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COMPARISON OF AFFIRM 1320/1440 nm VERSUS 1320 nm FOR THE TREATMENT OF ACNE SCARS—A CLINICAL AND HISTOLOGICAL STUDYJenifer Lloyd¹, Emil Tanghetti²¹Lloyd Dermatology and Laser Center, Youngstown, OH²Center for Dermatology and Laser Surgery, Sacramento, CA

Background and Objective: Fractional devices have proven to be useful for the treatment of acne scars. The purpose of this research was to study a new laser allowing sequential emissions of 1320 nm/1440 nm versus 1320 nm both employing a diffractive array for the treatment of acne scars.

Material and Methods: Twenty-one patients with acne scars were enrolled in a multi-center IRB approved study using the Affirm laser (Cynosure, Inc.) in two different treatment modalities: 1320/1440 nm (Multiplex) and the 1320 nm both equipped with a T-350 CAP array. The 14 mm spot size was used with 1320 nm at 10 J/cm² and the Multiplex treatment site had the addition of 1440 nm at 2 J/cm². All treatments were delivered in conjunction with adjunct cooling (SmartCool[®] Cynosure, Inc.). Treatments were given at 3-week intervals for a total of 5 treatments. The results were evaluated using photographic comparisons at base line and 3 months to determine efficacy employing a macro-assessment grading scale, 0 (no improvement) to 4 (excellent). Biopsies were obtained and evaluated at 24 hours and 3 months.

Results: All patients completed the study and noticed improvement in their acne scars. There was greater improvement noted with the Multiplex by both physicians and patients. The histology found thermal damage in the dermis 24 hours following the multiplex treatment and new collagen formation was seen at 3 months.

Conclusion: This study suggests that using the T-350 CAP array the Multiplex combination laser is more efficacious than the 1320 nm wavelength alone for the treatment of acne scars.

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RETROSPECTIVE ANALYSIS OF 877 CASES OF NONABLATIVE FRACTIONAL RESURFACING WITH A SECOND GENERATION ERBIUM DOPED 1550 nm LASER

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Background and Objectives: Nonablative fractional resurfacing is rapidly gaining acceptance as the treatment of choice for acne scars, moderate rhytids and off face resurfacing. We examined 877 cases treated over a span of 18 months with a second generation erbium doped 1550 nm laser for safety, efficacy and short term and long term adverse effects in skin types I to VI

Study Design: 877 cases of non ablative fractional resurfacing performed from 2005 to 2007 were analyzed with a review of charts and standardized photography. Analysis was performed based on (a) clinical indication and efficacy (b) clinical indication

and short term and long term adverse effects and (c) clinical indication and skin types.

Results: Clinical indications for NFSR which produced the most consistent results were the treatment of acne scars, surgical scars, off face resurfacing and facial resurfacing for Glogau photoaging II–III. Clinical indications which produced the most variable results were the treatment of melasma and deep rhytids. The most common adverse short term side effects were edema, erythema and acne flares. The most common adverse long term side effects were post inflammatory hyperpigmentation which resolved in the majority of cases and was greatest in skin types V. No cases of permanent side effects, hypopigmentation or scarring were seen

Conclusions: A second generation erbium doped 1550 nm laser is highly effective in the treatment of acne scars, moderate facial photoaging and non facial photoaging and surgical scars. The most common side effects include transient erythema, acne flares, edema and post inflammatory hyperpigmentation. Permanent side effects were not seen.

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LONG-TERM EXPERIENCE WITH FIXED ARRAY 1540 FRACTIONAL ERBIUM LASER FOR ACNE SCARS

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Background and Objectives: The objective of this study was to review long-term experience with commonly utilized settings for a fixed fractional array of 1540 nm with 100 microbeams/cm² (Lux1540, Palomar, Burlington, MA).

Study Design/Materials and Methods: Over 500 treatments performed for acne scarring were evaluated for improvement of acne scars. Three treatments at 4 week intervals were given using the 10 mm, 100 microbeam per pulse handpiece for 3–5 passes at 10 msec pulse duration. Fluence was 50–70 mJ/microbeam with a minimum of 3 passes for each treatment site. The subjects were followed for 3 months post-treatment and self-assessed treatment results and pain.

Results: Results assessed by blinded photographic evaluation (Canfield Omnia system) showed a median of 3 (50–75% improvement). Side effects were minimal and included mild post-treatment erythema and edema resolving within 24 hours. Pain was reported as minimal (2.75 out of 10). 85% of patients rated their skin as improved.

Conclusions: A fixed array fractional 1540 nm erbium laser is a valuable modality for improvement of acne scars. A minimal fluence of 50 mJ/microbeam with 3 passes is required. A regularly spaced array minimizes pain and side effects while potentially increasing treatment efficiency.