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THE CO₂RE®: THE RIGHT CHOICE FOR FULL-FACE RESURFACING



By Joe Niamtu, III DMD

In this day and age of science and industry, it is impossible to outrace technology but easy to embrace it. Laser science and treatment have changed a lot in the past 30 years. The advancement of laser science and the understanding of selective photothermolysis and thermal relaxation times ushered in an era in the 1990s, which was surely an advancement in skin resurfacing, but the cart was in front of the horse for the end user and patient. In other words, there were really no instruction manuals that came with the laser. We had to learn on the run; which we did. Today's treatment successes are a result of trial and error mishaps from the 1990s.

Over the past 25 years, I have done several thousand full-face laser skin resurfacing cases. Since I have a surgical practice, 99 percent of these were performed with IV or general anesthesia and aggressive laser settings. By aggressive I mean full-coverage, fully ablative, high-fluence, multi-pass treatments. Although I have had many homeruns with this history, I also had my share of sleepless nights on the learning curve, as have all surgeons that perform a lot of laser cases.

The introduction of fractional laser resurfacing was heralded as a major technological breakthrough and quickly surpassed "old school" aggressive treatments. Although fractional laser treatment was certainly easier for both the doctor and patient, it failed to deliver the results that I had been used to producing with full-coverage treatments. Yes, you could do four to five fractional treatments for the best result, but who (doctor or patient) would want to go through four to five treatments and recoveries? The math did not add up for me when I could get gold standard results with a single treatment and two-week recovery! I always felt that technology would develop a fractional laser that more closely paralleled "old school" conventional treatment but I never found it.

I have to admit, I have never been a big "fractional guy" for many reasons, the most significant being lack of results when compared to full-coverage/fully ablative treatment.

The other thing that became apparent in my surgical practice was the fact that although many patients would trade great results for two weeks of recovery, many would not. Finally, being a surgeon, I needed a laser capable of making bloodless incisions for procedures such as blepharoplasty, otoplasty, and facial implants. What I searched for was a laser that could deliver a range of treatment results and recoveries to match the aging and desires of all patients. The other search parameter was the ability to achieve light-, medium-,

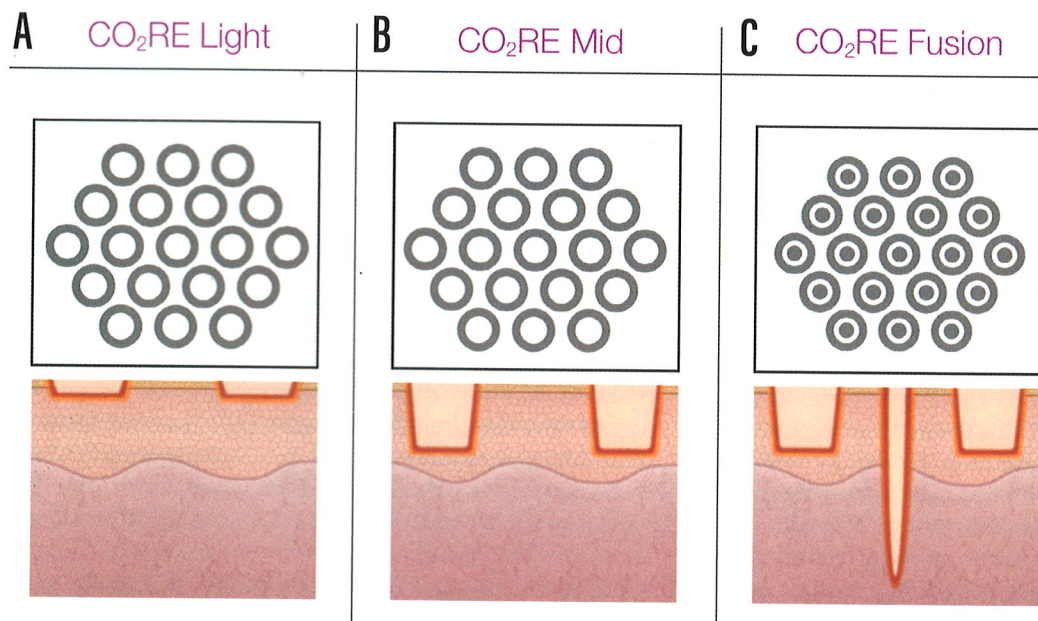


Figure 1. This image shows the pattern and respective epidermal and dermal depths of CO₂RE Light (A), CO₂RE Mid (B) and CO₂RE Fusion (C).

