

## **FRACTIONATED INFRARED LIGHT FOR SKIN TIGHTENING – SIX MONTH PROSPECTIVE STUDY**

**Robert A. Weiss, Natalie Bene, Margaret A. Weiss, Karen L. Beasley**

Maryland Laser, Skin and Vein Institute, Hunt Valley, Maryland

**Background and Objective:** A novel fractionated optical delivery IR light handpiece in the spectrum of 850 – 1350nm with high energy (up to 70 J/cm<sup>2</sup>) delivered through a sapphire crystal with contact cooling was developed to treat skin sagging. A pilot study was performed to investigate clinical efficacy.

**Study Design/Materials and Methods:** A fractional optical delivery broad spectrum IR (LuxIR Fractional, Palomar, Burlington, MA) was used to treat facial sagging. Ten patients with a sagging lower face were given 3 treatments at fluences of 44 – 50 J/cm<sup>2</sup>, 4 passes with 3.5 sec pulse duration and evaluated for 6 months following the last treatment. A Mediscope imaging system for photographic evaluation and a suction chamber device (Dermaflex®) measuring skin distensibility, elasticity and hysteresis was used to objectively evaluate skin stiffness.

**Results:** At 6 months there was a 30% improvement in objective skin tightness (Young's modulus,  $p < .01$ ) at specific reproducible points on the lower face. Visible improvement in skin sagging was observed by blinded photographic evaluation. Improvement on quartile scale showed median 1, average 1.25, confidence 0.4896. Pain was reported as minimal.

**Conclusions:** An IR handpiece with fractionated optical delivery is an effective modality for treatment of lax skin on the lower face. Skin stiffness measurements have a strong correlation with clinical improvement and is statistically significant.