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May/June 2018

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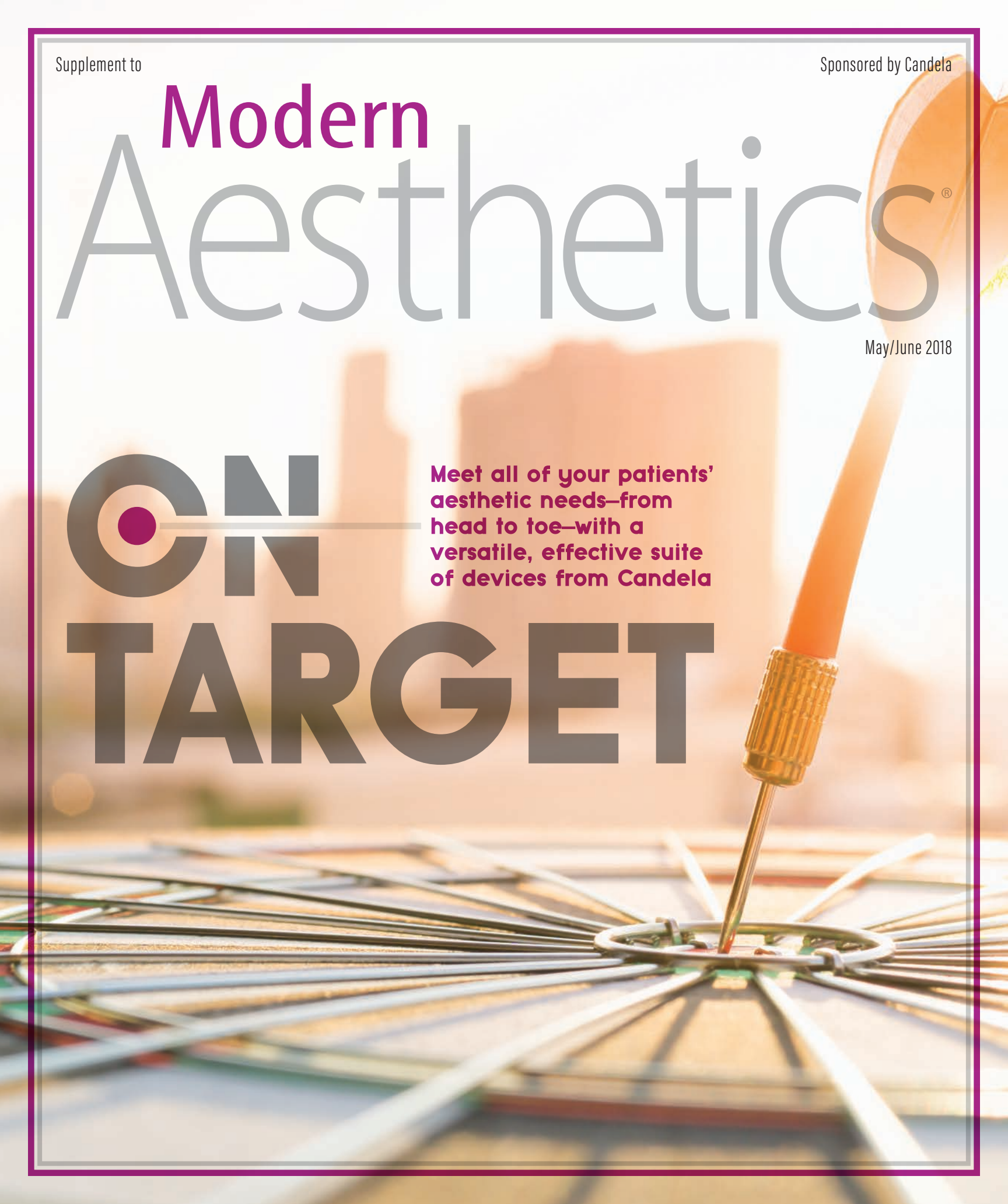

With a more than 30-year history in energy-based devices, Candela is a global leader in aesthetic treatments. From veins, to face, body, and legs, Candela offers a wide range of treatments. Our customer-focused approach helps practices achieve measurable and consistent treatment outcomes and attain unparalleled patient satisfaction.

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We thank our contributors for sharing their experiences with Candela devices.

THE VERSATILE VBEAM® PRIMA: A NEW GENERATION OFFERS EVEN BETTER RESULTS

By Eric Bernstein, MD

The Vbeam laser from Candela is the most used device by me in my office—it's my number one device for photoaging and rejuvenation, for rosacea, for port wine stains, and red scars—which are how most scars start—spider angiomas or nevus araneus, and cherry angiomas. It's my go-to device for almost everything but hair removal, tattoos, and body contouring.

