MedLite® C6 REVLITE®

Educational Handout

ConBio™ A CYNOSURE® Company

RevLite®/Medlite®

HOYA ConBio's PhotoAcoustic Electro-Optic Q–Switched NonAblative Laser Technology

RevLite, the next generation of PhotoAcoustic Q-switched laser technology — is a multi-purpose, multi-wavelength aesthetic medical laser that offers maximum power and versatility for a broad range of indications on all skin types. The RevLite EO Q-switched Nd: YAG laser is built on the same reliable foundation as the popular MedLite series of lasers, known as the "workhorses" of the aesthetic medical industry for almost two decades.

In addition to the 1064-nm Nd:YAG wavelength, the standard MultiLite Dye Laser Hand piece converts the RevLite/Medlite laser's 532-nm wavelength to both 585-nm and 650-nm. This creates a total of four wavelengths for a wide variety of FDA-cleared procedures, including removal of pigmented lesions, such as, but not limited to, striae and scars, reduction in red pigmentation in hypertrophic and keloid scars, hair removal, tattoo removal and skin resurfacing, as well as the reduction of wrinkles and treatment of acne scars. The versatility of multiple wavelengths provides aesthetic physicians with a cost-efficient tool to expand their services and meet a wide spectrum of patient needs, with reliability and safety. The new RevLite with Smart, Infinite (SI) handpiece introduces an enhanced user interface with greater incremental control over a wider range of spot sizes, handpiece identification, continuous fluence monitoring and Auto Peaking of the 532-nm wavelength.

Key Features and Benefits

- Unique collimated, flat top beam profile
- RevLite/Medlite C6 EO Q-Switched Nd:YAG with PhotoAcoustic Technology offers fast, safe and effective treatment for wrinkles, acne scars, vascular and pigmented lesions as well as tattoo removal and hair removal.
- A combination of high peak power and short pulse duration generates a photoacoustic effect: forcing energy into the target molecule at such a high rate that it vibrates and shatters.
- EO Q-Switch acts as a high speed shutter and provides very rapid, short pulse widths of energy, limiting tissue exposure to thermal build-up.
- PhotoAcoustic action targets the molecule with a subtle photothermal effect.
- Unique PhotoAcoustic Technology Pulse (PTP) mode includes a unique dispersion of maximum energy allowing the physician to harness very narrow pulse widths at peak energy with up to 60% more power.
- Multi-center studies* have proven the clinical efficacy for the treatment of acne, melasma, tattoos, unwanted hair and photoaged skin.
- Results compare favorably with other published nonablative laser trials. Our improvement scores are either equivalent or higher.**
- Practitioners are able to offer a clinically proven, beneficial treatment with no downtime, minimal discomfort and little to no risk of transient side effects

Clinical Studies

Treatment of refractory melasma with the MedLite C6 Q-Switched Nd:YAG laser and alpha arbutin: a prospective study. Polnikorn N. *J Cosmet Laser Ther.* 2010 Jun;12(3):126-131.

Related publication: Polnikorn N. Treatment of refractory dermal melasma with the MedLite C6 Q-Switched Nd:YAG laser: Two case reports. J *Cosmet Laser Ther.* 2008 Sep;10(3):167-173.

- Single center study of 35 refractory Melasma cases with 10 weekly MedLite C6 laser treatments and topical 7% alpha arbutin solution
- Independent evaluation of severity showed 66.7 % subjects had at least 51% reduction of Melasma at 6 months
- Low incidence of adverse events
  - mottling hypopigmentation (9%) resolved spontaneously within a few months
  - Recurrence of Melasma (6%)
- Clinical improvement continued even after the conclusion of the intensive weekly treatment phase.

