

LIGHTWAVE THERAPY THEORY & PROTOCOLS

It is important to understand basic principles of light theory so that use of the LightWave system can be maximized. Remember that each individual responds differently to light...some see noticeable effects much sooner than others. For example we have treated 29 year old twins for stretch marks and the one with a healthier lifestyle responded to treatment 3 sessions faster (10 total) than her sister (13 sessions). The following principles are generalities and specific results will vary from client to client; these protocols should be used only as guideline and does not constitute medical advice.

- A) Red Light (630nm-640nm) penetrates human tissue more superficially. Approx. 80% of the energy is absorbed in the first 2cm and decreases to less than 1% at 8cm. Red light stimulation has a greater effect on metabolic (mitochondrial) stimulation for increasing metabolic activity as well as stimulating superficial circulation.
- B) Infrared wave length (800nm-900nm) energy penetrates deeper into tissue. Approx. 50% penetrates to 8cm and decreases to less than 1% at 20cm (NASA study). Infrared energy is known to heat tissue and its effects are well documented for therapeutic pain management. For cosmetic applications IR stimulates the NaK+ pump which increases cell membrane permeability; facilitating equilibrium of cellular ph, fluids while increasing nutritional absorption and elimination of waste by products.
- C) Red and infrared wavelengths affect tissue similarly with overlapping effects. However, each wavelength has a more intense produces effects on tissues of different densities and depth.
- D) Biological effects are increased when Red and Infrared energy are used in combination.
- E) Tissue may be affected differently by pulsing the wave lengths between 10 Hz – 10,000 Hz. Slow pulses reduce nerve sensitivity by decreasing the production of Brinikin lucitrin necessary in the transmission of pain signals. Mid range pulses stimulate endorphin production while intense pulses stimulate mitosis, cellular repair. Each program incorporates multiple pulse frequencies designed for optimum tissue response for each indication.

- F) A thin terry cloth towel may be used to decrease sensation of heat to clients with diabetes, sensitive skin or skin recently treated with mildly evasive complimentary procedures such as microdermabrasion, light chemical peelings, IPL, Laser or post surgical scars. Note that these precautions do decrease the power directed to the tissue by approximately 20%. Pads should never be used directly over open wounds. Hospital wipes used to sanitize pads does not guarantee sterility. Be sure to take adequate precautions for open wounds including sterile dressings. Clear “saran wrap” like film is not recommended to be used with LightWave.

Based on these principles, the following 15 programs have been address the most common requested cosmetic treatments. Remember all treatments are 20 minute except diet aide see below. The protocols are as follows:

- 1) Facial Rejuvenation – Designed to help rehydrate the face, and increasing collagen and elastin formation...reducing fine lines and wrinkles, reduces flaccidity, lift sagging tissues and restoring skin tone and structure to the totic face resulting in an overall improvement erasing years from the face. The use of goggles is recommended to minimize brightness and to avoid any incidental eye exposure. 2 Pads are usually placed directly over the face to maximize the effect. 10 treatments are recommended beginning twice weekly for the first 2 or 3 weeks then once weekly. Maintenance can prolong the youthful appearance once or twice a month as required.
- 2) Wrinkles – Focuses on improving wrinkles around the eyes and mouth with less emphasis on flaccidity. This program is generally used for clients this little or no signs of totis but with noticeable “crows feet” or “smokers mouth”. This program can be combined with program #1 after at least 5 sessions for clients who have ptosis with significant “crows feet or smokers mouth”. This program should not be confused with wrinkles of the neck, which should be treated with program #7. 10 treatments are recommended, 2 per week for 2 weeks followed by weekly sessions.

- 3) Cellulite – Using intense red light, this program focuses on increasing circulation to the dermis bringing more nutrients to the area while the IR stimulate lymphatic drainage leaving the skin smooth which improves texture. Pads are placed over cellulite areas, thighs, legs or buttocks as required. If cellulite is localized to small area it is still advisable to use the full set of 3 pads overlapping cellulite area to increase overall circulation of region. Cellulite requires 5 treatments 2 times per week for cellulite type I (almost unnoticeable except when squeezed...mild). Cellulite type II will require between 10-15 treatments (noticeable when standing, including dimpling, moderate) and cellulite type III may require 20-30 treatments for the most difficult cases (severe dimpling and moderate lipodistrophy). LightWave therapy can help control cellulite when applied regularly and followed up by monthly maintenance. A client is always encouraged to compliment the treatments with increased exercise and diet control, thus helping with the noticeable effects soon and also prolong the effects of the treatments.
- 4) Scar – Designed with intense infrared to stimulate the reduction of fibrotic tissue and the replacement of normal tissue. Clients usually notice softening of scar tissue in one or two sessions. Also, they notice flattening of the scar... sometimes they are alarmed because they see the scar as becoming wider. This is normal sequence in scar reduction. With several more sessions the flat wide scar will become thinner and remain flat. Some scars may appear to be resistant to this program (hypertrophic and/or keloid). The client should not become discouraged; we recommended using the chronic setting (Program #11) to jumpstart the scar reduction process. Pads should be placed directly over the scar unless scar is sensitive to light (sensation of heat) then follow procedure mentioned above for sensitive skin. This program is effective on old scars as well as new. Recommend 10 to 15 sessions for old scars and 20 to 25 for large hypertrophic and/or keloid scars.
- 5) Stretch Marks – Superficial – Designed to reduce sub dermal scarring while stimulating superficial circulation reducing flaccidity and thickening the thin, paper-like characteristics of

