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Led Light Therapy

LED Holistic Light Therapy otherwise known as Polychromatic Light Therapy, in therapeutic sessions called “low level” this is very safe and non invasive, not causing any pain. Harnessing healing power and healing properties infared, green , yellow blue light. Light that is emitted special waves of light energy to drastically increase the connective and relieve tissues specially supporting in chronic pain. This is amazingly effective to the human body. Holistic light Therapy is non- abrasive and restorative.

Where there are dermal wounds an acceleration of tissue repair and wound closure. Also a reduction of the pain in the healing process. This has been demonstrated in thousands of clinical studies, peer reviewed literature and articles to show how the actions take place on a cellular healing level cellular absorption of photons (light energy).

On a cellular activity in which the reception of light there is a increase of adenosine triphosphate (ATP)

With pre and post surgeries here are a few reasons listed:

- Shown to accelerate tissue repair in the body. Minimize the wound of itself
- Preventing dehiscence or the splitting or bursting of a pod or wound
- Has the ability to potentially bring the reduction of Hypertropic scars and Keloids
- Hypertropic scars have deposits of excessive amounts of collogen which gives to a raised scar but not to the degree of keloids
- Keloids grow bigger than the scar and keloids are not common a type of raised scar.
- Professional Grade LED light prior to surgery can decrease the presence of bacteria.

It was through research and clinical study determined that phototherapy using LEDs is beneficial for a range of medical and aesthetic conditions encountered in the dermatology practice. This treatment displays an excellent safety profile.

Study notes

An increasing number of individuals are seeking noninvasive procedures for improving medical and aesthetic dermatologic conditions. Phototherapy refers to the use of nonthermal, noninvasive light to achieve a therapeutic outcome and can apply to a variety of light-emitting devices. Interest in recent advances in the use of light emitting diodes (LEDs) has led to their clinical application for a variety of medical and cosmetic uses.

Research demonstrates that LED light treatment can be powerful for wound mending and different sorts of skin harm. Previously, Navy SEALs utilized LED light treatment to assist with recuperating wounds. The treatment prompted upgrades of over 40% in outer muscle wounds in colleagues. It likewise diminished injury recuperating time.

Red light treatment (RLT) is a treatment that might end up being useful to skin, muscle tissue, and different pieces of your body mend. It opens you to low degrees of red or close infrared light. Infrared light is a sort of energy your eyes can't see, however your body can feel as intensity. Red light is like infrared, yet you can see it.

Red light treatment is likewise called low-level laser treatment (LLLT), low-power laser treatment (LPLT), and photobiomodulation (PBM).

How Does Red Light Therapy Work?

With red light treatment, you open your skin to a light, gadget, or laser with a red light. A piece of your phones called mitochondria, once in a while called the "power generators" of your phones, absorb it and make more energy. A few specialists think this assists cells with fixing themselves and become better. This spikes recuperating in skin and muscle tissue.

What do the various Colors of light treatment do?

Different LED tones do various things. For instance, specialists accept: Red LED light treatment might lessen irritation and invigorate the development of collagen, a protein answerable for more youthful looking skin that decreases with age. Blue LED light treatment might annihilate skin inflammation causing microorganisms bacteria.

How in all actuality does yellow light treatment respond?

Advantages of Yellow Light Therapy

Yellow light additionally makes mitigating impacts and brings down the presence of dim spots, aggravation, and expanding. Many individuals go through this strategy to dispose of skin redness and flushing. It can essentially lessen kinks and almost negligible differences as well as the impacts of UV radiation harm

Medical Application of this listed recorded below from previous study.

