Class 4 Laser Therapy Explained

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Class 4 Laser Therapy produces numerous therapeutic benefits that will be revealed below. It starts with high powered Near InfraRed (NIR) laser diodes that produce an electro-magnetic energy, which enters the body as millions of photons. The light beam of photons stays fairly narrow and does not diverge like a regular light bulb. The amount and depth of penetration of the class 4 laser therapy machine varies significantly depending upon a number of different factors. Those factors include: the patient, the issue and location on the body being treated, the power output (Watts) of the class 4 laser therapy machine being used, the wavelength(s), which is measured in nanometers (nm) the number of wavelengths and the duration of the treatment. The power of the laser is the single most important factor determining the length of treatment, coupled with the ideal wavelengths to support optimal depth of penetration.

Current Research Reveals: a Class 4 Laser Therapy Machine for Practitioners Provides Faster, Deeper and More Effective, Therapeutic Results than Class I, Class II and Class IIIb

What is Cytochrome C Oxidase and Why is it Important?

Most current research shows that tissues targeted by High Power Laser Therapy are stimulated to increase production of a cellular enzyme (Cytochrome C Oxidase) that is critical to the production of ATP. ATP is the primary fuel of all living cells and this form of chemical energy is dramatically increased with use of high-quality class 4 therapy lasers. With increased ATP production and greater bioavailable cellular energy, a host of biological responses are facilitated, such as dramatic pain relief, reduction of inflammation, reduced scar tissue, increased cell metabolism, improved vascular activity, and accelerated healing. Thus, the photo-chemical effect of High Power Laser Therapy is evident and useful for a wide range of practitioners to better support pain relief and healing in their patients for a wide range of physical ailments from head to toe.

Biological Effects and Benefits of Laser Therapy Via Class 4 Laser Therapy Machine

1. Accelerated Tissue Repair and Cell Growth
Accelerate cellular reproduction and growth. Unlike other treatment modalities, only powerful Class 4 Laser Therapy can penetrate the bony patella and deliver healing energy to the articular surface between the underside of the patella and the femur. Cells of cartilage, bone, tendons, ligaments and muscles are repaired faster as a result of exposure to high powered NIR or Near InfraRed Laser photons.

2. Reduced Fibrous Tissue Formation
Class 4 Laser therapy reduces the formation of scar tissue following tissue damage and acute and chronic inflammatory processes. This point is paramount because fibrous (scar) tissue is less elastic, has poorer circulation, is more pain sensitive, weaker, and much more prone to re-injury and frequent exacerbation.

3. Anti-Inflammation
Laser light therapy has an anti-inflammatory effect, as it causes vasodilation and activation of the

lymphatic drainage system. It deactivates 7 or the 9 enzymes that cause inflammation by up to 70%. As a result, there is a reduction in swelling caused by biomechanical stress, trauma, overuse, or systemic conditions. Laser therapy easily promotes the movement of lymph, which also supports faster healing.

4. Analgesia
Laser therapy has a multifaceted beneficial effect on pain relief. It activates production of high levels of pain killing chemicals such as endorphins (dopamine and serotonin), and enkephalins from the brain and adrenal gland. Additionally, it initiates the suppression of nerve signal transmission over unmyelinated c-fibers that transmit pain to the brain. This means that it supports pain relief for musculoskeletal and nerve pain related issues simultaneously.

5. Improved Vascular Activity
Laser light will significantly increase the formation of new capillaries (angiogenesis) in damaged tissue that will speed up the healing process. Additionally, it has been noted in the literature that microcirculation increases secondary to vasodilation during laser treatment.

6. Increased Metabolic Activity
Laser therapy creates higher outputs of specific enzymes that support intracellular metabolic activity.

7. Improved Nerve Function
Class 4 laser therapy machines accelerate the process of nerve cell regeneration and increases the amplitude of action potentials within nerve cells.

8. Immunoregulation
Stimulation of immunoglobulins and lymphocytes.

9. Stimulates Trigger Points and Acupuncture Points
Stimulates muscle trigger points to help release contracted tissues, helps restoration of muscular tonus and balance. Can also be used to quickly and easily treat acupoints and trace meridians to quickly open up blocked energy flow within numerous body and organ systems from the macro to the micro-systems.

Cold Lasers (Class 1, 2 and 3b) vs Class 4 Hot Therapeutic Lasers (Class 4 Lasers) Learn about over 500 Laser Therapy Protocols

The majority of therapeutic laser machines used are commonly known as “cold lasers”. These lasers deliver significantly low power output, and for that reason do not generate much or any heat on the skin, ensuring safety for all users. Treatment with these lasers is known as “Cold Laser Therapy” (CLT) and while frequently effective, on average, treatment times are significantly longer and penetration is not as deep as Class 4 Laser Therapy. Over the years CLT or Phototherapy has been coined internationally as Photobiomodulation or PBM. The 810nm wavelength is the most preferred for PBM and the more power behind it, the deeper the penetration and the more energy delivered to the Mitochondria within the target tissue/cells, for conversion into ATP within the cells.

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Class 4 therapy lasers are mostly considered “hot lasers” since most of them produce a measurable amount of heat due to the use of significantly higher-powered laser diodes. Hot lasers are more regulated by the FDA because they also carry increased risk of injury to the eye if not properly used. While many cold lasers are helpful and effective for a wide range of issues, class 4 lasers are much more powerful. Class IV lasers commonly deliver more than 100x the power of cold lasers. Therapy with these lasers feels warm and soothing because of the higher energy. This therapy is known as “High Intensity Laser Therapy” (HILT) or Class 4 Laser Therapy (C4LT).

According to older research, both hot and cold lasers have similar depth of penetration into the body. The old thinking is that depth of penetration is only determined by the wavelength of light and not necessarily by power. However, the newest and most current research and clinical publications reveal that with more power to drive the wavelength, deeper penetration is achieved. Another more recent medical and scientific conclusion is that the body can tolerate and benefit from much higher doses of energy than previously considered viable or necessary.

WHAT IS THE PRIMARY DIFFERENCE BETWEEN COLD & HOT CLASS IV LASER THERAPY MACHINES?

The primary difference between the two types of lasers is the time it takes to deliver a therapeutic dose. A 15 watt hot laser will treat an arthritic knee to the point of pain relief, in about 10 minutes (or 5 minutes with a 30 watt laser). A 150 milliwatt cold laser would take over 16 hours to deliver the same dose of photonic energy to the compromised cells. Consequently, a high number of practitioners are switching to Class 4 therapy lasers in order to deliver superior results with dramatically less time.

Learn more online. Visit the premier Class 4 Therapy Lasers company that has been helping practitioners for over 20 years to master the art of Class 4 Laser Therapy with exceptional lasers, service and training.

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