

## Racial Ethnic Groups – Fractional CO<sub>2</sub> Procedure

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### Summary

Fractional CO<sub>2</sub> is considered to be the gold standard for facial skin rejuvenation. The procedure has virtually no downtime and no complications when compared to traditional CO<sub>2</sub> resurfacing. Another benefit is that the resurfacing can be done in almost every area of the body in a quick way. This study presents 63 darker racial ethnic subjects (phototypes IV and V) experience with this technology (Pixel CO<sub>2</sub>, Alma Lasers Ltd., Israel). All subjects were submitted to one session of fractional CO<sub>2</sub> laser on full face or all full face and neck. The results show that improvements acquired were significant and the subject satisfaction was outstanding.

### Background and Objectives

The aim of skin resurfacing is to remove the damaged superficial skin and to allow the regeneration of new skin. The fractional CO<sub>2</sub> laser combines the advantages of the CO<sub>2</sub> laser and fractional photothermolysis without the adverse effects (Figure 1 and 2). Ablative resurfacing in darker racial ethnic subjects has been a great challenge these past few years. **The objective of this study is to present a one year experience with fractional deep dermal ablation CO<sub>2</sub> laser in phototype IV and V subjects.**

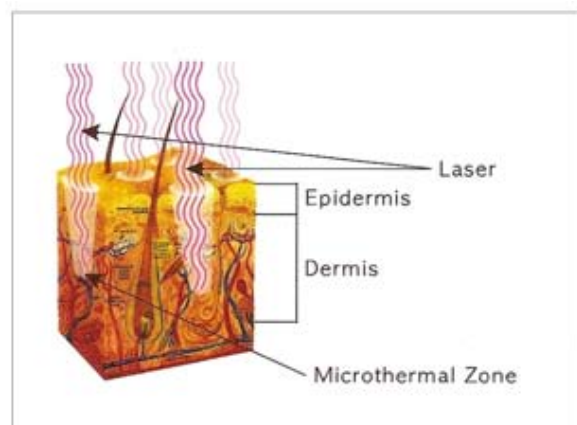
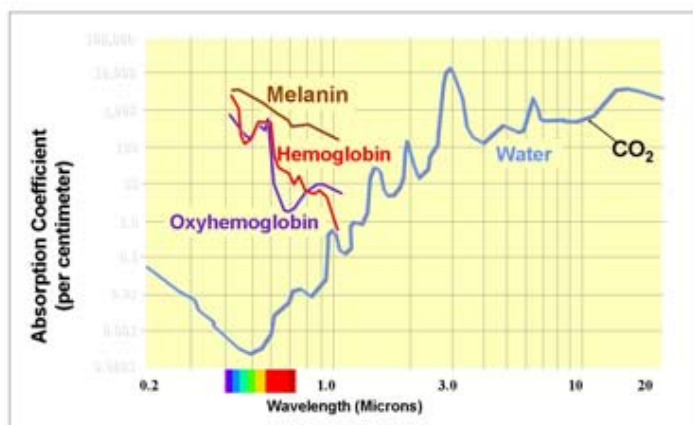


Figure 1 : 10,600nm Wavelengths and Chromophores

Figure 2: Fractional CO<sub>2</sub> Technology

### Study Design and Methods

63 subjects, 52 females and 11 males, 27-78 years old, phototype IV and V, submitted to one session of fractional CO<sub>2</sub> laser on full face or all full face and neck (Figure 3,4 and 5). Prior to the treatment, lidocaine 7% and benzocaine 20% cream is used on the area of treatment as well as ibuprofen 400mg oral capsule. The area is divided in anatomical zones, doing two passes of the handpiece in each zone (Figure 6 and 7). Immediately after the treatment betametazone cream is used and the following five days after the procedure Petrolatum 41% twice per day, as well as sunblock 30FPS every 3 hours. After the sixth day until the 30<sup>th</sup> after the treatment start using hydroquinone 4% at night and discontinue the Petrolatum 41%.



Figure 3 : Fractional CO<sub>2</sub> Laser - MTZ



Figure 4: Fractional CO<sub>2</sub> Laser - MTZ

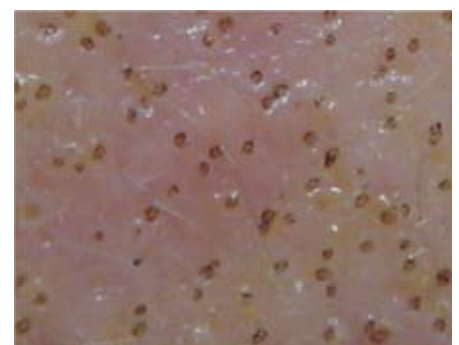


Figure 5: Fractional CO<sub>2</sub> Laser – MTZ



Figure 6: Before Procedure

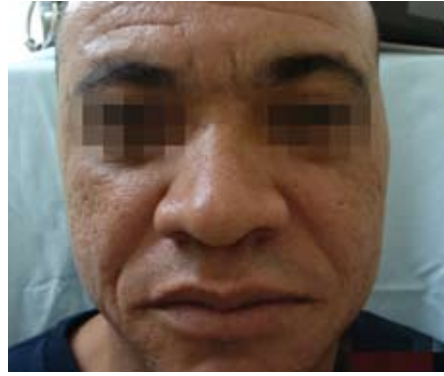


Figure 7: Immediately After Procedure

## Results and Conclusion

The results show that even in darker racial ethnic subjects a fractional delivery of a 10,600nm CO<sub>2</sub> source, improved significantly all the evaluation criteria, with a satisfaction rate of 79.5% according to the quartile scoring. Adverse effects, major or permanent were not observed. The procedure was well tolerated. Facial and neck rejuvenation treatment for darker racial ethnic subjects with fractional CO<sub>2</sub> laser has proven to be efficient and with a high satisfaction rate of the subjects (Figure 8, 9, 10 and 11).



Figure 8: Female – Age 64 - 1 Tx- Before and 90 days After



Figure 9: Female – Age 44 - 1 Tx- Before and 90 days After



Figure 10: Female – Age 65- 1 Tx- Before and 90 days After



Figure 11: Female – Age 62- 1 Tx- Before and 90 days After