I was an investigator on the initial studies for the Vbeam Perfecta and have been using the device for more than 12 years. It's been the gold standard pulsed-dye laser because it is safe, easy to use, and offers a wide variety of treatment spot sizes, pulse widths, and treatment indications. And now, the new generation Vbeam Prima offers physicians an even more effective and reliable device for aesthetic practices.

The Vbeam Prima is not just a minor upgrade to the Vbeam platform—it's an entire redesign of the laser head, which allows the device to offer more energy, more fluence, a larger spot size, and most importantly, greater reliability. The new Vbeam Prima offers dual wavelengths—595nm and the additional 1064nm—and cooling—the patented Dynamic Cooling Device and the new EverCool Contact Cooling with Sapphire Tip. The redesigned device allows for more treatment capabilities and additional comfort.

TREATMENT ADVANCES

The 595nm wavelength has 50 percent more energy for faster, more efficient treatments. The maximum spot size has increased from 12mm to 15mm and the maximum energy from 8J to 12J. Not only can you use a 15mm diameter treatment beam—which is enormous—to treat people more quickly, but more importantly, the way the light is delivered into the skin seems much more even with the large Vbeam diameter. I think this has allowed me to see even greater and better clinical responses in the patients we've been treating with the Vbeam Prima. And, of course, more effective and efficient treatments typically mean even more satisfied patients.

For some physicians, there may be concern that when using bigger beam diameters, the dye kits will be used up more quickly, but with the Prima, this has not been a problem. The dye life is longer with this laser than its predecessor, and the new system offers a dye life meter so that physicians can plan for replacement in advance. The device only requires once-daily calibration, which helps save time when needing to change treatment parameters throughout a treatment or between patients.

Looking back at the original study I published in 2008, showing favorable safety and efficacy of the Vbeam Perfecta for the treatment of rosacea compared to earlier generation pulsed dye laser treatment, it's amazing to think about how advanced the Perfecta was, and how well it has served my practice all this time. And, yet, the Vbeam Prima manages to be an improvement over the Vbeam Perfecta. To me, the Vbeam is the single safest device on the market that really works—it's a sophisticated, easy-to-use machine.

THE VBEAM IN PRACTICE

Patient satisfaction with treatment is high, and for most treatments patients are not required to follow any special pre- or post-care instructions. The number of treatments is really a function of who and what you're treating, and it varies by patient. The treatment itself should not be too uncomfortable to most patients and does not typically require any topical numbing cream. I describe the treatment to patients as "annoying." It's not a massage, but it's very tolerable. It depends on the patient, depends on the fluence, and on what you're treating.

Patients should be told to expect some puffiness and rarely bruising post-treatment. Puffiness can last a day or two, typically, although it can last longer. And bruising, if it occurs, can be hard to hide for the first four days, and usually persists for a week to 10 days. Again, it depends on who and what you're treating. For example, if you're treating port-wine stains, you want to see bruising or purpura, but if you're treating rosacea, and start to see that, it may be best to reduce the energy level. Patients will continue to see results for about a month or more post-treatment, and the need for follow-up treatments should be assessed then.

Figures 1a-5a. Basline. Figures 1b-5b, Two-month follow-up post four treatments

TOP OF THE CLASS

The Vbeam is one of the most versatile lasers available, and its effectiveness and safety sets it apart from many other devices on the market. The Vbeam is an excellent option for all aesthetic practices and will be the go-to treatment option for a variety of indications every day. It's my most used device! ■

ERIC F. BERNSTEIN, MD, MSE

■ Eric F. Bernstein, MD, MSE is the Director of the Main Line Center for Laser Surgery in Ardmore, PA. He is a distinguished practitioner, researcher, and innovator in the fields of dermatology and laser surgery. He received his BS at Duke University and attained his MD at Yale University School of Medicine.

