

Nd:YAG LaserFACIALSM Treatment

Michael H. Gold, MD

Medical Director
Gold Skin Care Center
Tennessee Clinical Research Center
Nashville, TN USA

Tracey R. Harris, RN, BSN, MSN, WHNP

Gold Skin Care Center
The Laser & Rejuvenation Center
Nashville, TN USA

Background

A variety of mid-infrared wavelengths have been used to improve the appearance of photo-aged skin. Recently, the 1064 nm Nd:YAG Elite[™] laser has been applied to the treatment of the major components of photo-aging including wrinkles, vascular lesions, and superficial pigmentation¹.

Non-invasive photo rejuvenation with the Nd:YAG laser takes advantage of this wavelength's depth of penetration to deliver laser energy deep into tissue without significant epidermal absorption. The treatment mechanism of action appears to be a combination of laser vascular coagulation, combined with generalized heating of the dermis, stimulating collagen synthesis and tissue remodeling.

Two methods have been employed for the Nd:YAG LaserFACIALSM; multi-pass feathering technique, and a deep heating protocol²⁻³. The multi-pass technique is geared towards facial redness and superficial imperfections. The deep heating technique is geared towards overall toning.

Methods

LaserFACIAL Multi-pass feathering protocol:

Treatment consists of 3-5 sessions at 3-6 week intervals using the Elite laser set to 1064 nm wavelength, 5 mm spot size, 0.4 msec pulse duration, 13-18 J/cm², with pulses delivered at 5 Hz pulse repetition rate.

Treatment areas are divided into segments (forehead, lower cheek, upper cheek). Placing the distance gage on the handpiece, defocus the handpiece 1 inch from the skin.

Performing a feathering motion, move the handpiece side to side to gently heat the skin. The treatment endpoint is facial flushing and redness similar in appearance to a mild sunburn. A pulse count of approximately 12,000 pulses is typically required for a full-face treatment.

LaserFACIAL Deep heating protocol:

Treatment consists of 3-5 sessions at 3-6 week intervals using the Apogee Elite laser set to 1064 nm wavelength, 10 mm spot size, 50 msec pulse duration, 50 J/cm², delivered at 1 Hz pulse repetition rate with 10 percent overlap. Treatments are delivered in conjunction with SmartCool[™] cold-air cooling set on a fan speed of 3. In addition, topical anesthetic is often used prior to treatment to improve patient comfort.

Treatment is delivered in three consecutive, full-face passes per treatment session.

Results & Conclusions

While evaluating the treatment of five patients using the deep heating protocol, patients and ourselves noted improvement in fine lines and wrinkles and improvement in overall skin appearance. These patients tolerated the procedures well and are very satisfied with the outcomes.

The LaserFACIAL treatment provides a no downtime option of the common signs of photo-aging. The procedures are well tolerated by patients. In our practice, the LaserFACIAL has proven effective for improving the signs of photo-aging.



Figure 1. LaserFACIAL treatment before (left) and following three treatments (right), with improvement to skin texture.

References:

1. Herne KB, Zachary CB "New facial rejuvenation techniques"
Semin Cutan Med Surg Dec 2000, 19(4) p221-31
2. Goldberg DJ, Phelps R, Schmults CD "Nonablative Facial Remodeling – Erythema Reduction and Histological Evidence of New Collagen Formation Using a 300-Microsecond 1064-nm Nd:YAG Laser" Journal of American Medical Association – Archives of Dermatology Nov 2004, Page 1373
3. Taylor, M "Split-Face/Neck Comparison of a Single Treatment of Radiofrequency vs. A single Treatment of Long-Pulse Nd:YAG for Skin Laxity of the Face and Neck" Lasers in Surgery and Medicine Sup. 17 March 2005, pg 25