Physicians Praise Advancements in Body Shaping Technology

While both practitioners and the aesthetic industry as a whole have hailed radiofrequency (RF)-based energy for its physiologic actions on the cutaneous system, a negative byproduct was that even successful treatments could be quite painful. This is especially true of RF-based devices that tighten skin and shape the body. Recently though, enhancements in RF technologies utilizing advanced multipolar approaches, not only address patient pain and downtime; outcomes have improved, as well. Backed by some of the most renowned names in medical aesthetics, two next-generation RF-based systems are standing out in the vast sea of energy-based devices on the market today.

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Exilis Elite and Vanquish RF-Based Devices Receive High Clinical Marks

By Jeffrey Frenzen, Executive Editor

The second generation Exilis Elite™ from BTL Aesthetics (Boston, Massachusetts, U.S.) is a state-of-the-art upgrade from the original Exilis device, which is a non-surgical system that utilizes monopolar, focused RF to perform skin tightening of the face and neck, as well as reduce fat in the abdomen, inner and outer thighs, and most other areas of the body.

Offering higher energy, the Exilis Elite’s new 90 Watt facial tightening applicator provides nearly twice the power of the 50 Watt handpiece available on the original Exilis. Amir Moradi, M.D., a facial plastic and reconstructive surgeon in San Diego, California, U.S., explained that this higher amount of energy heats the patient’s tissue while simultaneously decreasing the risk of injury via a high velocity feedback loop. “We are able to raise the temperature of the skin to reach between 40° and 42° C in a few minutes. The device monitors the tissue impedance and maintains power as needed,” he explained.

According to David McDaniel, M.D., F.A.A.D., who is the director of the McDaniel Institute of Anti-Aging Research (Virginia Beach, Virginia, U.S.), “besides a much more powerful applicator, the Exilis Elite’s advanced cooling allows for layering of RF energy at various depths. There is also uniform heating of the targeted tissue, and smarter electronics avoid arcing and sparking if skin contact is interrupted. The Elite’s ability to achieve the same or better results with greater safety is another big advantage for patients.”

Raj Acquilla, M.B.Ch.B., M.R.C.G.P., M.B.C.A.M., director of Cheshire Cosmetic Centre in Cheshire, U.K. appreciates the advanced technology and unrivaled versatility of Exilis Elite. “Exilis fills the gap in my treatment portfolio for exceptional non-invasive body sculpting and skin tightening procedures. With results as good as this system can achieve, it is no surprise this product is establishing itself as a brand leader in RF and ultrasound.”

For Tapan Patel, M.B.B.S., M.R.C.P., M.B.C.A.M., Dip Derm., the founder and medical director of PHI Clinic in London, U.K., “introducing Exilis was an easy choice. It provides extremely fast, pain free treatments that reduce fat, sculpt the body, treat cellulite and tighten skin. I can see the Exilis becoming the system of choice across the U.K.”

Dr. McDaniel recently completed one arm of a study on the Exilis Elite’s 90 Watt applicator, which involved 12 female volunteers with mild-to-moderate laxity of the skin around the submental region, mid and lower face. “All subjects showed at least mild improvement in skin laxity at the three-month point,” he noted. “Skin biopsies taken from underneath the chin in two subjects demonstrated new collagen formation. Very interestingly, an increase in dermal elastin fibers was also observed in the biopsies. These changes correlated with clinical improvements from the expert grader scoring. The new applicator design with increased power seems to be a significant improvement.”

Robert A. Weiss, M.D., F.A.A.D., F.A.C.P., a dermatologist and dermatologic researcher at the Maryland Laser, Skin and Vein Institute in Hunt Valley,
Maryland, U.S., feels that Exilis Elite is a major improvement over the original system. “For my practice, one of the most important features is enhanced safety. The Elite possesses new circuitry that monitors the targeted tissue impedance many times per second, and if there’s any change it will automatically turn off. If you remove the handpiece from the patient’s skin, ordinarily some devices might spark or arc, but the Elite will not. It automatically stops transmission of RF faster than the human hand can respond.”

