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Fractional Er:YAG Laser for Scar-Revision Treatments

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Parameters:

Laser source:	Er:YAG, 2940 nm
Pulse duration:	LP (600 μ s)
Fluence:	50-80 J/cm ²
Frequency:	20 Hz
Handpiece:	F-Runner (fractional scanner)
Density / coverage:	5 %

Treatment procedure:

This case presents the use of a fractional ablative Er:YAG laser and scanner for scar-revision treatments. A 50-year-old man came to our clinical with a surgical scar over his right upper brow. Five sessions of fractional Erbium laser treatment (once per month) were performed to improve the color, texture and thickness of the scar. An ice pack was applied for 5 minutes before the treatment, and no PIH was observed post-treatment.

When performing scar-revision therapy with the Fotona F-22, we typically use 5% density, 20 Hz and 40 J/cm² to 100 J/cm² settings. The F-22 scanner delivers precise and accurate fractional treatments (250 μ m diameter micro-channels) that reach several mm deep into the skin to improve the appearance of scar tissue, such as hypertrophic, keloidal, atrophic and acne scars.

Different treatment modalities may be used, either as a monotherapy or as a combination, such as steroid injection, surgery, and various laser platforms, including conventional ablative, non-ablative and fractional lasers. Fractional resurfacing initiates the body's wound healing response at the targeted site, resulting in the stimulation of fibroblasts to produce new collagen and elastin. Downtime and pain are usually well tolerated by patients, although post-inflammatory hyperpigmentation (PIH) and prolonged erythema are potential side effects that remain a concern when treating Asian skin. Patient education and post treatment use of sunblock and 1% hydrocortisone are encouraged and should be used to maximize cosmetic outcomes.



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Before scar-revision treatment



After 2 treatments



After 5 treatments