Fraxel Laser Indications and Long-Term Follow-Up

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Fractional photothermolysis, based on creating spatially precise microscopic thermal wounds, is performed using a 1550-nm erbium fiber laser that targets water-containing tissue to effect photocoagulation of narrow, sharply defined columns of skin known as microscopic thermal zones. According to the authors, Fraxel resurfacing has been shown to be both safe and effective for facial and nonfacial photodamage, atrophic acne scars, hypopigmented scars, and dyspigmentation. Because only a fraction of the skin is treated during a single session, a series (typically 3 to 6 treatments) of fractional resurfacing at 2- to 4-week intervals is required for the best clinical improvement. It is the authors’ experience that a series of Fraxel treatments can achieve a similar clinical result for atrophic scars compared with traditional ablative laser skin resurfacing. However, the improvement seen after a series of Fraxel treatments for perioral laxity and rhytides often falls short of the impressive results that can be achieved with ablative laser skin resurfacing. (Aesthetic Surg J 2008;28:***.)

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of rapid reepithelialization. Furthermore, because the stratum corneum has a low water content, it remains intact immediately after treatment, thereby maintaining epidermal barrier function and reducing the risk of infection. In addition, fractional resurfacing can provide an advantage over purely nonablative laser treatments because of the gradual exfoliation of the epidermis with resultant improvement in superficial dyspigmentation.

Investigators have shown Fraxel laser resurfacing to be both safe and effective for a variety of indications, including facial and nonfacial photodamage, atrophic acne scars, hypopigmented scars, and dyspigmentation (Figures 1 through 3). Because only a fraction of the skin is treated during a single session, a series (typically 3 to 6 treatments) of fractional resurfacing at 2- to 4-week intervals is required for the best clinical improvement.

Side Effects and Complications

Side effects of fractional resurfacing are typically mild and transient, including erythema and periocular edema, and a slight darkening of the skin (bronzing) as the MEND desquamate. The overall complication rate is significantly lower with fractional skin resurfacing than that reported after ablative laser skin resurfacing.

A retrospective evaluation of 961 successive 1550-nm Fraxel laser treatments in patients with various skin phototypes (Fitzpatrick types I through V) was conducted in a single clinical center. There were 73 reported complications in 961 treatments (7.6%). The most frequent complications were acneiform eruptions (n = 18; 1.87%), herpes simplex virus (HSV) outbreaks (n = 17; 1.77%), and erosions (n = 13; 1.35%). Less frequent side effects included postinflammatory hyperpigmentation (n = 7; 0.73%), prolonged erythema (n = 8; 0.83%), prolonged edema (n = 6; 0.62%), and dermatitis (n = 2; 0.21%).

To reduce the risk of HSV outbreak, oral HSV prophylaxis is recommended for those patients with a strong history of herpes labialis. Acne-prone patients were more likely to experience posttreatment acne, presumably because of the disruption of follicular units during treatment and reep-
AQ4 DISCLOSURES

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REFERENCES


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AQ2: Is it okay to cite all 3 figures here?

AQ3: Is the addition of “Fitzpatrick types” okay?

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