Increased power is another significant upgrade, Dr. Weiss added. “We can heat the skin faster and sustain it at that higher temperature for a longer period, which translates into greater efficacy,” he shared. “Rather than taking several minutes to heat up the skin, we can heat it up within 30 seconds and then maintain it at an optimal temperature for the 10 to 15 minutes that we need to achieve skin tightening. As a result, we are seeing better results and happier patients.”

Another new feature is a blue light-emitting diode (LED) located in the applicator tip, which provides the physician with a visual confirmation that the correct amount of RF energy is being transmitted. “When that turns a solid blue the skin is heating and the treatment has the best chance of being effective,” Dr. Weiss noted. Furthermore, the Exilis Elite does not require costly consumables.

This lack of consumables was also instrumental in Dr. Moradi’s decision to buy both the Exilis and Exilis Elite. “It is a tremendous advantage to use a device that has practically no consumables,” he noted. “If a patient isn’t satisfied with the outcomes they can be retreated, which increases the satisfaction rate significantly.”

Kinga Horrowka, M.D., M.B.A., M.P.H., M.Sc. Gender Medicine, a professor of medicine at the Medical University of Vienna in Vienna, Austria has adopted a similar view. “With no disposables, no downtime and no danger of relevant side effects, Exilis diminishes fine lines. Additionally, periorcular and perioral areas, which are difficult to treat with other procedures, improve considerably with Exilis. Submandibular fat, double chin and mandibular lines can be treated very efficiently, leaving the patient highly satisfied. It is a wonderful tool for comprehensive anti-aging, rejuvenating and beauty-enhancing medical aesthetic treatment.”

Likewise, Dr. Moradi has found the Exilis Elite to be very safe, reliable, effective and easy-to-use. “My experience with skin tightening dates back to the use of IPL with long wave filters and YAG lasers,” he stated. “Since then, we have used a variety of devices to help improve skin elasticity. In the last three or four years, the Exilis and Exilis Elite have been the most popular skin tightening procedures in my practice, with the greatest patient satisfaction.”

Jon B. Turk, M.D., a facial plastic surgeon in New York City, New York, U.S., who also wanted to incorporate high-quality, non-surgical procedures in his practice, sought a device that would tighten the neck and jaw line. “but offered very little downtime, pain or huge cost,” he said. “Even though I am a surgeon, I have been increasingly conscious over the past ten years of the growing patient desire to keep the knife at bay. I tried to find modalities for rejuvenating the face that were less aggressive than other lasers. Indeed, more invasive procedures
were out there, such as laser guided liposuction, etc., but that’s not what my patients were asking for."

In recent years, the choices have become easier as RF-based technology for aesthetic treatments have improved and become more predictable, reliable and certainly more tolerable, Dr. Turk pointed out. “The original RF devices were so painful and we needed something user-friendly that could be used repeatedly on patients,” he noted.

When the Exilis Elite was introduced, Dr. Turk noticed improvements over other systems almost immediately, including the original Exilis device. “It is much safer and you have no risk of skin color changes, scarring or burns,” he said. “We did not use this in place of a face-lift or neck-lift, but rather for patients in their 40s and early 50s, who are not yet ready for a surgical procedure, as well as patients who have already had a face or neck-lift and want to maintain their results without having to re-operate, typically patients aged 60 plus,” he reported.

An additional advantage of the Exilis Elite enables the physician to easily focus on areas that need the most tightening. “Having used other monopolar devices, being able to actually focus on the areas that need the most tightening is a considerable advantage of the Exilis Elite,” Dr. Weiss noted. “I have termed it dynamic monopolar RF, as opposed to static monopolar RF. With static RF, you sort of place the treatment applicator onto the patient’s face and let it run through its cycle and then move it over to an adjacent area. With the Exilis Elite, you keep the tip moving and you have much more control over the treatment.

Dr. Howorka has been using Exilis for almost two years now and finds it to be an optimal tool for achieving rapid improvements in patients’ self-perception. “As well, as a monopolar RF device with integrated cooling, it allows delegation of the procedure to physician’s assistants or technicians. Only a small amount of training or experience is necessary for reaching optimal results safely and effectively. Due to innovative temperature regulation technology, which includes redundant safety mechanisms, no side effects have been documented.”