PROFOUND® RESULTS: TARGETING FACIAL WRINKLES

By Macrene Alexiades, MD, PhD

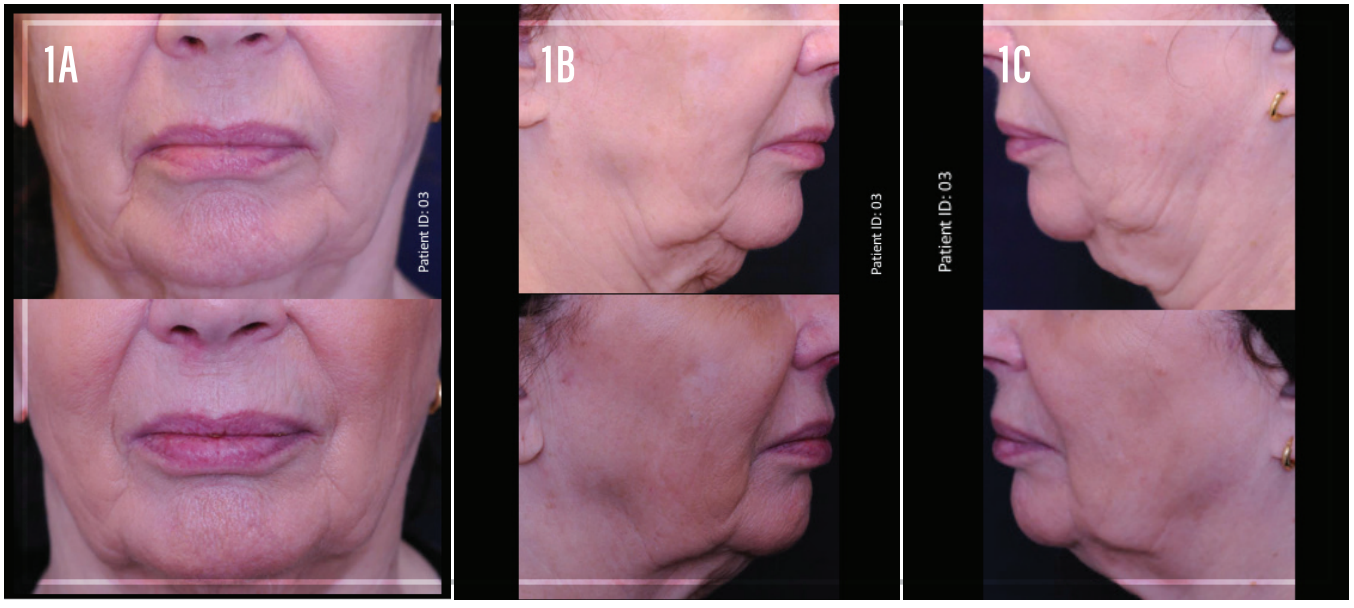
My experience with the Profound device is extensive. I was the first to pioneer micro-needle radiofrequency (RF) with a team of engineers staring in 2006 with the Primaeva Medical company. Together, we designed the needle array and tested a large range of parameters, which ultimately culminated in the version of the device called the Profound. The Profound device offers temperature-controlled RF that delivers energy directly to the deep dermis to stimulate neo-elastogenesis, neocollagenesis, and hyaluronic acid deposition. It also delivers fractional RF energy to the subcutaneous layer, enabling treatment of adipose tissue and the septae. Initially, the treatment was FDA cleared for reduction of facial wrinkles in 2010. Since then, it has also been cleared for the treatment of cellulite when using the SubQ handpiece and cartridge, based on a study I led.

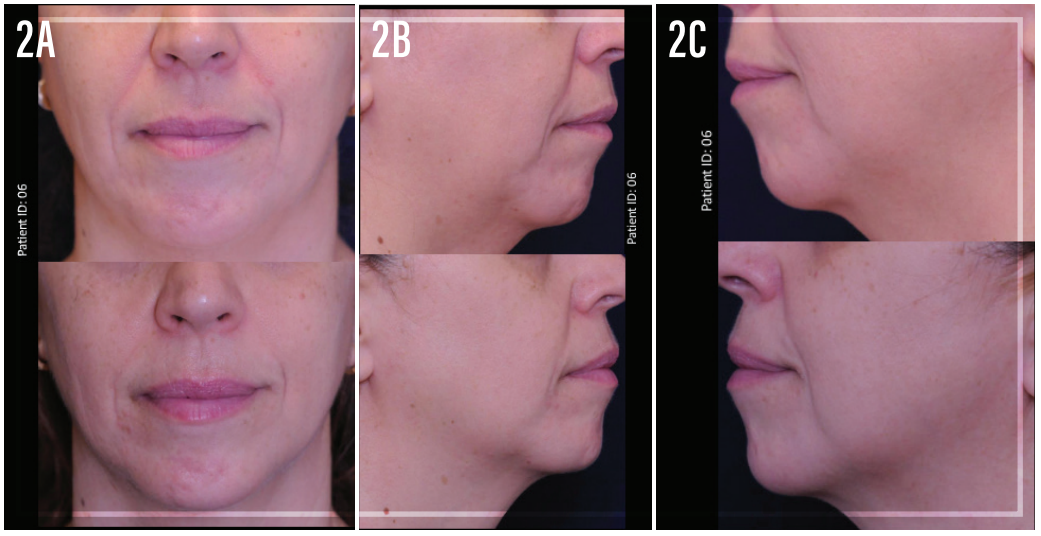
IMPROVING THE APPEARANCE OF CELLULITE

The FDA clearance for Profound to improve the appearance of cellulite using the SubQ cartridge and handpiece is based on positive data from utilizing the device in an institutional review board (IRB) approved, multi-center study that measured success by analyzing the dimples and/or undulation irregularities in the thighs of 50 women with Fitzpatrick skin types I-III. Profound showed improvement of cellulite (dimples and/undulation irregularities) severity in 94 percent of treated thighs assessed at a three-month follow-up by blinded review. Sustained improvement was observed at six-month follow-up in 93 percent of the treated thighs. Profound is an optimal treatment for patients looking to improve the appearance of areas impacted by cellulite in a single treatment. Patients can start to see improvement starting at one month after treatment.

