AESTHETIC AND COSMETIC DERMATOLOGY (LASERS SEPARATE CATEGORY)

RESURFACING PROCEDURES THAT ARE BETTER THAN CO2 LASERS

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While the traditional ablative carbon dioxide (CO2) laser holds a gold standard status in nonsurgical skin resurfacing, its potential adverse effects have prompted the development of less ablative fractional technologies. With a plethora of devices available, the question that arises is whether newer modalities can be superior to CO2 lasers with regards to efficacy, downtime, safety, tolerability, and patient satisfaction. Dermabrasion and chemical peeling do not offer the precision of a resurfacing laser. Needling (collagen induction therapy) is minimally invasive and can be easily combined with topical medications, platelet-rich-plasma, and/or radiofrequency. However, head-to-head comparisons between needling and CO2 lasers have not been performed.
Technologies such as fully ablative Erbium-Yag (Er:YAG) laser, fractional Er:YAG (Fr-Er:YAG) laser, fractional (FRF) and microneedle radiofrequency (MRF) can provide outcomes comparable to those of CO2 lasers with fewer complications. While these procedures may require more sessions to achieve the level of skin tightening or wrinkle correction achieved by a single treatment with traditional CO2 laser, they show superior safety profile, especially in skin types III-V, better tolerability (less patient discomfort), and shorter downtime/recovery time than fully ablative CO2 laser. Fr-Er:YAG was as effective in wrinkle correction as fractional CO2 laser in recent studies. With regards to deep resurfacing for acne scarring, Fr-Er:YAG and FRF have shown similar efficacy to fractional CO2 laser and are increasingly being used in multimodality treatments. Careful patient selection and counseling taking into consideration patient preferences are important in optimizing outcomes.