

## **Treatment of Facial Photodamage and Rhytides Using a Novel 1,565nm Non-Ablative Fractional Erbium-Doped Fiber Laser**

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Background and Objective: Non-ablative fractional lasers (NAFL) generate microscopic non-contiguous columns of thermal injury in the dermis, resulting in collagen remodeling. This manuscript details our experience with a novel 1,565nm scanned, erbium-doped fiber NAFL for the treatment of facial photodamage.

Study Design/Materials and Methods: A prospective, open-label clinical trial was conducted at two clinical sites in the United States on 16 female subjects with a mean age of 49.6 years, Fitzpatrick skin types II to IV, and a baseline Fitzpatrick–Goldman Wrinkle and Elastosis Score (FGWES) of 3–6. Each subject received three treatments at 4–5 week intervals with follow-up assessments at 1, 3, and 6 months after the last treatment.

Results: The mean FGWES demonstrated a statistically significant decrease from baseline both at 3 months ( $-0.58 \pm 0.23$ ,  $P=0.02$ ) and 6 months ( $-0.66 \pm 0.22$ ,  $P=0.008$ ) after the last treatment. Fifty percent (95%CI [24.21%, 68.49%]) of subjects showed a significant (at least 1 grade) improvement in FGWES from baseline at 3-month follow-up. At least 72% of subjects perceived the results as “moderate” to “very good” at 3 months post-treatment, with comparable satisfaction rates. Treatments were not associated with a high level of pain or discomfort and typical downtime was less than 2 days. No unexpected adverse events or serious adverse events were reported.

Conclusion: The 1,565nm erbium-doped scanned NAFL is an effective treatment for facial wrinkles with a favorable recovery and side effect profile.

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