FACIAL WRINKLES

Treatment with the Profound device is ideal for the face in patients who have wrinkles and who want to have younger looking skin but have ruled out a facelift. Surgical facelift is the gold standard, but for patients who do not yet have severe enough wrinkling and laxity, or who otherwise cannot or do not want to undergo a facelift, treatment with Profound can offer excellent outcomes. In fact, in a 2010 study, we found that a single, minimally invasive fractional RF treatment demonstrated a 0.44-laxity grade improvement, or 37 percent that of the surgical facelift,





Figures 1a-c, 2a-c, and 3a-c. Patients before (top photos) and after one treatment, one pass, 150 insertions, where the parameters were 67°C, 3 seconds. Treatment duration was 25-30 min treatment for each patient (not counting the anesthesia required before treatment).

without the adverse effects and complications of surgical procedures.[1] Profound adjusts energy delivery to attain the target temperature required to induce new collagen and elastin and hyaluronic acid in all patients in a single, non-surgical treatment for facial wrinkles.

TREATMENT TIPS

Before the procedure, patients are instructed to use no blood thinners for two weeks and to avoid foods and supplements that cause bruising. On the day of treatment, I numb my patients with topical anesthetic and use minimal infiltration with injectable lidocaine so that the collagen is not spread when I inject the RF.

I space my insertions exactly 3mm apart with no overlap. Immediately after finishing an area, I apply ice and have the patient ice for 45 minutes and this almost eliminates swelling. I then treat the patient with pulsed dye laser to prevent bruising. All my patients can go back to social activities and work five to seven days after treatment. And, results continue to build out to one-year post treatment—it's the gift that keeps on giving. (See Figures)

All my patients are extremely happy with the outcomes from the Profound treatment. I have mastered the numbing technique to make it painless. But it is a technically challenging device, hence the fact that many plastic surgeons have adopted this tool. ■

1. Alexiades-Armenakas M, Rosenberg D, Renton B, Dover J, Arndt K. Blinded, randomized, quantitative grading comparison of minimally invasive, fractional radiofrequency and surgical face-lift to treat skin laxity. Arch Dermatol. 2010 Apr;146(4):396-405. doi: 10.1001/archdermatol.2010.24.

MACRENE ALEXIADES, MD, PHD

■ Macrene Alexiades, MD, PhD, is an Associate Clinical Professor at Yale University School of Medicine, and Director & President of Dermatology & Laser Surgery Center of New York.

PICOWAY®: HIGH PEAK POWER AND SHORTEST PULSE DURATIONS FOR EFFICACY AND COMFORT

By Gilly Munavalli, MD

The PicoWay picosecond laser is an excellent system for a busy aesthetic practice. PicoWay is FDA-cleared for several conditions, including benign pigmented lesions and tattoo removal, as well as acne scars and wrinkles with the PicoWay Resolve handpieces. PicoWay treatments are typically quick to administer and require little patient follow-up due to the minimal downtime following treatment.

The PicoWay system uses high pulse energy with extremely short durations, in the range of 300-450 picoseconds, creating a photoacoustic approach that avoids skin overheating, minimizing side effects.

The versatile device is capable of operation at three picosecond wavelengths of 1064nm, 785nm, and 532nm. Repetition rates range up to 10Hz with a broad range of spot sizes from 2-10mm in diameter.

PicoWay is equipped with multiple handpieces for tailored treatments of conditions and patients. The three wavelengths allow physicians to treat a wide range of tattoo colors and types. PicoWay was the first in the aesthetic market to offer the 785nm wavelength, utilizing a titanium sapphire laser, for removal of resistant blue and green tattoos.

The PicoWay Resolve handpieces use beam-splitter technology to create LIOBs (Laser Induced Optical Breakdown). Laser irradiation is selectively absorbed with minimal effect on the surrounding tissue. This creates miniscule voids in the skin while leaving the top layer of the epidermis intact, resulting in efficacious treatment that improves the appearance of acne scars and wrinkles across a wide range of skin types with minimal downtime.

The PicoWay's ease of use and the versatility of its handpieces and wavelengths are reasons why I chose this system for my practice.

Figure 1. Two treatments with the 532nm handpiece, 2mm spot, 1.7 J/cm^2 treatment of brown spots (lentigines and macular seborrheic keratosis) on face.

Figure 2. Three treatments with the 1064nm handpiece, 8mm. Treatment of diffuse facial pigmentation (melasma and post-inflammatory pigmentation).

