

# Non-Insulated Microneedle Fractional RF Represents Solid Treatment for Skin Rejuvenation



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“A combination therapy consisting of NIMRF for deeper dermal stimulation and CO<sub>2</sub> fractional laser for intense superficial dermal stimulation could prove to be an excellent synergistic approach for many indications.”



Before treatment



After Secret RF treatment

Photos courtesy of Michael Naouri, M.D.

By Ilya Petrou, M.D., Contributing Editor

Non-insulated microneedle fractional radiofrequency (NIMRF) is a relatively new aesthetic treatment modality that has recently gained favor among discerning cosmetic physicians due to the excellent outcomes one can achieve in skin rejuvenation, coupled with an excellent safety profile. A recent study showed that NIMRF could significantly improve the typical signs of photo-aging and the cosmesis of scars, underscoring the therapeutic potential and value of this innovative technology.

Michael Naouri, M.D., of the Dermatology and Laser Center in Nogent sur Marne, and the International Laser Skin Center in Paris, France, conducted a clinical trial evaluating the efficacy, tolerance and treatment satisfaction of NIMRF technology using the Secret™ RF device from Ilooda (Gyeonggi-do, Korea) in 20 female patients with photo-aging and scarring (photo-aging: n=5; acne scars: n=5; atrophic scars: n=9; burn scars: n=1). Additionally, seven patients had darker Fitzpatrick skin types (higher than III).

Under topical anesthesia, patients received an average of 1.65 (+/- 1) treatment sessions with the Secret RF device, which consisted of 50% overlap in two consecutive passes; five passes were performed on microrelief zones (wrinkles or scars). Patient follow-ups were performed out to one month after the last session. Efficacy was assessed by the physician and patients using a 10-point evaluation scale. Immediate tolerance was assessed during the session using a 10-point pain score, and post treatment tolerance was assessed by retrospective analysis of the most frequent subsequent side effects such as erythema, edema and crusting in treated skin.

In order to evaluate and determine an optimal treatment modality for the severe burn scar patient, investigators used the

Fraxis™ fractional CO<sub>2</sub> laser from Ilooda in one zone and the Secret RF in another. Here, biopsies were taken 15 days post treatment and histological and immunohistochemical analyses were performed.

Outcomes were positive with results showing a mean efficacy of 6.25/10 as rated by the physicians, and 5.8/10 by the patients. Patient satisfaction revealed a mean satisfaction score of 7/10, with all reporting a high tolerance for the procedure. The expected post treatment side effects (erythema, edema and crusting) were minimal and transient in nature, lasting less than three days on average. Immunohistochemical studies revealed an increase in inflammatory cells and fibroblasts throughout the dermis with NIMRF, compared to more superficial dermal localization for the Fraxis-treated zone.

NIMRF enables fractional dermal heating while sparing the epidermis, with the main advantages over laser including deeper dermal penetration and more homogenous tissue heating, as well as much higher safety in darker skin types. This increased volumetric heating results in a pronounced dermal remodeling, which leads to enhanced cosmetic outcomes.

In previous clinical trials the Secret RF device has been shown to be very effective for a number of cosmetic indications including improvement of striae distensae and hyperhidrosis. Although different treatment modalities are currently being used for skin rejuvenation, NIMRF devices are proving to be extremely safe, and successful in addressing many common cosmetic indications.

