healing by stimulating fibroblast development in damaged cells.
- **Reduce inflammation** and edema by stimulating blood flow and lymphatic drainage.
- **Induce analgesia** by easing nociceptors and stimulating the release of endorphins and enkephalins to block the transmission of pain sensations to the brain.

Current research on the effects of laser therapy focus on the mitochondria of the cells. This organelle generates chemical energy in the form of ATP to power biochemical reactions in the cell.

Laser photons hyperexcite the mitochondria and the cell membrane. This results in increased oxygen and ATP production which stimulates cellular metabolism and growth leading to accelerated tissue repair and cell growth.

Laser therapy has no known side-effects and can offer a wide range of health benefits beyond pain relief since ATP excitement also improves cartilage, bone, and nerve health.

Laser Classifications

Lasers are classified by their potential to cause biological harm. The relevant criteria includes:

- Output of energy and power
- Radiation wavelengths
- Exposure duration
- Cross-sectional area of the laser beam at the point of interest
- Maximum accessible emission level within a particular class

While all therapy lasers are unique, most can be classified as Class IIIB or Class IV.

Class IIIB therapy lasers are often referred to as “cold lasers” since they do not produce heat. While still hazardous for naked eye exposure, Class IIIB lasers produce less energy than Class IV and are not considered a burn hazard.

However, this limitation in power provides limited biostimulation and mitochondria excitation. This often requires patients to undergo longer treat-

ment times and receive many sessions before seeing results.

Class IV is the highest and most potentially hazardous classification of lasers. The higher level of power can lead to more efficient treatments, but it is important to note that wavelength has a greater influence on healing efficiency than power.

Wavelengths can be specifically selected for their greatest anti-inflammatory, anti-edema, pro-circulatory, and mitochondria excitation effects.

Additionally, the increase in power, measured in watts, amongst Class IV therapy lasers is often accompanied by an increased risk of thermal tissue damage when not used properly.

Innovations in laser therapy research have developed advanced systems to surpass the limitations of Class IIIB lasers while avoiding the concerns of high-power Class IV lasers.

Class 1

A laser that is safe for eyes under all reasonably anticipated operating conditions, such as barcode scanners.

Class 1 Product

A product that contains a laser of a higher class but is confined so the radiation is prevented.

Class 1M

A laser that is safe for viewing with the naked eye but could be made hazardous with the aid of an optical instrument.

Class 2

In the visible region. Safe for accidental viewing assuming there is an aversion response. Prolonged viewing may be hazardous.

Class 2M

Safe for accidental viewing but could be made hazardous with the aid of an optical instrument.

Class 3R

Five times the emission limit of Class 1 and 2 lasers but risk of injury is low. Produces no more than 5 mW in the visible region.

Class 3B

Eye exposure may be hazardous but can be diffused to non-hazardous levels. Wavelength is above 315 nm but does not exceed 0.5 watts.

Class 4

May cause permanent eye damage or burns. Continuous output levels start at 500 mW. Pulsed systems can produced over 125 mJ in less than 0.25 seconds.

Multiwave Locked System® Laser Therapy

MLS® Laser Therapy is a unique type of Class IV laser technology that utilizes a patented emission system to precisely synchronize simultaneous dual wavelengths. The two wavelengths emitted by the MLS system were chosen as a result of three decades of research to provide optimal clinical effectiveness.

The **Continuous 808 nm** wavelength stimulates blood flow and lymphatic drainage and induces the reabsorption of fluid buildup to decrease inflammation, edema, and swelling. This emission has a secondary effect on pain, which is diminished after reducing the inflammatory processes of the tissue.

The **Pulsed 905 nm** wavelength has an immediate effect on pain by stimulating the production of pain-killing chemicals, such as endorphins and enkephalin, in addition to calming nociceptors to inhibit painful sensations.

MLS Laser Therapy takes advantage of each wavelengths' unique benefits. When locked and synchronized, these wavelengths reciprocally reinforce each other to achieve results previously unattainable. This allows MLS Laser Therapy to provide more effective treatments than traditional therapy lasers that follow the methodology of delivering a single wavelength at a time, or multiple wavelengths that are not synchronized in this fashion.

