



Sciton's Halo Provides Solutions for Wide-Range of Aesthetic and Wellness Concerns

By Kevin A. Wilson, Contributing Editor

"Halo sits among the most exciting developments in aesthetic medical treatments today," said dermatologist Christopher Robb, M.D., Ph.D., medical director of the Skin & Allergy Center in Murfreesboro, Tenn., and an early adopter of Halo from Sciton (Palo Alto, Calif.). According to Dr. Robb, who has been heavily involved in the research and development of this hybrid, dual wavelength fractional technology, "Halo provides us with an unprecedented capability to customize treatment parameters, employ both ablative and non-ablative lasers simultaneously and treat aggressively, yet gently to address each patient's unique clinical case and dial in the downtime they will accept." While useful for a variety of indications, Halo excels for dyschromia, erythema, pores, periocular rhytides and textural changes associated with sun damage, he added. "It also works well for melasma."



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Halo’s Game-Changing Technology

The game-changing nature of Halo stems from its use of two wavelengths, a non-ablative 1470 nm wavelength and an ablative 2940 nm wavelength, which when combined provide an industry-first synergistic effect. “Halo is really the first of its kind hybrid ablative and non-ablative fractional resurfacing device, which is fantastic in that it provides more significant results than you’ll see with other non-ablative fractional laser technologies,” said dermatologist Elizabeth Tanzi, M.D., director and founder of Capital Laser & Skin Care in Chevy Chase, Md. “The recovery time is manageable and the treatment itself is not as uncomfortable as other resurfacing lasers, which is a big benefit for patients. I am seeing slightly better results than with other non-ablative fractional lasers that are combined with a more comfortable treatment, and the same downtime, which is a win-win for everyone.”

Jason Pozner, M.D., plastic surgeon and medical director of Sanctuary Medical Center (Boca Raton, Fla.), worked closely with Sciton during the development of Halo. “When we developed this system we were thinking that we’d basically get a better non-ablative device,” he advised, “but what we found was that it delivers improved results compared to purely ablative fractional treatments as well, due to the unique synergy achieved with the hybrid dual wavelengths. You can set the depth and density of both ablative and non-ablative wavelengths, and each microtreatment zone has both an ablative and non-ablative component when using the dual wavelength mode. Halo has virtually eliminated the use of more powerful ablative fractional lasers in my practice, except for the treatment of scars. However, the critical difference with Halo is that we only need one, maybe two treatments. With existing technologies five or six is the norm, and that is a noteworthy difference moving us closer to the ideal that some patients form in their minds when they imagine modern aesthetic medicine. With Halo you don’t have to undergo a series of treatments over the better part of a year.”

With the first fractional lasers there were a lot of issues that needed to be worked out, and Dr. Pozner sees Halo as a culmination of the natural evolution of this technology. “Fractional laser therapy was a truly revolutionary concept, but originally you needed the special dye, lots of sessions and the result wasn’t so great. Then came more powerful ablative fractional treatments, which was the next big step beyond fully ablative CO₂ resurfacing. This modality gave results with less downtime, but was less tolerable. What

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we have in Halo is more than ‘best of both worlds’, which is why it is so hard to describe it in that context, except to say that there is an obvious synergy that enhances results significantly despite the ablative wavelength being very superficial. Additionally, you can use it with confidence on darker skinned patients, which was a big danger area with laser treatments in the past.”

Downtime is another big factor physicians believe will drive the ultimate success of Halo. “For plastic surgeons the issue of downtime is a little different because for so long we were used to recovery time being non-negotiable,” Dr. Pozner expressed. “That’s just the way surgery is. Dermatologists came from a different paradigm early on. What we’ve learned as a community is that beyond the result itself, it’s all about downtime. What will the patient tolerate? What will their lifestyle and career allow? In a sense it is the thing that has changed the most, and with newer technologies like Halo we can modulate our treatment accordingly, in ways we never could before, and still see ‘wow’ results. The clinician’s challenge in this day and age is to manage patient expectations. We must present them with a variety of specific options best suited to treat their unique condition at their stage in life, taking into account the lifestyle cost of treatment that comes in the form of downtime.”

Another unique feature of Halo is Dynamic Thermal Optimization. “This is a great feature because it works completely in the background,” explained Dr. Pozner. “Skin temperature changes as laser energy is being delivered, so Halo uses infrared technology to measure skin temperature continually and adjust energy delivery, making treatment safe and consistent. There is really very little risk that you’ll over or under treat the patient. Furthermore, in conjunction with Halo’s built-in cooling treatment, patients can have an experience that is extremely tolerable. I’ve had it done on myself without any numbing cream.”

