B17

Nicole Schiraldi B.S. Advisor(s): David Ciocon M.D.

Co-author(s):

Single-Center Practices of Non-Ablative Fractional Resurfacing Lasers for Scarring After Mohs Micrographic Surgery

Non-ablative fractional resurfacing lasers (NAFLs) promote scar remodeling by inducing thermal damage through fractional photothermolysis while preserving the epidermis. Recent studies support NAFLs as a safe and effective post-Mohs micrographic surgery (MMS) scar revision method, but small sample sizes and incomplete data limit practical guidance. This single-center retrospective study analyzed NAFL use for post-MMS scarring at Montefiore Medical Center, evaluating treatment settings and sessions for 1540-nm erbium:glass, 1550-nm erbium:glass, and 1927-nm thulium lasers by anatomical location. Of 788 charts reviewed, 107 patients met inclusion criteria, contributing 115 scars.

The cohort's mean age was 65, with 58% female and 91% Fitzpatrick skin types I-III. Scars were most frequently located on the nose (55%), cheek (20%), and forehead (10%). Most patients (79%) received at least one 1550-nm laser treatment, while 20% and 10% underwent 1540-nm and 1927-nm treatments, respectively. Treatment settings included spot tip size, fluence, pulse duration, passes, and treatment level, stratified by location. For the 1540-nm laser, the average final treatment settings across all anatomical locations were a 10 mm spot tip, 60 mJ/cm² fluence, 15 ms pulse duration, and 3 passes. For the 1550-nm laser, the average final treatment settings across all anatomical locations were a 15 mm spot tip, 60 mJ/cm² fluence, 6 treatment level, and 5 passes. For the 1927-nm laser, the average final treatment settings across all anatomical locations were a 15 mm spot tip, 5 mJ/cm² fluence, 6 treatment level, and 4 passes. Mean treatment sessions ranged from 1-8 (1540-nm), 1-13 (1550-nm), and 1-3 (1927-nm).

This study is among the first to provide detailed NAFL settings for post-MMS scars with a robust sample size. Findings from a high-volume medical center offer practical insights for clinicians utilizing NAFLs for scar revision following Mohs surgery.