

**Skin tightening with Palomar's StarLux-IR deep dermal, fractional heating**  
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**Background and Objectives:** The fractional island damage approach has been recently introduced for skin rejuvenation. The potential clinical application of the new fractional treatment approach was expanded to reach into deeper dermal layers and hypodermis. In this study parameters were optimized and evaluated for potential benefits for tissue tightening. **Study Design/Materials and Methods:** A broadband infrared light source with an output spectrum filtered to optimize energy penetration into deep dermis and hypodermis was used (Lux-IR fractional handpiece, Palomar Medical Technologies, Inc). Contact surface cooling is employed to prevent epidermal damage and shift the lattice of high temperature into deeper layers of tissue. **Results:** Thirty patients with skin laxity in different anatomical areas were included in the study. Results were graded by blinded observers. Clinically, the treatments were tolerated well with observations of skin tightening. **Conclusions:** Results strongly suggested that a pattern of hyperthermal islets could be created in the reticular dermis and hypodermis using appropriately filtered IR source and contact cooling. Clinical data indicate potential of the technique as a novel non-invasive modality for skin tightening.