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Figure 2. This image shows a patient one day, five days, and seven days after light and mid CO₂RE laser with light CO₂RE on the neck.



Figure 3. The same patient in figure 2 is shown 90 days after her laser.

and deep-treatment depths, have a setting for traditional “old school” full-coverage treatment, and come with an incisional handpiece.

Further selection parameters included requests from my staff. They wanted a smaller, lighter machine with a smaller footprint to wheel around from room to room as some of my other lasers were tanks. The staff also requested a laser with a small light and safe foot switch, a laser that was quiet and easy to change settings. Finally, they wanted a laser that could be easily switched over from incising to resurfacing on the run in the middle of a case. In other words, a laser that did not require restarting, rebooting, or exiting a bunch of treatment screens on the device.

This “wish list” was pretty extensive but superseding all desires was the holy grail of lasers; great results with less downtime. Over a four-year period I looked at many

devices and companies and consulted many trusted laser experienced colleagues including Dr. Mike Kluska, Dr. Suzan Obagi, and Dr. Rana Agha. They had similar experience to my journey and all settled with the Candela CO₂RE laser due to its attributes, which include varied degrees of fractional treatments, full-coverage settings, incisional handpiece, and the ability to provide great results with less down time than previous technologies.

This all made sense to me and also offered the aforementioned advantages sought by my staff. I took the plunge and purchased the CO₂RE laser more than six months ago and I am approaching 60 full-face resurfacing cases and use the laser daily for incisional treatments. This laser has truly fit the bill of requests for me and my staff.

HOW IT WORKS

Experienced laser doctors can call on their experience and easily adapt the settings and parameters of the Candela CO₂RE laser. The device is fairly intuitive and comes with a large, bright, full-color treatment screen. After playing with the settings on a tongue blade, it did not take long to figure out what I would need to match the treatment of previous machines. For beginners, the company provides a vast array of settings ranging from conservative to aggressive for all common resurfacing situations. Following this guide and staying on the conservative side of the settings should bring most docs up to speed quickly.

What makes this device different is the technology of the laser beam where the machine can be programed for light settings (Figure 1a), medium settings (Figure 1b), or fusion settings (a combination of light and medium). The fusion setting has been a workhorse for me and produces the maximum results with a single pass. Healing times are reduced by two to three days from former aggressive treatments, which is huge for the surgeon and patient. The fusion setting works by the handpiece laying down circles (doughnuts if you would) of controllable depth with a central “spike” of a deep spot beam that focuses well into the dermis (Figure 1c). In my opinion, this fusion treatment is the closest one can get to “old school” results with a fractional laser.

With my light settings that would be used on younger patients with no wrinkles, minor sun damage, and lentigos,

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Figure 4. This patient is shown with simultaneous facelift, four-quadrant blepharoplasty and full-face CO₂RE laser before procedure, one-week post op, and one-month post op.



Figure 5. This patient is shown 90 days after facelift and simultaneous CO₂RE laser with fusion settings on the central face and mid settings on the undermined facelift flap.

back in make-up is about three to four days. A couple days longer for medium treatment (moderate sun damage and light wrinkles) and about eight days for aggressive treatment of severe sun damage and wrinkles. Although most of these patients will undergo a single treatment, advanced cases are encouraged to retreat the areas of major actinic damage and wrinkling several months after the first treatment. Deeper treatments still produce extended erythema

but on a lesser scale as compared to older lasers. To get maximum results on the most damaged skin, it naturally takes more recovery time and experience erythema.

For surgical, traumatic, or acne scars, the device allows for deep settings which are similar to full-coverage, fully ablative treatments. I feel I have an advantage over many laser practitioners with the ability to provide general anesthesia for treatment. While many practitioners provide lighter treatment with topical or local anesthesia, many of my full-face laser treatments include combination

cases such as facelift, blepharoplasty and browlift, facial implants, etc. To date, I have performed more than 1,040 facelifts, 286 of which have included simultaneous full-face laser treatment. With the CO₂RE laser, I treat the central oval of the face with appropriate settings from mid to deep fusion and treat the undermined facelift flaps with a light to mid setting. I have had not untoward laser complications with facelifts as compared to previous lasers. I also use the incisional handpiece for blepharoplasty and intra-oral incisions for facial implants.

As in many busy surgical practices, I have numerous lasers in my office and tailor treatment to the specific needs of the patient. The Candela CO₂RE laser occupies the top tier spot in my laser armamentarium. ■

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