PICOWAY IN PRACTICE

I've been using PicoWay and PicoWay Resolve for several months, primarily for tattoos and patchy or lentiginous hyperpigmentation. PicoWay has offered excellent results for patients in my practice for the treatment of lentigines, macular seborrheic keratosis, melasma, and post-inflammatory pigmentation. (See Figures) I've found the wavelengths on the PicoWay complement the brownish color of the targeted facial lesions of these conditions.

Photos courtesy of Todd Howen, MD

Figure 3. Tattoo removal with PicoWay Zoom 1064nm, 5mm, 90J, one pass and post four treatments.

Treatments are typically fast—five to 10 minutes—a positive for patients and treating physicians. Usually two to four treatments are needed at intervals of about four weeks. Patients should be told that their results will continue to improve for a few months after the last treatment.

Treatments are also comfortable with little to no downtime, which is a benefit for patients. Patients may experience some puffiness and some tiny red marks or petechiae.

Photos courtesy of David Freedman, MD

Figure 4. Before and seven weeks post two treatments.

But this is not a bad thing—it is evidence that the laser is making injuries in the dermis—tiny, tiny injuries—which is a nice endpoint to look for as a treating physician to know the treatment is working.

Post-treatment, I do typically have patients apply a mild potency topical steroid after the treatment to suppress any treatment erythema and minimize the possibility of post-inflammatory hyperpigmentation, especially in darker skin patients. ■

GILLY S. MUNAVALLI, MD, MHS, FACMS

■ Gilly S. Munavalli, MD, MHS, FACMS is the medical director and founder of Dermatology, Laser & Vein Specialists of the Carolinas. He currently serves as an Assistant Professor at the Wake Forest University School of Medicine—Department of Dermatology. Dr. Munavalli also serves as a Cosmetic Dermatologic Surgery Fellowship Director for the ASDS.

GENTLEMAX PRO®: A GO-TO DEVICE FOR LASER HAIR REMOVAL, PIGMENTED LESIONS, AND SMALL VASCULAR LESIONS

By Lesley Clark-Loeser, MD

The GentleMax Pro System (GPro System) is a dual wavelength laser platform that combines a fast and powerful 755nm Alexandrite laser with an equally powerful 1064nm Nd:YAG laser for high performance treatment capabilities in terms of speed, efficacy, ease-of-use, performance, proven results, and patient satisfaction. I've been using this device for about two years, but have worked with the GentleLase Pro and GentleYag Pro, which together comprise the GentleMax Pro, for about 13 years.

The GPro system, in my practice, is a go-to for laser hair removal, pigmented lesions, and small vascular lesions. For me, it's about consistency and reliability. Also, the platform is very user-friendly and efficacious. It's great for experienced physicians who can adjust settings and treatment parameters based on their personal experience and preferences, as well as for new users who can effectively treat patients following Candela's suggested parameters.

Laser Hair Removal. In the past, we often heard how frustrated patients and consumers were with laser hair removal because they did not get the results they hoped for after several treatments. Intense pulsed light for laser hair removal just wasn't effective enough. But for the past 13 years, the majority of my patients that have Fitzpatrick Skin Types 1-3 have been so pleased with treatment with the 755nm laser of the GentleMax Pro. And, as a physician in South Florida, the fact that I can also treat with a 1064nm Nd:YAG with great success with any skin type is a benefit. For patients who have the darkest skin type, or who have underlying sun damage, or have been out in the sun tanning, or who I know will be outside in the sun, I have the option of using the 1064nm Nd:YAG with great safety. This is because the longer the wavelength of light, the less likely you are to disrupt the pigment in the overlying skin, and you're able to penetrate deeply enough to really focus on the hair follicle, delivering that energy to the bulb of the hair follicle. You want to protect everyone's overlying skin. You don't want to disrupt pigment and cause hypo- or hyperpigmentation after the treatment. So, in my ethnically-diverse practice in South Florida, we are fortunate enough to basically be able to offer laser hair removal to all of our patients.

Photos courtesy of Jonathan S. Crane, DO

Figure 1. Age/Sun spots before and after treatment with the 755nm Alexandrite laser.

More often than not, patients are extremely happy with the outcome in terms of achieving close to, if not permanent, dark hair reduction. It's very, very satisfying for patients. Typically, patients are treated at one-month intervals for five to seven treatments. Of course, some areas tend to respond more quickly than others, requiring fewer treatments. And other areas may be more challenging, requiring more than the average number of treatments. We never promise anything, but we can tell patients what the averages are. We typically treat at one-month intervals, but there are areas where the hair cycle tends to be a little bit longer, such as the lower legs where you can generally wait up to two months in between treatments.

