

Low Level Laser Therapy

.....*journey into the light*

by: James Britt

According to the scriptures, the first words of creation were "let there be light." Science recognizes that all life forms, regardless of how primitive or how advanced, derive life-giving sustenance from the sun's energy. Since the dawn of time the sun has been the source of *all* life on earth.

Because of our modern lifestyle, we tend to spend less time exposed to the positive benefits of the sun's energy. Scientist have known for more than a hundred years that light, even ordinary light has an effect on cell function and that light deprivation can cause debilitating mental depression. Light can heal and conversely, the lack of light can cause serious illness. Remove a plant from the sun's rays and it withers and dies. Place a child, born with jaundice under a simple blue light and the symptoms are reversed.

During the summer months when we are exposed to extended hours of natural sunlight we find that our hair grows faster and thicker. It is the pure red spectrum of sunlight that stimulates blood supply to our scalp and provokes this biological phenomenon. Science has now harnessed this energy providing mankind with a therapeutic solution to hair loss in the form of laser hair therapy.

In order to understand the mechanism responsible for the sometimes, stunning results achieved with laser hair therapy, it is necessary to understand the difference between ordinary light, and laser light. It is also important to recognize the difference between high level laser energy and low level laser energy.

Ordinary white light, as produced by the sun and commercial light bulbs, is comprised of all colors of the light spectrum and emits its light in all directions. Normal light with a high degree of infrared light produces a thermal effect on the skin. This is due to its high energy and the high absorption rate of water in the surface of the skin.

Laser light has one precise color (monochromatissity) and produces a coordinated emission of photons traveling in a parallel path (coherence), capable of projecting its highly concentrated energy on a small determined area regardless of the distance (polarization, parallelism).

High energy lasers, to varying degrees, heat the water in the outer cell structures of the skin and are thus, effective medical instruments for creating delicate surgical incisions, skin resurfacing and even hair removal. Pulsed lasers are sequenced to provide intermittent cooling of the skin's surface and alleviate burning. In industry, high energy lasers have many uses including fusing and cutting steel.

Low level lasers, or *cold* lasers have *no* thermal component and can not cut, burn or vaporize tissue. They operate on the principal of photo-bio-therapy and are capable of reaching deeper layers of the skin. This is due to the permeability of the epidermis for specific colors (visible red and near invisible, infrared).

When low level laser light is absorbed by cellular and sub-cellular structures, a photo-bio-chemical chain reaction (cytochromes, porphyrins) is triggered, provoking, positive, therapeutic results.

The use of low level laser energy would not be possible without the foresight of the "Father of Laser Bio-stimulation," Professor Andre Mester of Budapest Hungary. It was professor Mester who first discovered the miraculous healing effects of Low Level Laser Therapy, and inadvertently, the potential for stimulating hair growth.

In 1964, while performing wound healing treatments on laboratory mice, using a low reactive laser, Dr. Mester observed that not only did the laser light stimulate microcirculation of blood supplies resulting in tissue regeneration, but the body hair located in the treatment area grew thicker and longer than the surrounding hair. This was proof-positive to researchers that laser light, delivered with the correct power at the appropriate wavelength had a positive effect on cell function within the hair follicle.

Today, hair restoration clinics around the globe are employing laser hair therapy as an important tool to stop the progression of hair loss and stimulate re-growth. Free standing laser hair therapy clinics are springing-up in every quadrant of the country to meet the demand of individuals seeking an effective, non-invasive, therapeutic solution to their hair loss.

Professor Mester's clumsy helium-neon laser has been replaced by sleek, state-of-the-art, clinical laser hair therapy devices with 40 or more diode lasers mounted in a hood. These are devices, under which the patient/client sits for 15 to 30 minutes, while "soft" laser light energy is delivered to the tissues of the scalp. The most effective laser programs have proven to be those that combine European soft laser technology with American pharmacology (Propecia or Minoxidil). Results that could not be achieved with one therapy or the other, are often quite remarkable when the two therapies are married.

The most advanced laser, soon to reach the market, is the AlphaLase LX-4000. This space-age-looking device is equipped with laser modules that power 40 precisely-tuned laser diodes. Programmable banks of laser lights rotate around the client's head, distributing laser energy to specific areas of the scalp. To insure full cranial coverage, the hood in which the lasers are mounted, automatically raises and lowers, incrementally during the 15 minute treatment period.

Other features include a soft-touch screen on which treatment time, power level of individual laser modules, and programmable computer system are controlled. The vertical movement of the hood is also managed on the touch-screen. For music lovers who can't be separated from their iPod for fifteen minutes, the hood of the AlphaLase is equipped with stereo speakers as well as a "port" in which the client's iPod can be plugged for relaxed listening during treatment. ..

Individuals, who are unable or unwilling to visit local hair loss clinics for laser treatments have the option of purchasing one of several hand-held laser combs, or brushes which are

commercially available and can be used in the privacy of their home. Many clinics provide these as part of a home maintenance regimen. The HairMax is the best known of these devices and arguably, the most effective.

Professor Henri Mester's research contributed much more to the quality of our lives than the ability to stop hair loss and grow more hair. His clinical investigation into low level laser therapy has provided us with the ability to heal wounds (with reduced scar formation), and control pain through increased B-endorphin release and ATP production. Beyond that, the application of low level laser therapy extends into Rheumatology, Sports Medicine, Dentistry, Dermatology and Laser-Acupuncture. Indications range from the treatment of hemorrhoids, carpal tunnel syndrome, burns (first second and third degree), chronic eczema Rheumatoid arthritis and more...*much* more..

A study of low level laser hair therapy is truly... *a journey into the light*

(Thought for the day; "Problems are opportunities in work clothes")

___ Henry Kaiser