stretch marks. This program is effective with new and old, flat stretch marks. Thicker/denser stretch marks should be treated with Program #6 (Stretch Marks II – Deep). Often this program is combined with Program #6 after 5 to 10 sessions and flattening of deep stretch marks has been achieved. For flat stretch marks alone, 10 - to 15 sessions are required. Darker skin may require slightly more sessions. Pads should be placed directly over the stretch marks. Use full set of three pads even extend beyond stretch mark area.

- 6) Stretch Marks – Deep – Designed to help break down the denser sub dermal scarring. Assists in softening and flattening thick stretch marks. Often with a series of stretch mark treatments as you will need to use this program 5 to 10 times followed by as many as 5 to 10 Program #5 (Superficial). Again, darker skin may require slightly more sessions. Pads should be placed directly over the stretch marks. Use full set of three pads even if pads extend beyond stretch mark area.
- 7) Flaccid Skin – This program focus on skin retraction by increasing circulation and bringing nutrition to damaged tissue. This program is particularly effective over the abdomen, neck and upper chest. Treatments should be twice per week and may require between 10 to 15 treatments. Place the pads directly over the flaccid skin.
- 8) Sun Spots – Design to improve discoloration caused by sun damage, chemical build-up, and chemical reactions from chemical peels, and excessive use of skin damaging products. This process normalizes the melanin of skin. Amount of treatments will vary depending on the amount of damage to the skin and the age of the client. Mild conditions will require 10 to 12 treatments. Moderate approximately 15 treatments and Severe may best treat with combination therapy of IPL and/or laser followed by 10 treatments of LightWave Therapy.
- 9) Blemishes – Designed to normalize dry, oily, inflammation and redness associated with problem skin. Also reduces the borders (disparities between scars and normal skin) achieving evenness of texture and color. This process may require 10 or more

treatments with maintenance. Pads to be placed directly on the face with goggles as in Program #1 above.

- 10) Acute - Specifically designed to address inflammations associated with trauma and/or allergic reaction that may cause discomfort. Usually used within 72 hours of any traumatic event including post-surgical interventions reducing scarring and encouraging normal tissue formation. Caution should be taken where superficial circulation has been compromised (use terry towel between pad and skin as described above for sensitive or damaged skin). Recommend 2 treatments weekly until inflammation and discomfort has subsided.
- 11) Chronic – Developed with focus on clients with persistent problems. This is strongest and deepest penetrating program which can be used to jump start clients who have had little improvement with other programs. Particularly useful in treating scars due to the density of scar tissue. Caution should be taken with clients with sensitive skin as this program produces the greatest increase of tissue temperature. The pads are placed directly over affected areas alleviating discomfort. Treatments should be twice weekly for three weeks followed by weekly sessions until desired results are obtained.
- 12) Wellness – Used over abdomen to stimulate normalize and wellness. This program also stimulates warmth due to the intense IR energy. Menstrual cycle is not a contraindication. In fact, many clients report a positive side effect of heavy flow, reducing the number of days of their cycle. Recommended treatments are twice weekly until desired effect is achieved.
- 13) Relaxation – Used from the bottom of the brain stem down the spinal column to stimulate production of endorphins. Relax stressed muscles. Especially effective in relaxing muscles associated with headaches when placing the pads around the back of the head from temple to temple. Treatment is as often as client requests to assist in achieving relaxation.
- 14) Diet Aide – Perhaps the least understood program. This is a two step process. It is designed to assist dieters in achieving

their goals by facilitating good eating behavior with reinforcement. The first step pads should be placed below the brain stem and down the spinal column as in the Program #3 above. To calm anxieties often related to impulse eating. The second step requires placing pads over abdomen to further stimulate wellness and tighten the abdomen area further bolstering clients' self esteem with positive reinforcement by improving the appearance of their waistline. Clients are motivated to continue to diet.

- 15) Hair – Designed to increase superficial circulation to the scalp, improving the health of hair (shine, thickness and fullness). Pads should be placed directly on scalp. However, take the precaution of placing a terry towel between pads and scalp for sensitive skin or clients with recently transplanted hair. Recommended treatments are twice weekly for at least five weeks or until desired results are achieved.