For laser hair removal, we offer use of a topical anesthetic that a patient can apply about an hour before treatment to make it more tolerable. We tell patients that the discomfort is fleeting. I liken it to a semi-hot rubber band, and once the feeling has passed, it's passed. It's just that quick snap that you feel. The larger the area that you're treating, such as a man's back versus an armpit, the longer the treatment time, and the greater the discomfort. Typically, a back takes a solid 30 minutes, the legs take about 20 to 30 minutes, and the bikini area can be done in about 10 minutes. But most patients tolerate it, because they are highly motivated by outcomes. Patients are instructed to avoid waxing, tweezing, threading, electrolysis—anything that is removing the hair from the follicle—for at least two weeks.

But, unlike waxing or threading, laser hair removal doesn't require a lot of hair. You just need a hair that has

Photos courtesy of Marcele Kutun, MD

Figure 2. Before and after treatment with dual-configuration 755nm Alexandrite laser and 1064nm Nd:YAG laser.

been generated or begun to grow within the follicle. In fact, we often ask patients to shave the day before, because the less hair that's sticking out from the skin, the less of a source it is to be heated up. When you have long hairs that are above the skin surface, they're going to absorb heat as well. And it's just unnecessary heat being delivered to the surrounding areas. You just need that little bit of hair inside the follicle for it to work.

Post-treatment, patients should avoid the sun post-procedure when the skin is still somewhat inflamed. Although patients should be informed that inflammation is not a bad thing. Our endpoint for laser hair removal is perifollicular erythema and edema, which indicates that we've delivered enough energy to be effective.

Pigmented Lesions. When targeting pigmented lesions, as with hair removal, we do not want to disrupt someone's underlying pigment or natural pigmentation. I will always err toward treating patients with lighter skin types when treating pigmented lesions with an Alexandrite laser. There are protocols that have come out of Asia where they have extensive experience treating pigmented lesions, such as lentigines, in Asian skin types—generally skin type 3, and sometimes pushing toward a 4, but even using those parameters, from my experience I've found you really need to make sure that you're comfortable with the device and have enough experience to watch carefully and know your patients and how they might respond.

Patients are typically very satisfied with outcomes for this treatment. And as with any aesthetic treatment, setting proper expectations is key. Often the first question patients ask when inquiring about treatment for brown spots is, "Will they come back?" The answer is always, "Of course they can come back, and if they do we can treat again." But patients are often surprised at how long it takes for the lesions to reappear. Typically, for pigmented lesions on the face, I get about 75 percent on the first treatment and the remaining at follow-up treatment one to two months later. Then patients may come back for another treatment every couple of years, and it's never quite as expensive for the patients to have those follow-up rounds in the years to come.

Treatment is quick—I can treat a face in about 10 minutes, but patients should apply a numbing cream before treatment. When targeting pigmented lesions, the optional dynamic cooling device spray used during hair removal treatments—the mechanism that cools the surface of the skin on the device—is turned off because you want to heat that very surface portion of the skin, that top superficial layer, so patients feel more heat. A numbing cream helps make the treatment comfortable. If there are hairs in the same place as the pigmented lesions, patients should except more discomfort.

Post-treatment, the skin tends to be a little tender and patients should know that any brown spots that were treated will look significantly darker for five to 14 days, depending on the location. On the face, in particular the central face, patients should expect those brown spots to peel off in about five days. Around the perimeter of the face, it can take about a week. On the chest, cell turnover takes even longer, so I counsel patients not to expect to see results for at least two weeks.

Vascular Lesions. For small vascular lesions, I love using the GMax Pro—the 1064nm Nd:YAG laser head is phenomenal for those fine little traceable blood vessels on the face. It's very effective—even more effective than some of the other vascular lasers that I use. And it is also phenomenal for cherry angiomas on the face or body. Patients see tremendous clearance after just one treatment session, so satisfaction is high. Treating blood vessels on the face usually takes 10 to 20 minutes, and treatment is not uncomfortable. It does not require any anesthetic or other preparation prior to treating—you can do it when a patient comes into the office.

Most patients do not experience any downtime. There isn't really any bruising. The worst-case scenario is that a really thick vessel may shrink in diameter, but it might look like a black pencil line. It can turn to a dark color and then the body absorbs that residual blood and clears it within a week. Other than that, there's no downtime, and most patients are highly satisfied after one treatment. ■

LESLEY CLARK-LOESER MD, FAAD

■ Lesley Clark-Loeser MD, FAAD is co-founder of the Precision Skin Institute, a private practice in Davie, FL. Dr. Clark-Loeser is a diplomat of the American Board of Dermatology, board certified since 2005. She maintains membership in the American Academy of Dermatology, American Society for Laser Medicine and Surgery, Florida Society of Dermatology and Dermatologic Surgery, the Women's Dermatologic Society, and Broward Dermatologic Society.

BODY SHAPING: TWO DEVICES TO MEET ALL YOUR PATIENTS' NEEDS

By Anne Chapas, MD

Consumer interest in non-invasive body sculpting and fat reduction continues to be high. According to the annual statistics from the American Society of Plastic Surgery, non-invasive body contouring procedures that target fat and reduce sagging areas increased nine percent in the last year. And the VelaShape and UltraShape Power devices have been workhorses in my practice to meet patient demand.