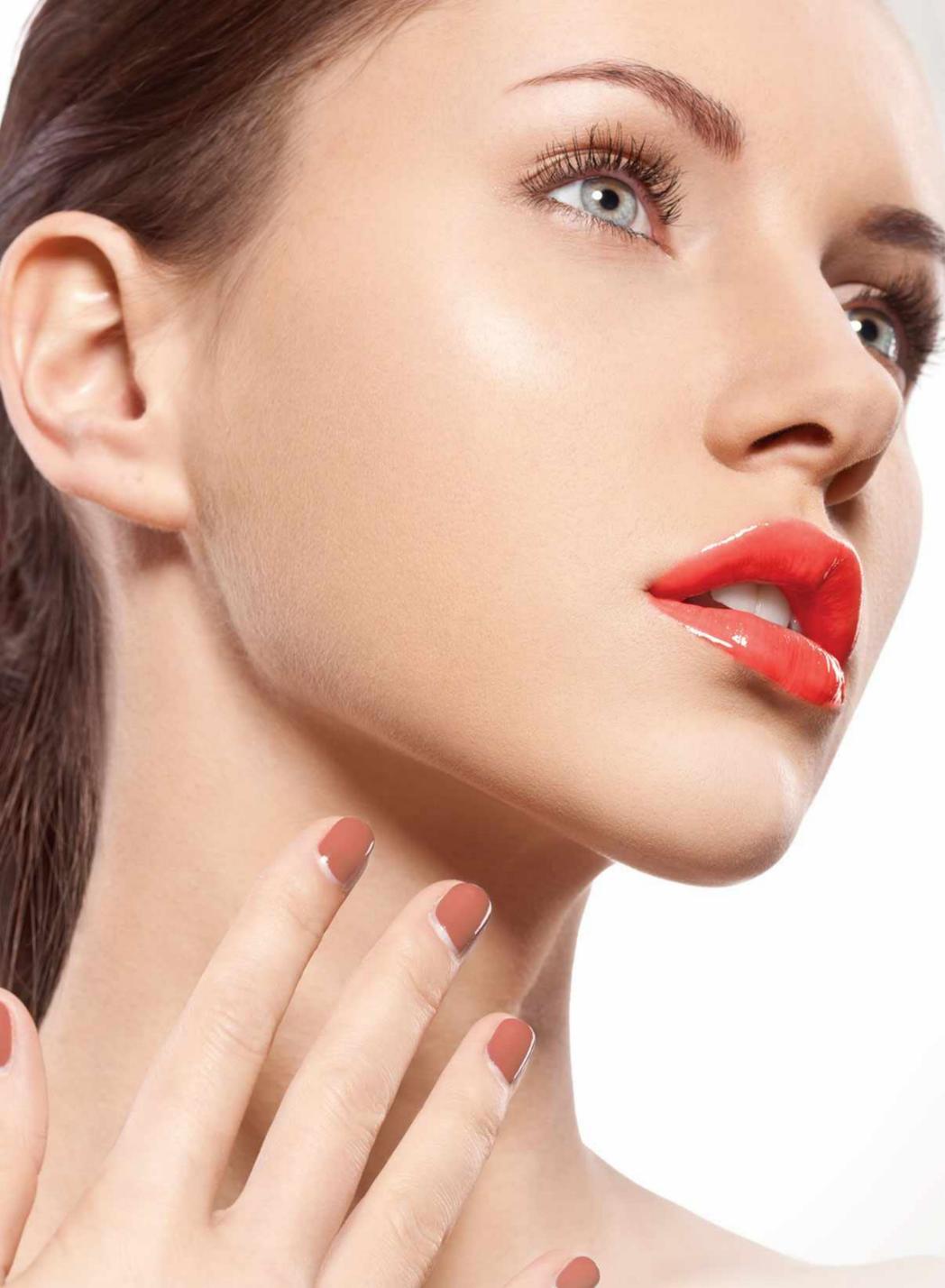
According to Dr. Naouri, a combination therapy consisting of NIMRF for deeper dermal stimulation and CO<sub>2</sub> fractional laser for intense superficial dermal stimulation could prove to be an excellent synergistic approach for many indications, leading to an optimization of clinical outcomes.



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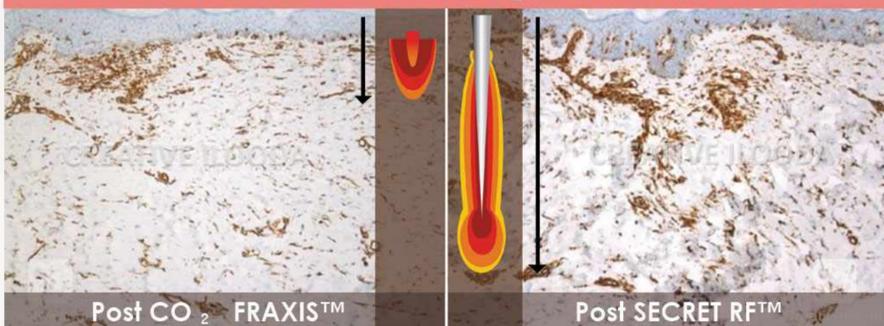
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Biopsies courtesy of Michael Nauri MD

### THE CLINICAL DIFFERENCE OF CO<sub>2</sub> vs MICRO-NEEDLE RF



The histology analyses show an intense superficial fibroblast stimulation with CO<sub>2</sub> but a middle and deep fibroblast stimulation using micro-needle fractional RF.