

Technological Enhancements Keep Alma Lasers on the Leading Edge of Aesthetic Medicine

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By Kevin A. Wilson, Contributing Editor

Two non-invasive offerings from Alma Lasers (Buffalo Grove, Ill.) – the flagship Harmony^{XL} platform and the Accent^{XLi}, a stand-alone radiofrequency (RF) system – have received key improvements, ensuring the devices remain at the forefront of aesthetic medicine. ClearLift[™], an enhanced module for the Harmony^{XL}, delivers subdermal wound patterns using 1064 nm Q-switched laser technology. The Accent^{XLi} platform features integrated cooling and temperature monitoring, as well as an upgraded intelligent interface to optimize consistent, reliable RF energy delivery.

Additionally, these non-invasive devices share two other advantages. Reportedly downtime is non-existent and treatment is virtually free of any discomfort. “ClearLift’s delivery of Q-switched 1064 nm laser light delivers a comfortable, reliable laser therapy that provides results without the need for numbing,” said Macrene Alexiades-Armenakas, M.D., Ph.D., F.A.A.D., assistant clinical professor at Yale University School of Medicine (New Haven, Conn.). “This saves time



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and the expense of numbing cream for patients and physicians. Furthermore, any associated pinkness dissipates by the time they check out of the office. I’ve treated up to skin type IV with no adverse events whatsoever.”

ClearLift technology is so gentle that one can undergo treatment and then immediately return to their daily routine, explained Dr. Alexiades-Armenakas. “Ablative laser therapy, fractional or otherwise, depends on ablative

damage to achieve the more dramatic results one expects from treatment; consequently there is infection risk, painful recovery and relatively lengthy downtime depending on how much tissue is ablated. During the ClearLift treatment the epidermal barrier remains completely intact, which means fast healing with no risk of infection.”

This prominent benefit stems from the unique properties of the Q-switched 1064 nm laser. “It starts with the combination of wavelength and rapid pulse delivery,” Dr. Alexiades-Armenakas began. “The 1064 nm wavelength is at the top of the range capable of penetration into the reticular dermis. It is much higher and we see superficial absorption and reduced penetration. Original fractional devices were significantly less invasive than their fully ablative predecessors, but epidermal wounding still occurred. The point at which penetration drops off is around 1200 nm, and with the first fractional devices we were using the 1550 nm wavelength so penetration was relatively shallow.”

According to experts, deep injury is important for therapeutic stimulation of collagen and elastin, which is important for full-thickness tightening. “We’ve discovered over the last few years that if you really want to address the skin’s firmness you need deeper penetration,” Dr. Alexiades-Armenakas advised. “Numerous devices bank their results on that fact. With the Q-switched nanosecond pulse structure we harness that deep energy with rapid pulse delivery, so the laser doesn’t damage the epidermis and heat dissipates before the surrounding tissues (such as sebaceous glands) can be adversely affected.”

“By focusing that delivery, we get a predictable, reproducible pattern of therapeutically useful microscopic

thermal wounding up to 3 mm beneath the surface without compromising barrier function," Dr. Alexiades-Armenakas continued. "This also avoids the crusting or 'splatter' we see with non-fractional Q-switched devices. Also, we don't get the lines of demarcation one might see with more aggressive laser therapies; we can spot treat without worrying about blending into nearby untreated skin, which isn't so easy otherwise, and we do get a good mix of patients wanting full-face rejuvenation and those taking a problem-area approach."

In Dr. Alexiades-Armenakas' experience, another issue with this technology is that the laser's focal distance affects absorption of the wavelength by pigment, which would not be beneficial for treating the imperfections that occur over time. "Normally we have to be sure to hold the handpiece at the proper distance from the skin to optimize penetration and maximize the final tightening result. With ClearLift we have a spacer that maintains this distance for us," she pointed out.

An additional consideration is that fractionated ablative therapies deliver results in one session, while with ClearLift three or more are required. "The fact is, many people don't have the luxury of downtime," Dr. Alexiades-Armenakas said. "Given the kind of results I'm seeing, it's reasonable to try ClearLift, especially since you are trading downtime for additional sessions. Most patients find this attractive if the price is right and they're getting visible results."

Dr. Alexiades-Armenakas feels the ClearLift module fills a niche. "As a community we definitely wanted and needed a non-invasive modality that provides substantial results," she emphasized. "ClearLift offers physicians and their patients an alternative approach to treat aging and photo-damaged skin

without having to schedule a lengthy office visit to accommodate pre-treatment protocols and numbing, or sufficient recovery time. If a patient has an event coming up they can receive a cutting edge treatment that provides more substantive results than something superficial like a peel, without the downtime. There is also a growing segment of the patient population that may have fine lines but is completely uninterested in facial injectables, or they may simply be unwilling to deal with downtime, even a day or two. Some people just won't deal with much pain or discomfort. ClearLift may be used in any of these cases because it's virtually painless and there is no downtime."

Treatment is gentle enough for use in facial and body areas that are traditionally challenging to effectively treat, including the neck and chest. "Skin around the eyes, for example, is maybe half the thickness of other facial skin, so if we do fractional ablative therapy and adjust parameters accordingly, we will still have more erythema and edema at that location than another; it may even remain erythematous for three weeks, which is fine because at the end of the day it's about the safely delivered result," Dr. Alexiades-Armenakas noted. "However, we need an alternative like this. We're finishing up a trial of perioral and periocular treatment with ClearLift and even after three sessions I have been impressed. Results are even better than I had anticipated up to this point. I'd love to try this for tough areas such as wrinkles on the backs of the arms, which are difficult to erase and drive women crazy."