Hair Removal with the RevLite in Two Modes

Jerome Garden, MD

- 11 subjects with unwanted hair on the legs, axilla, arms, and thighs underwent 4 laser treatments at monthly intervals and a 6 month follow-up
- One half of a small predetermined test area was treated in the Standard Pulse mode at 3.2 J/cm2, with a 6mm spot size. The other half was treated with an 8mm spot size in the PTP mode, also at 3.2 J/cm2
  - Both pulse modalities achieved at least a 45% reduction in hair counts at 6 months
    - o Average reduction of 50% in PTP mode.
    - o Standard Pulse (SP) showed an average reduction of 45.67%
- Most subjects (83.3%) expressed satisfaction with the results of treatment.
  Results compare favorably to studies of other red light, long pulse infra-red and Intense Pulsed Light systems.
- No pigmentation side effects. No adverse events.
- Most subjects (90% in PTP mode and 50% in SP mode) reported none to mild stinging/burning during and post-treatment.
- PTP Benefits
  - less post-session discomfort
  - shorter treatment time

Tattoo Removal with the RevLite in Two Modes

Michael Gold MD; Jerome Garden MD; Bruce Saal, MD

Published Results: Gold MH. Tattoo Removal with an Electro-Optic Q-Switched Nd:YAG Laser with Unique Pulse Dispersion. *Cos Derm.* 2009 Apr; 22(4):186-190.

- 'Flat top' beam profile and PhotoAcoustic action of the RevLite is uniquely effective in clearing tattoos which had proven resistant to previous Nd:YAG therapy.
- 11 subjects with unwanted tattoos resistant to Nd:YAG treatment with > 50% black/dark blue ink completed 4 treatments and a 30-day follow-up.
- Laser parameters set at 1064-nm, pulse frequency of 10Hz and fluences of 3.2 to 3.6 J/cm2, with a 6mm spot size in the standard mode, and an 8mm spot size in the PTP mode.
- Standard pulse mode showed superior investigator and subject improvement ratings; most investigators and subjects (72.8%, 72.2%) rated ink clearance 51 to 99%.
- Immediately post-treatment, 78% (n=11) of all subjects reported no discomfort regardless of pulse modality
- No downtime or adverse events

Skin Rejuvination with the RevLite in Two Modes

Jerome Garden MD, Michael Gold MD, Bruce Saal, MD

Published results: Yaghmai D, Garden JM, Bakus AD, Gold MH, Saal BM, Goldberg DJ, Massa MC. Photodamage therapy using an electro-optic Q-switched Nd:YAG laser. *Lasers Surg Med.* 2010 Oct;42(8):699-705.

- 16 subjects with visible signs of photoaging received 6 bi-weekly laser treatments
- One half of the face was treated with a Standard Pulse and a 6mm spot size at 3.2 J/cm2. The other half was treated with an 8mm spot size at 3.2 J/cm2, in the PTP mode
- Most subjects (54%) showed overall improvement of >51% (good to excellent) for wrinkles, coarseness of skin texture, irregular pigmentation, facial redness, skin laxity, comedones and pore size on the side treated with PTP.
- On the side treated with the Standard Pulse, 47% showed >51% (good to excellent) improvement
- Only mild stinging/burning sensations on the PTP side (62.8%)
- Moderate (63.8%) stinging/burning on the Standard Pulse side.
- Significantly less discomfort during treatment in the PTP mode ($p<0.001$).
- No downtime but three adverse events (2 non-device related and one small, first-degree burn)

RevLite Skin Rejuvenation with Biopsies

David Goldberg, MD

Berlin AL, Dudelzak J, Hussain M, Phelps R, Goldberg DJ. Evaluation of clinical, microscopic, and ultrastructural changes after treatment with a novel Q-switched Nd:YAG laser. *J Cosmet Laser Ther.* 2008;10(2):76-79

- Histological study of the PTP mode supplied evidence of new collagen formation by electron microscopy
- 10 subjects enrolled
- 3 subjects with pre-treatment and 3 month post-treatment biopsies
  - Light microscopy
  - o baseline biopsies
  - normal rate pattern and increased solar elastotic material within the papillary dermis consisten with actinic damage
  - o 3 months following the last treatment
  - slight decrease in elastosis, increase in vascularity and collagen deposition
  - Electron microscopy revealed an increase in the average diameter of the collagen fibrils post treatment compared with baseline