I started using the VelaShape II device in 2006—my initial interest in the device stemmed from its ability to improve the appearance of cellulite, which it was indicated for, and also for its potential for body contouring. Working with Lori Brightman, MD and Roy Geronemus, MD, we performed a trial to investigate how to use the VelaShape for body contouring, and we found some really fascinating things—it could be used to improve the appearance of the stomach, as well as the arms and the legs. I then purchased the VelaShape® III device when it was first release a few years ago. This novel device, effective for body contouring as well as for cellulite, is a much higher power device than its predecessor and allows us to do what we were doing in a much more efficient way, offering faster and more effective treatment. It's a great device for my practice.

I added the UltraShape Power® device to my practice about two years ago and have primarily been using it for contouring the entire abdomen and flanks with nice success for patients who really need a full cosmetic unit treatment. A significant benefit to the UltraShape Power device is that it can be customized to any body shape, and it can deliver a full treatment in less than one hour for those patients. As part of Candela-sponsored trial of UltraShape Power, we treated 10 patients with the device at my practice, and I was very impressed that all 10 patients saw results. Some had more significant results than others, but for a non-invasive treatment, which often is very dependent on each individual patient's fat composition or body shape, to have a device that was successful on all of those 10 patients was really remarkable. That really speaks to the technology as well as the way that it so precisely delivers the energy to the fat layer that we're trying to contour. The overall results of the study showed the device demonstrated an average 32 percent reduction in fat layer thickness via ultrasound measurement at 12-week follow up, representing significant fat destruction.

I've found the UltraShape Power device is very efficient and ideal for treating large areas. It's effective for removing that fatty layer right beneath the surface, whereas I utilize the VelaShape more for cellulite or for contouring smaller areas. Part of it has just to do with the way the machines are made, and it's just more efficient to do larger areas with the Ultra Shape device.

The UltraShape Power uses a selective, pulsed, focused mechanical ultrasound energy for effective fat cell destruction. The energy is focused selectively on fat cells, protecting surrounding tissue including blood vessels, nerves, and muscles, offering a safe and comfortable treatment experience. Because energy is delivered in a pulsed fashion, the rise in temperature is minimized to within 0.8° C within and around the targeted tissues. This is great because it's not painful, but when you have a device that is that gentle with such minimized effect on temperature of

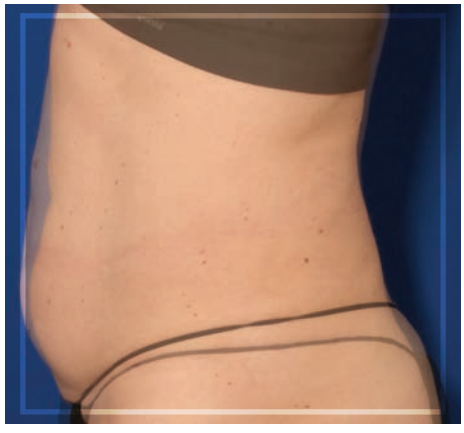


Figure 1. Overlay is 12 weeks post final UltraShape treatment. Patient underwent three treatments spaced two weeks apart. Each treatment size was 9 FTZs.

Figure 2. Overlay is 12 weeks post final UltraShape treatment. Patient underwent three treatments spaced two weeks apart. Each treatment size was 10 FTZs.

Figure 3: Pre-treatment for cellulite (left). Three months after four VelaShape III sessions, RF:3, IR: 1, V: 1, 30 minutes (right).

Figure 4. Pre-treatment for cellulite (left). One month after four VelaShape III sessions RF:3, IR: 1, V: 1, 30 minutes (right).

the skin, sometimes there isn't as much improvement of skin tone as we would like.

For patients who desire to improve skin tone and quality as well as body contouring, I've been treating them with VelaShape and UltraShape at the same session.

The Vela product line combines four different technologies including infrared (IR), Bi-Polar radio-frequency (RF), and mechanical tissue manipulation using pulsed vacuum and massage rollers. The combination of the IR and vacuum coupled RF technologies causes deep heating of the connective tissue including the fibrous septae, which promotes an increase in collagen depositing and local cellular metabolism resulting in a localized reduction in skin sagging and volume. The mechanical tissue manipulation increases circulation and lymphatic drainage, both essential components for healthy skin structure.

I also use the VelaShape III a lot for cellulite, which effects 90 percent of women in this country. Cellulite is such a difficult condition, because it's not only a fat problem—we need to address skin tone and fibrous bands. VelaShape can address the multiple factors that affect cellulite in a very comfortable 30-minute treatment, so it's been my go-to cellulite device for a long time. There are other treatments for cellulite, but this is our workhorse in practice for cellulite.