“Dynamic Thermal Optimization is important because if you look at the histology of any laser, the holes created in the skin definitely change based on skin temperature, and Halo adjusts for this so the treatment is not only safer, it’s more uniform,” Dr. Robb added. “Halo delivers energy based on cm² surface area as the focus, rather than number of passes. The handpiece is moved across the target zone at a moderate pace, not quickly as with most other devices, but the treatment time is the same because energy delivery is safe, efficient and uniform. Total treatment time is between 20 and 35 minutes for a



Before Tx



After two Halo treatments
Photos courtesy of Sanctuary Medical Center



Before Tx



Eight days after one Halo Tx
Photos courtesy of James Nammoum, M.D.

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Before Tx



After one Halo Tx

Photos courtesy of Rebecca Gelber, M.D.

full face, depending on how aggressively you’re treating. We use 1 hour of topical lidocaine/tetracaine with no occlusion, and usually see pain levels of 1 out of 10 on an analog scale, sometimes up to 4 or even 5 out of 10 with more aggressive settings, but if you give patients even mild analgesia it reduces that pain. There may be some tolerable stinging for an hour or so, followed by two days of looking a little pink, then two days of a sort of sprinkled cinnamon powder look.”

As Dr. Robb explained, the body responds to coagulation with a gradual stimulation of neocollagenesis, followed by a secondary inflammatory response with mild to moderate hyaluronic acid production and then procollagen production about two weeks later. The 2940 nm wavelength stimulates different inflammatory mediators, and you’ll see elastin and collagen production. “When you combine the two wavelengths you see what appears to be a combined effect that produces even more hyaluronic acid, and I predict we’ll see similar synergy in collagen production, but we’re still working on the analysis.”

“Fractional non-ablative treatment with the 1470 nm wavelength targets the dermis to stimulate neocollagenesis over time resulting in improvement of tone and texture,” Dr. Tanzi stated. “But it can be frustrating for patients to ‘wait’ for the delayed clinical response of collagen stimulation. The ablative 2940 nm wavelength, whether dialed in to 10% density or 40%, delivers fractional ablation that supports epidermal rejuvenation. It’s a satisfying procedure for patients because they see a nice healthy glow to the skin within seven to ten days, which gets them excited for the final effects of tone and texture improvement resulting from neocollagenesis that can take three to six months to fully appreciate.”

“The system itself is incredibly versatile,” Dr. Tanzi continued. “Using the hybrid technology, wavelengths can be combined to favor the percentage of one over the other, which provides customized options for energy delivery and treatment depth. Each wavelength can also be used by itself for a purely ablative or non-ablative treatment. I tend toward using some combination of wavelengths though, because in my experience that is the secret to the consistent and exciting results we get with Halo. If I see someone with deeper wrinkles or acne scars or anything where I need a deeper dermal treatment, I’ll shift toward the more deeply penetrating non-ablative 1470 nm wavelength. However, if I have a patient with signs of photodamage

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who needs pore reduction or textural improvement, I’m more likely to favor the 2940 nm component. I can be more or less aggressive using any mode depending on what kind of downtime patients are willing to accept. An aggressive course with higher energies will take one or two sessions and downtime will be more pronounced. Patients who want to go lighter may need additional treatment sessions at four to eight week intervals, but downtime will be more manageable.”

“As for settings, I target the pathology,” said Dr. Robb. “If the dyschromia is around 100 μ depth, I target the depth to about 275 μ . For dermal melasma I’d target the 400 μ depth. The percentage of each wavelength we use depends on the heat we want to deliver into the skin; lighter skin types can tolerate more energy as a general rule, and we’ll want to dial it down for dark skin. With Halo’s dual wavelength approach you can actually obtain a better overall effect for the same amount of deposited energy, due to the synergy between the ablative and non-ablative lasers. For better texture periorally, I’ll treat at 400 μ with the non-ablative 1470 nm wavelength, and then at 100 μ with the ablative at a high percentage. It’s interesting how we almost achieve the ablative-type channel of tissue vaporization without the bleeding and downtime associated with ablative modalities. Thus the results around the mouth are almost in line with a purely ablative procedure, but without the downtime. And I can increase the intensity of treatment without adding to the downtime.”

Dr. Tanzi explained that side effects are minimal, but there is always a risk of infection with any ablative treatment because of the breach in barrier function. “Healing is remarkably consistent with Halo. The vast majority of my patients, even with intense therapy, are completely healed within five days. Since the fractional ablative component is superficial, re-epithelialization is rapid and makeup can be applied after 24 hours. When treating darker skin types, I tend toward less ablative (2940 nm) and more non-ablative (1470 nm) because I want to minimize the risk of PIH. The versatility of this device allows me to deliver a highly customized protocol. I regularly treat Asian and Latin American patients using Halo, without reservation.”