Enhancing the already versatile Harmony^{XL} platform, the non-ablative ClearLift module is indicated for treating fine lines, wrinkles, vascular, pigmentation and redness with three treatments spaced two to four



Before Tx



After four Accent^{XL} treatments
Photos courtesy of Michael H. Gold, M.D.



Before Tx



After six Accent^{XL} treatments
Photos courtesy of Michael H. Gold, M.D.

weeks apart. "With ClearLift we can do three relatively inexpensive treatments in a series, at a cost less than that of a single session of ablative laser therapy, without the anesthesia, downtime, wound care requirements, or risk of pigmentation problems," Dr. Alexiades-Armenakas reported. "If additional sessions are desired, the extra cost is minimal with ClearLift, while an additional session of another therapy would incur a much greater cost."



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As Michael H. Gold, M.D., director of Gold Skin Care Center and Tennessee Clinical Research Center (Nashville, Tenn.), explained, Q-switched laser technology has been successfully employed for a while now to treat wrinkles and pigment. "ClearLift is about using this technology in a different manner, delivering lower energies in multiple sessions for results without discomfort or downtime," he said. "We're actually finishing up a clinical trial with this device and without giving away the store, the results are very promising; we are seeing the kind of overall improvement one would naturally hope for." Both Dr. Alexiades-Armenakas and Dr. Gold have been involved in numerous studies of these technologies in general, as well as with ClearLift and Accent specifically.

Accent, another effective non-invasive technology from Alma Lasers, offers UniPolar and BiPolar RF in one device for superficial volumetric heating and deeper penetration of the face and body. Treatment feels almost like a warm massage, which, Dr. Gold

indicated, is not how RF therapies used to be. "The variety of available therapies, used alone or in combination, make Accent an excellent device for the treatment of wrinkles and rhytides and improvement in the appearance of cellulite," he said. "It is virtually painless and can be used regardless of skin type. In my practice we have seen results in almost all patients we've treated with this device."

"The RF technology behind this device has a lot of support in literature. We understand its properties and how to harness them," Dr. Gold continued. "RF energy is absorbed by water molecules in the tissue, which creates a thermal effect. By raising the tissue temperature and maintaining it at about 42° C, we stimulate collagen remodeling and connective tissue contraction. The effect on fat is still under investigation, but we're looking at multiple factors including up regulation of mitochondrial activity, vasodilation and increased oxygen availability, increases in microcirculation and lymphatic drainage, as well as superficial improvement in the skin."

Alma recently released Accent^{XLi}, an improved version of the Accent, boasting an intelligent interface similar to that of the Soprano^{XLi}. "The purpose of this is to make treatment simpler," Dr. Gold advised. "There are easy-to-use touch screen options and various iterations of preset parameters one can choose from, making it easier to delegate therapy sessions to ancillary personnel."

In addition, Alma Lasers has upgraded Accent^{XLi} to include integrated cooling and temperature monitoring. "Integrated temperature monitoring offers the ability to obtain automatic temperature readings during treatment, as opposed to the old method of pausing during a session to take a reading," Dr.

Gold emphasized. Minimizing interruption helps manage and optimize RF delivery so we can achieve and maintain the target tissue temperature and maximize the therapeutic potential. Heating is more even, consistent and accurate." Readings can be given in Celsius or Fahrenheit, depending on user preference.

With two modes of delivery, Accent offers what has been termed dual layer thermotherapy – the ability to provide deeper treatment with UniPolar RF and more superficial application of energy with BiPolar RF. Lawrence Desjarlais, M.D., a dermatologist with a private practice in Ann Arbor, Mich., regularly uses Accent. "This is a very balanced device; versatile, safe



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and effective," he said. "It is among the most powerful devices out there, but with their In-Motion technique you can deliver treatment that's extremely gentle as well."

According to Dr. Desjarlais, the Accent platform features additional handpieces. UniLarge is basically a UniPolar handpiece with double the spot size for treatment that's about 30% faster. "This is ideal for treating a larger area more deeply," he said. The UniForm mechanical massage handpiece combines the UniLarge tip with a 50 mm diameter massage wheel to combat cellulite. "This handpiece enhances microcirculation and drainage without the bruising associated with suction-based modalities."

Dr. Desjarlais has enjoyed success using these modalities in combination. "To get a great overall result it's easy and safe to combine the ClearLift Q-switched laser and Accent to effectively treat the epidermis and below," he stated. "This technique is gentle enough to use virtually anywhere on the face or body. The laser treatment addresses the epidermis and superficial dermal collagen, while the dual modes of Accent RF add depth to the overall result. Since there are no real downtime or recovery issues, you can perform them in same-day sessions."

At the heart of the matter is the reality that the 21st century aesthetic patient wants fast, affordable, effective, pain-free treatments with no downtime, Dr. Gold noted. "The lack of disposables is a big plus here, as is not needing anesthesia or numbing cream. Treatments that can be quickly and safely applied can also be delivered at a lower cost in many cases, which makes them attractive to patients and helps keep the revenue stream flowing."

Additionally, both the Harmony^{XL} and Accent^{XLi} platforms are expandable, a quality that has helped keep them at the forefront among a crowded environment, populated with numerous competitors. "Alma Lasers has always delivered effective, reliable aesthetic medical devices, and they work to keep them fresh and relevant," said Dr. Gold.

"Alma's mission has always been to provide unparalleled innovation," added Avi Farbstein, executive vice president and general manager of Alma Lasers. "The continued technology advancements shown with the Harmony^{XL} and Accent^{XLi} platforms are a testament to the company's commitment of providing cost-effective, cutting edge solutions that meet the ever changing demands of today's aesthetic practice."

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