PATIENT SELECTION AND TREATMENT PROTOCOLS

The ideal candidates for any type of body contouring treatment are patients who are relatively fit, who maintain a healthy lifestyle, and are close to their ideal weight. Patients also need to understand that they will need to maintain healthy habits post-treatment to maintain results. It's important that patients understand these treatments are not an excuse to suddenly fall off the wagon.

When treating cellulite, I find that VelaShape works best on patients with mild to moderate cellulite. There are patients with very severe puckering type cellulite, who are not the right patient type for this treatment. For most patients who have mild to moderate cellulite, they are ideal candidates for VelaShape treatment.

Treatments with UltraShape Power and VelaShape III are very comfortable for patients and there is no need to pre-medicate. Most patients report that they have no pain. I tell my patients that the VelaShape feels like a hot stone massage and the UltraShape Power treatment feels like a cell phone vibrating on your stomach—it is quite mild for the results patients can expect.

Typically, patients undergoing treatment with UltraShape Power are treated every two weeks for three sessions. Each treatment takes less than hour—about 45 minutes. For VelaShape, most patients are treated every two weeks for three to five sessions. Treatments take about 30 minutes at each session.

There is no downtime after treatment with either device—patients can go right back to their normal activities and are encouraged to do so. There are no restrictions after the procedures.

MEETING A PRACTICE'S NEEDS

In my practice, body contouring is highly demanded. VelaShape can treat many areas that may need contouring and have appearance of cellulite. The UltraShape treatment is effective on the abdomen, thighs, and flanks. With these two devices, I'm really able to address the needs of 100 percent of my patients who are really trying to have a great looking body, in and out of clothes, and feeling more confident about their appearance. ■

ANNE CHAPAS, MD

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THE CO_2RE®: 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-,

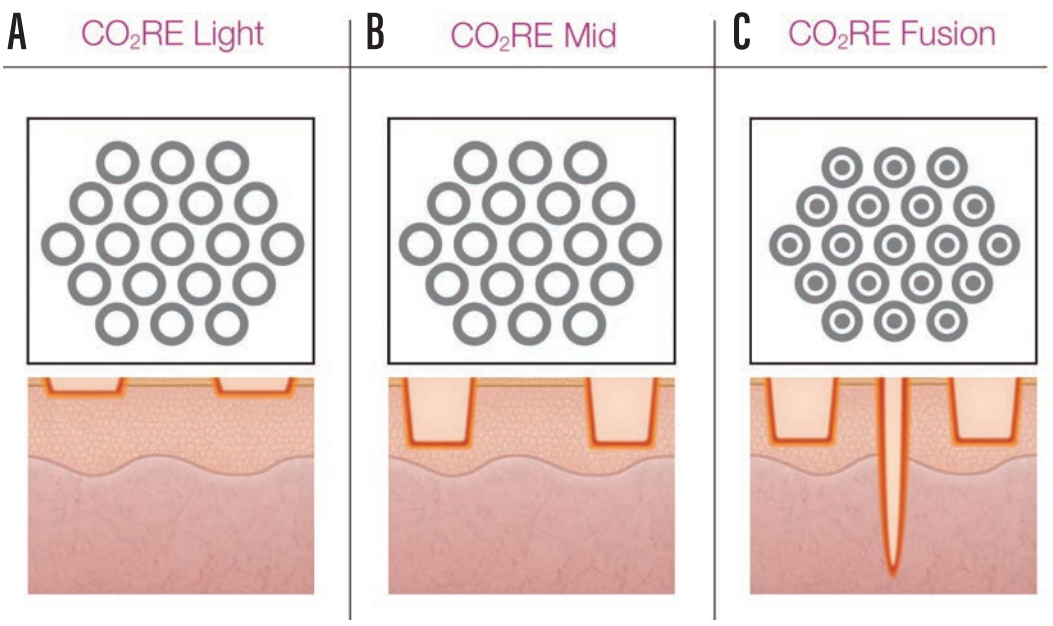

Figure 1. This image shows the pattern and respective epidermal and dermal depths of CO_2RE Light (A), CO_2RE Mid (B) and CO_2RE Fusion (C).

Figure 2. This image shows a patient one day, five days, and seven days after light and mid CO_2RE laser with light CO_2RE 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 CO_2RE 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 CO_2RE 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 CO_2RE 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,

Figure 4. This patient is shown with simultaneous facelift, four-quadrant blepharoplasty and full-face CO_2RE laser before procedure, one-week post op, and one-month post op.

Figure 5. This patient is shown 90 days after facelift and simultaneous CO_2RE 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 CO_2RE 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 hand not untoward laser complications with facelifts as compared to previous lasers. I also use the incisional handpiece for blepharoplasty and intraoral 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 CO_2RE laser occupies the top tier spot in my laser armamentarium. ■

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