The treatment of photodamage, however, is where Halo really shines, according to Dr. Tanzi. “I’ve been most impressed with the way it treats mild to moderate photodamage. It is everything my patients want in a therapy: efficacious, safe and tolerable, with manageable recovery and a noticeable end



Before Tx



After one Halo Tx

Photos courtesy of AesthetiCare MedSpa

"I call this a referral machine because of the way patients are satisfied with the hassle-free treatment, low downtime and great results. They come back excited and they bring their friends."

result. For a patient in their 30s through early 60s presenting with mild photo-damage and multiple issues such as dull-looking skin, pigmentation, enlarged pores, fine lines and wrinkles, all of these concerns can be addressed at one time with Halo. I tell patients with every session there should be a noticeable benefit because of epidermal turnover and collagen stimulation."

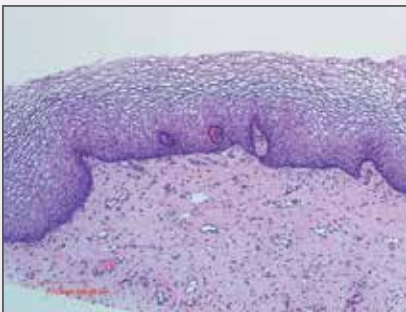
In Dr. Robb's experience, patient satisfaction with Halo is very high. "I call this a referral machine because of the way patients are satisfied with the hassle-free treatment, low downtime and great results. They come back excited and they bring their friends. One patient, a school bus driver, even had her kids complement her on her appearance, which to me is saying something," he said. "When I combine Halo with BBL (also from Sciton) the effect is astounding. Every before and after gives you that 'wow' effect, they look like they've been cherry-picked for marketing but that's the routine result. Ultimately I think Halo delivers what patients have been expecting for years, what advertising has been promising but not necessarily delivering – dramatic visible results after two treatments rather than five. With Sciton, finally we're able to fulfill expectations. It makes me successful when I can deliver results this way."

Dr. Pozner is looking forward to seeing what the medical community can discover about Halo as it comes into wider use. "There are many treatment parameters one can adjust with Halo including power, treatment depth, density of fractional energy and more, in addition to what the dual wavelength modality brings to the table," he said. "I think we're just scratching the surface of what Halo technology can do."

diVa for Vaginal Applications

diVa, the latest innovation developed via Sciton's Hybrid Fractional Laser technology, expands the broad range of the JOULE platform capabilities to address a woman's most intimate challenges.

For many women, these challenges have been in the proverbial closet for a long time. "Childbirth and the onset of menopause bring changes to the area," explained OB/GYN John J. Peet, M.D., medical director of Woodlands Gynecology & Aesthetics in The Woodlands, Texas. "Vaginal issues are common, but seldom discussed because it's embarrassing and people have been resigned to these physical and hormonal changes."



H&E stained vaginal mucosa epithelium and lamina propria shows increase in epithelial thickness, increasing from an average of 320 microns before Tx (top) to an average of 434 microns after Tx (bottom).

Images courtesy of John J. Peet, M.D.

“diVa provides amazing results with the holy grail of little to no downtime. I took part of the clinical trials, and I came into them skeptical, but when I saw the remarkable results we were achieving, I quickly changed my tune.”

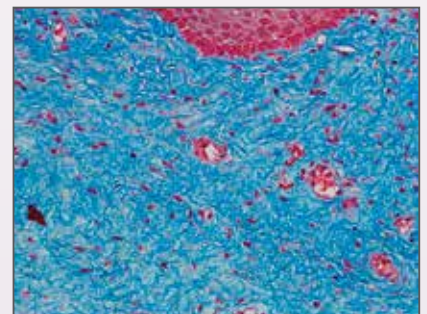
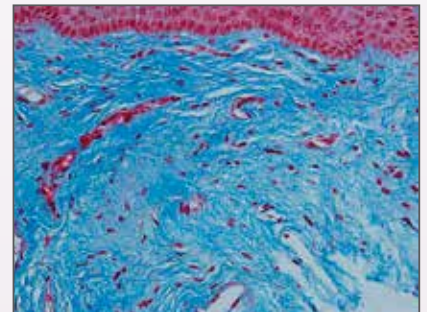
Based on Halo technology, diVa not only allows practitioners to enter the emerging field of vaginal laser therapies, it offers features other devices do not, such as a disposable treatment dilator designed to maintain consistent energy delivery and automated function. “diVa gives us a powerful new tool in the armamentarium for helping women live happy and healthy lives,” said cosmetic surgeon and OB/GYN Lionel D. Meadows, M.D., medical director of Meadows Surgical Arts (Commerce, Ga.). “diVa provides amazing results with the holy grail of little to no downtime. Patients come in, get treated quickly and easily, go home and get on with their lives. I took part of the clinical trials, and I came into them skeptical, but when I saw the remarkable results we were achieving, I quickly changed my tune.”