Mild-to-moderate acne vulgaris. *Propionibacterium acnes* (*P. acnes*) is a gram-positive bacterium involved in the pathogenesis of acne vulgaris. *In-vitro* studies have demonstrated that blue light is effective for treating *P. acnes* because it produces the strongest photoactivation of endogenous porphyrins through a process known as endogenous photodynamic therapy (PDT). The result is free radical formation and destruction of the *P. acnes* cell membrane. An open-label clinical study assessed the safety and efficacy of narrowband blue light on inflammatory and noninflammatory acne lesions in patients with mild-to-moderate facial acne (N=30).Subjects had not used topical, oral, or systemic treatments for two weeks and had not received oral retinoids for six months. Baseline lesions were counted and recorded by lesion type. Subjects received eight 10- or 20-minute light treatments using LEDs with peak wavelengths of 409nm to 419nm (40mW/cm^2) over a four-week period. Lesion counts were repeated at Weeks 5, 8, and 12. A beneficial effect on inflammatory lesions was observed at Week 5, becoming significant at Weeks 8 and 12. The mean percent reduction in lesion counts at each time point was 25 percent, 53 percent (p<0.001), and 60 percent (p<0.001), respectively; however, there was little effect on noninflammatory lesions. Adverse events included mild and transient erythema, skin dryness, and pruritis.

A second open-label study assessed the effects of phototherapy using LEDs emitting blue 415nm light at 48J/cm^2 to treat subjects with mild-to-moderate acne (N=45). Subjects received two 20-minute treatments weekly for 4 to 8 weeks, and clinical assessments were made at baseline and two, four, and eight weeks post-treatment. Therapeutic response was measured using a global improvement scoring system: 0 (no improvement), 1 (0–25% improvement), 2 (25–50% improvement), 3 (51–75% improvement), and 4 (76–100% improvement). Among the evaluable subjects (n=43), the mean improvement score was 3.14 at four weeks and 2.90 at eight weeks. Nine patients experienced complete clearing at eight weeks, and 50 percent of subjects were highly satisfied with the treatment. There were no adverse events.

Since it had been demonstrated that phototherapy with combined blue and red light could achieve even greater efficacy in the treatment of acne, an open-label study was designed to assess the efficacy of combining 415nm blue light and 633nm red light for treating subjects with mild-to-moderate facial acne. Enrolled subjects (N=24) with Fitzpatrick Skin Types II to V had not received treatment with oral or topical acne agents during the six weeks preceding the trial or oral retinoid use in the previous nine months. Subjects with a history of photosensitivity disorder were excluded. Each subject received two treatments per week, three days apart, alternating between 415nm blue light (20 minutes/session, 48J/cm^2) and 633nm red light (20 minutes/session, 96J/cm^2) for four weeks using an LED-based therapy system. Patients received a mild microdermabrasion prior to each treatment session. The purpose of microdermabrasion is to provide a nonchemical superficial removal of the stratum corneum. This allows products or other procedures to pass more readily through the protective barrier of the epidermis. While recent studies have reported some histologic changes in the dermis on collagen density with

microdermabrasion, published data demonstrate improvement of acne when microdermabrasion is used in combination therapy.

Acne severity was assessed at baseline and at Weeks 2, 4, 8, and 12. Among the evaluable subjects (n=22), a mean reduction in lesion count was observed at each follow-up evaluation. At the four-week follow-up, the mean lesion count was reduced by 46 percent (p=0.001) and by 81 percent at the 12-week follow-up (p=0.001). Severe acne showed a marginally better response than mild acne, although comedones did not respond as well as inflammatory lesions. This is a common finding in light therapy studies because noninflammatory acne lesions have fewer chromophores (coproporphyrin III and protoporphyrin IX).Adverse events were mild and transient.

A similar study assessed the same treatment in subjects with Fitzpatrick Skin Type IV and mild-to-moderately severe facial acne (N=24). Subjects had not used topical acne treatment or systemic antibiotics within the two weeks of the trial or systemic retinoids within three months. Subjects with a history of photosensitivity or recent use of photosensitizing drugs were excluded. Treatment was performed twice weekly for four weeks with alternating quasi-monochromatic blue (415nm) and red (633nm) light. Clinical assessments were conducted at baseline and following Treatments 2, 4, and 6, as well as two, four, and eight weeks after the final treatment. Evaluations included lesion counts and an acne grading scale. The final mean percentage improvements in non-inflammatory and inflammatory lesions were 34.2 percent and 77.9 percent, respectively.