Indications for Use

- 1 Musculoskeletal system trauma, including sprains and strains.
- 2 Degenerative illnesses of articular or neuromuscular origin.
- 3 Edema due to circulatory stasis, reduced lymphatic drainage or trauma.
- 4 Inflammatory conditions.
- 5 Superficial lesions, post-surgical healing and other painful conditions of various origins.



Unlike early-generation Class IV technologies, MLS Therapy Lasers have the capability of delivering controlled laser energy by modulating the energy output to an appropriate level considering the maximum possible power level, pulse width, and treatment duration.

With this unique feature, MLS Therapy Lasers provide more accurate therapeutic dose delivery while decreasing the risk of thermal collateral tissue damage. This allows the patient and practitioner to experience the benefits of a Class IV therapy laser, such as more efficient mitochondrial excitation and biostimulatory results in a shorter period of time, while minimizing the risks associated with many other Class IV technologies.

MLS Laser Therapy is FDA-cleared and has been proven to be effective for both acute injuries and chronic conditions. This includes difficult-to-treat conditions that do not typically respond well to traditional approaches, including neuropathy, spinal stenosis, and fibromyalgia.

“There is a long list of conditions but I picked these three because, after 30 years in practice, I can now give these patients some significant help which cannot be achieved through traditional chiropractic adjusting and approached... Implementing MLS laser therapy has enabled me to give [these patients] better results and finally some good relief.”

– Dr. Max

In addition to improved outcomes and an enhanced safety profile, the MLS Therapy Laser has a penetration depth of 4 to 5 centimeters making it more capable of stimulating deep and difficult-to-reach tissues of large joints, such as knees and hips.

“You elevate yourself and the chiropractic profession when you elevate others to better health, get them free of pain, restore function, and renew hope.”

– Dr. Max

Download our infographic about the
10 Benefits of MLS Laser Therapy.

Laser Therapy at the Chiropractic Practice

Laser Therapy aligns with the chiropractic philosophy of holistic pain management. In addition to working synergistically with manual adjustments, it helps patients minimize their use of narcotics, steroid injections, and anti-inflammatory medications that could damage the liver and kidney or cause other potentially harmful side effects.

Laser therapy can also help patients overcome plateaus in their treatment progress, help them overcome painful incapacitating ruts and bring them to a level of improved function where other methods can be used more efficiently.

The typical MLS Laser Therapy package for acute conditions consists of 6 to 10 sessions over the span of 3 to 5 weeks.

Chronic and long-standing degenerative conditions may require 12 sessions due to the build up of scar tissue over time. After the initial 12 sessions, some patients may require additional monthly maintenance sessions.

Laser therapy treatments are cumulative. Each session builds on the last, gaining more momentum with the excitation of the mitochondria. Most conditions see positive results in 2 or 3 sessions, while more fibrous tissue may take longer.

Laser Therapy can offer a solution to a wide range of chiropractic patients. This modality helps chiropractors surpass the limitations of traditional approaches and offer a new solution to difficult cases.

Additionally, laser therapy can also bring new patients to the practice who may not have otherwise sought chiropractic care.

“Don’t you think the majority of people who come into the practice for laser pain relief need to be balanced and unsubluxated to get the best results in the shortest amount of time? Most of the people who come in for laser also become chiropractic patients. Maybe not on the first day, but on the third day I’m going to explain to them ‘If you were in balance, this would get better quicker. You’ll get faster and better relief with your laser treatment.’ By the third treatment or so, they understand that chiropractic is a perfect synergistic thing to do along with their laser treatment.”

– Dr. Max

When considering laser therapy for the practice, chiropractors must understand the importance of receiving proper training and support for themselves and their staff from their laser provider.

“Look for a company that will partner with you and ensure your success.”

– Dr. Max

Like all chiropractic services, patient education is an integral part of incorporating laser therapy into the practice. A well-trained staff will be equipped to properly educate patients, operate the laser, and find opportunities to incorporate laser therapy services into treatment plans.



“I love my laser. It’s fully robotic. I’m proud to be able to offer this high-tech, state-of-the-art technology to relieve people’s pain and inflammation, restore function, and bring them to a higher frequency of living. I feel better that they’ll take less drugs and injections and maybe avoid surgery. I also feel good that I’m keeping this cash business in my practice.”

– Dr. Max

For more information on MLS® Laser Therapy visit
www.celasers.com/medical

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