Recent research has shown that laser resurfacing is ideal for treating vaginal tissue, and companies are racing to fill this gap. “There is a huge population of patients interested in these emerging technologies,” said Dr. Meadows, “and cultural conditions have made it easier for women to accept laser vaginal therapy. Sciton’s diVa couldn’t come at a better time.”

Dr. Peet agreed. “We’re in an age where information is readily available, so when the proverbial walls come down the flood of people eager to know more is significant.”

“We’ve known for a few years that you can treat the vaginal wall similarly to how one traditionally treats the face in aesthetic medicine, using energy-based devices to improve the quality of the tissue,” said cosmetic surgeon Chad Deal, M.D., medical director of Southern Surgical Arts in Chattanooga, Tenn. “The science has been out there for a while, and results are similarly effective. It’s exciting to see the vaginal mucosa respond in a similar way, so the prospect has held much promise. The trick was figuring out how to turn this scientific possibility into a clinical reality.”

The main advantage of dual wavelength diVa over competitors is in the way wavelength modulation affects treatment, Dr. Meadows pointed out. diVa is FDA cleared for soft tissue ablation and coagulation. “The 2940 nm wavelength can be tuned from 0 to 800 microns of ablation, while the 1470 nm wavelength can be used from 0 to 700 microns of coagulation. The provider can independently tune energy delivery to a patient’s requirements.” Dr. Meadows added that all devices of this nature for vaginal applications have similar FDA clearances.

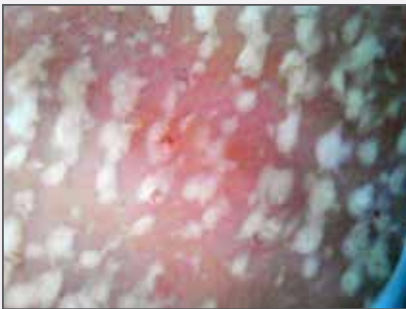


Trichrome stained vaginal mucosa epithelium and lamina propria shows increased collagen density before (top) and after (bottom) Tx. After Tx collagen has denser aniline blue section with greater tendency toward horizontal streaming. Fibroblasts are more activated and manifest as open chromatin, have slightly larger nuclei and subtly greater density. Vascularity is more notable with endothelial enlargement in superficial lamina propria.

Images courtesy of John J. Peet, M.D.

“With diVa, the device automatically and completely treats an area before it moves to the next area. You can be sure to attain a consistent, even treatment every time with little or no intervention from the user.”

Compared to what’s out there, diVa stands out in more ways than just the Halo hybrid fractional technology. “diVa’s automated treatment probe not only speeds up the process, it ensures complete therapy,” Dr. Deal added. “Physicians experienced with energy-based treatment of facial skin count on visual assessment during the procedure, but with the vagina this isn’t practical. The character of the vaginal wall makes it unnecessary because it is pain resistant when compared to facial skin. Also, since the device acts automatically there’s no guesswork involved and we consistently have complete, even distribution of thermal injury zones from cervix to introitus. Competing devices require manual adjustment during treatment, so you simply will not get this kind of precision with them.”



Endoscope photo shows coagulation zones after diVa Tx
Image courtesy of John J. Peet, M.D.

diVa also eliminates downtime between treatments and reduces the risk of cross contamination. “With these types of devices energy delivery becomes less effective and consistent as you go,” explained Dr. Deal. “Vaginal lubrication begins to interfere with the transmission of energy, and any sheathing is immediately altered by the energy as it passes through. The probe is inserted in and out in a controlled manner, but as time passes the laser isn’t doing as much. With diVa, the device automatically and completely treats an area before it moves to the next area; the optical transparency of the quartz dilator may change, but it does so consistently. Once the region is treated diVa moves on. Meanwhile the dilator protects the probe and keeps lubrication from building up in any one place. You can be sure to attain a consistent, even treatment every time with little or no intervention from the user.”

It’s an exciting development,” Dr. Peet said of diVa. “Patients are always looking for ways to improve their life and their lifestyle. There are many long-term ancillary effects to treatment that we need to study more, and these are things patients will be eager for.” ■