

Palomar's Lux1540 Handpiece Provides Significant Scar Solutions



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By Kevin A. Wilson, Contributing Editor

Palomar Medical Technologies' (Burlington, Mass.) Lux1540 non-ablative fractional erbium glass laser is emerging as a top tier treatment for atrophic and hypertrophic scars. It is the newest of ten treatment specific handpieces for Palomar's StarLux 500 system, which was originally designed to provide aesthetic physicians with a spectrum of effective laser and light-based therapies in a single platform. The Lux1540 handpiece is FDA cleared for non-ablative fractional resurfacing, acne scars and surgical scars.

As with all fractional therapies, Lux1540 creates patterns of micro-column wounds in the deep dermis, stimulating neocollagenesis while sparing surrounding tissue for rapid healing, with very little downtime. According to Vic Narurkar, M.D., founder of the Bay Area Laser Institute (San Francisco, Calif.), the 1540 nm wavelength has a high affinity for water but doesn't interfere with competing chromophores, such as melanin, so it's safe for all skin types. "Also, the integrity of the epidermal barrier is maintained. This improves the overall safety profile even further," he added.

Traditional scar treatment was limited to ablative resurfacing modalities with an undesirable risk profile and length of downtime, or less effective non-ablative therapies. Then, as Dr. Narurkar explained, pulsed dye lasers emerged as the gold standard for hypertrophic and keloid scars, but were less consistent for surgical and burn scars. "The unique properties of non-ablative therapy with Lux1540 allow us to improve both the color and texture of scars regardless of their age," he said. "For the first time, we're able to treat hypopigmented scars as well, since the wavelength's target is water."

Dr. Narurkar also believes that the mechanism of action behind the success of Lux1540 for scars is the mobilization of the natural healing process. "The depth of micro-column wounding promotes the remodeling of collagen and elastin, thereby remodeling the scar. Normal skin around the scar is also exposed to therapy as part of the treatment, so we think efficacy with Lux1540 for hypopigmented scars may be due to the recruitment of healthy melanocytes from surrounding healthy skin tissue, but this is not yet fully understood."

Another advantage is that users can treat the individual scar instead of the entire anatomic unit. "With Lux1540, you don't have to treat the whole cheek, as you would with ablative resurfacing," Dr. Narurkar explained. "We can treat the isolated scar without any lines of demarcation."

In Dr. Narurkar's experience, successful treatment of scars can be life-changing. "A scar is not only physically deforming, it may be a constant reminder of a traumatic experience," he conveyed. "One woman presented with a burn scar that was more than 35 years old. She'd been told that she was without options, but we were able to achieve at least 50% improvement after a series of treatments. This helped her get past a very difficult childhood experience."

Dr. Narurkar has additionally used the device off label for striae and therapy resistant melasma. "We're also looking at the StarLux 500 platform for combination therapies, especially those using the Lux1540 with the LuxG green wavelength handpiece for scars with an erythematous component."