

Low Level Laser Therapy. Miracle Healing With Photons

One of the most fascinating and used healing advances at our Center is a miniature marvel known as low-level laser.

Light has been used for healing for many centuries, starting with the Greeks and Romans who recognized the positive effects of sunlight. We know that when sunlight strikes the skin, our whole body feels the benefits. Even our brain is affected by sunlight. As scientists have understood more about the nature of light and its positive effects on the body, they have been able to develop techniques and devices that use light as part of the healing process.

What we usually call light is the visible part of the spectrum of electromagnetic radiation. We are all familiar with the rainbow effect and what we call light is that range of colors. Conventional light has a thermal effect; it warms up the skin. For example, ultraviolet light is the part of the spectrum that is responsible for tanning your skin; infrared light is used as a heat source.

Low-level laser light is compressed light of a wavelength from the cold, red part of the spectrum of electromagnetic radiation. It is different from natural light in that it is one precise color; it is coherent (it travels in a straight line), monochromatic (a single wavelength) and polarized (it concentrates its beam in a defined location or spot). These properties allow laser light to penetrate the surface of the skin with no heating effect, no damage to the skin and no known side effects. Rather, laser light directs biostimulative light energy to the body's cells which the cells then convert into chemical energy to promote natural healing and pain relief.

The word "laser" is an acronym for Light Amplification by the Stimulated Emission of Radiation. The theory was first described by Albert Einstein (1879-1955) who paved the way for the development of the therapeutic laser.

The first low-level therapeutic laser was developed in 1962. By the end of the 1960's, Endre Mester in Hungary was reporting an improved healing of wounds through low-level laser radiation. Since then, scientists and doctors around the world have been using laser light to treat conditions that can affect all age groups.

There are two types of medical laser: high power and low power. High power lasers are used to cut through tissue. Low-level lasers, on the other hand, are used to stimulate tissue repair through a process of bio-stimulation.

Low-level laser therapy is the application of red and near infrared light over injuries or wounds to improve soft tissue healing and relieve both acute and chronic pain. Low-level therapy uses cold (sub thermal) laser light energy to direct bio-stimulative light energy to the body's cells without injuring or damaging them in any way. The therapy is precise and accurate; and offers safe and effective treatment for a wide variety of conditions. The energy range of low level laser light lies between 1 and 500 mW (milliwatts), while for surgical lasers the energy range lies between 3000 and 10000 mW.

Low-level lasers supply energy to the body in the form of non-thermal photons of light. Light is transmitted through the skin's layers (the dermis, epidermis and the subcutaneous tissue or tissue fat under the skin) at all wavelengths in the visible range. However, light waves in the near infrared ranges penetrate the deepest of all light waves in the visible spectrum.

When low level laser light waves penetrate deeply into the skin, they optimize the immune responses of our blood. This has both anti-inflammatory and immunosuppressive effects. It is a scientific fact that light transmitted to the blood in this way has positive effective throughout the whole body, supplying vital oxygen and energy to every cell.

The Physiological Effects of Low Level Laser Therapy

1. Biostimulation
 - Improved metabolism
 - Increase of cell metabolism
2. Improved blood circulation and vasodilatation
3. Analgesic effect
4. Anti-inflammatory and anti-edematous effects
5. Stimulation of wound healing

How Does Low Level Laser Therapy (LLLT) Benefit Users?

- Relieves acute and chronic pain
- * Increases the speed, quality and tensile strength of tissue repair
- * Increases blood supply
- * Stimulates the immune system
- * Stimulates nerve function
- * Develops collagen and muscle tissue
- * Helps generate new and healthy cells and tissue
- * Promotes faster wound healing and clot formation
- * Reduces inflammation

Low-level laser therapy does not require constant, ongoing treatments, as is often required with traditional chiropractic or physiotherapeutic remedies.

Low Level Laser therapy is not for everyone or every condition, only your doctor who is skilled and knowledgeable in L.L.L. therapy will be able to make the final determination if this type of therapy is right for you. Below however, are some questions you might ask yourself to determine if it might be appropriate for your condition:

Do you suffer pain from an old or new sports injury or accident?

1. Do you suffer from repetitive stress injuries such as carpal tunnel syndrome?
2. Do you suffer from lower back pain?
3. Do you suffer from migraine headaches?
4. Do you take pain medications more than three times a week?

5. Do you ever wake up in the night with pain?
6. Do you suffer from skin ulcers, bed or other pressure sores?
7. Do you suffer from acne or rosacea?
8. Do you have potential scarring from a recent surgery?
9. Do you suffer from herpes simplex (cold sores)?

If you answered "yes" to any of these questions, low-level laser therapy may be for you. Many acute and chronic conditions can be improved or eliminated with laser use.

Perhaps the most important fact that we have found as a pragmatic clinician is the fact the LLLT seems to work when and where our previous therapies have failed. This is a great joy to any dedicated physician. In our experience, we have had very few patients who have not received benefit from Low Level Laser Therapy, and many have received truly outstanding help for conditions that had previously defied all other therapies. The following is a short list of some conditions that have been helped through LLLT:

- *Pain Relief
- * Wound Healing
- * Arthritis
- * Migraine headaches
- * Lower back pain
- * Repetitive Stress Injuries (RSI)
- * Carpal Tunnel Syndrome (CTS)
- * Tendonitis
- * Fibromyalgia
- * Sprains and strains
- * Post-operative pain
- * Tennis Elbow
- * Golfer's Elbow
- * TMJ
- * Soft tissue injuries
- * Post-operative wounds
- * Swelling
- * Burns
- * Pressure sores
- * Herpes simplex
- * Acne

Other than musculoskeletal conditions, LLLT has been found to be very effective for are the following: healing of open wounds; dermatitis; eczema; lack of granulation tissue formation (thus retarding wound healing); overcoming and softening scar tissue formation; fistulas; edema; cysts; bursitis; muscle inflammation, contusions, ruptures, atrophy and contractures; neuritis; neuralgia; nerve injuries; atrophy of nerves; paresis; paralysis; prolapsed disc disease; spondylitis; periostitis; spondylosis; bone fractures and fissures; arthritis, both rheumatoid and osteoarthritis; arthrosis; strains and sprains; dislocations (following reduction); tendonitis; epicondylitis; tendon strains and contusions; tendon ruptures and following tendon surgery; hematoma; tissue infiltration of blood after blood taking or injection.