As Dr. Moradi confirmed, the Exilis Elite’s consistently good outcomes have not been limited to the face and neck, revealing that he frequently uses the Exilis device to treat many body areas. “We don’t shy away from using the device on arms, thighs and the abdomen. When there is lax skin and small pockets of fat, we certainly can obtain excellent results with the Exilis Elite. We have also used it for post-liposuction irregularities. The periorcular skin appears to respond extremely well to treatment, with significant patient satisfaction,” he said.

Dr. Howorka added, “From our experience, Exilis, with its monopolar RF, turns out to be useful for both rejuvenation of the face through collagen induction and – with another applicator – effective destruction of superficial subcutaneous fat on the abdomen, thighs, arms and double chin. In contrast to liposuction, where the skin is left in its distended form with even more laxity than before the treatment, Exilis allows advanced skin tightening with less laxity and a more youthful appearance.”

Furthermore, Exilis Elite is versatile enough to correct skin and body contouring anomalies left unaddressed by other procedures. “I have some patients..."
who come in with uneven areas from liposuction and the Elite allows us to treat these focal areas,” Dr. McDaniel advised. In addition, he has designed a new Exilis Elite protocol that addresses a commonly requested skin tightening treatment for the mid and lower face and upper neck.

Similarly, other physicians are working on protocols for optimal outcomes. “I realize that there needs to be a gap between treatments to allow the collagen to start to repair itself,” explained Dr. Turk. “What we are currently doing is one treatment every three weeks with a minimum of three treatments, and then we’re waiting approximately three months and, if need be, we do a follow-up treatment. I am also working on some protocols to support monthly maintenance-type regimens. There is a sense that with anything you can ever treat, but I think because we haven’t quite figured out the protocols yet we still might be undertreating. You may see that you can actually treat to an end point as opposed to some prearranged limitation.”

After having worked with so many devices, the Exilis Elite has, “lived up to everything it is supposed to be,” Dr. Turk stated. “For my practice, this machine has caught on with patients more than any other I’ve used. It was the right technology to fill a strong need, and has also become a great income stream.”

Users agree that Exilis Elite will continue to impress practitioners with its clinical advancements, as well as patients, with pain free, high satisfaction outcomes. As Dr. McDaniel expressed, “our practice focuses primarily on non-surgical therapies and we have found Exilis Elite to be safe for skin of all colors, effective and easy-to-use. The lack of consumables is really helpful when patients need a little extra treatment or touch-ups.”

Although the high efficiency of RF-based technology for tissue heating has made it an attractive source of energy for various aesthetic applications, manufacturers and physicians have experienced some difficulty in determining that elusive, yet precise, energy level, frequency and treatment protocol to answer the no pain, no downtime patient mantra. To remedy this issue, BTL Aesthetics has introduced the new Vanquish™ device, which offers truly painless, effective fat reduction and provides the largest treatment area available, according to users.

The Vanquish utilizes a Selective RF field system designed for no contact deep tissue energy application. This system automatically tunes the tissue-applicator-generator circuitry to selectively deliver RF energy to adipose tissue layers with specific impedance, shaping the energy field to optimize penetration and maximize the treatment area. The adipose tissue layer heats faster than other tissue layers such as skin and muscle. However, these layers cool down much more rapidly than adipose tissue because of the circulating blood. In addition, skin can be cooled by air circulation due to the no contact applicator.

As pointed out by Dr. Weiss, the combination of Vanquish’s form factor and favorable science makes it especially attractive to practitioners. “We’ve seen the interest in non-invasive contouring. Many people really don’t have the downtime required for liposuction and want a treatment that’s a walk-in walk-out procedure,” he stated. “What initially attracted me to the concept of the Vanquish was
that we could treat large areas and more fat. The large field of RF that is created covers an area that includes not only the abdomen, but also the flanks, all in a single 30-minute treatment session. Also, patient satisfaction with the Vanquish has been very high.”

Operator ease-of-use, effectiveness, the ability to treat a large surface area and lack of consumables are the main advantages of Vanquish, Dr. Moradi advised. “The Vanquish device treats a large cross-sectional area of the body without any contact by the applicator. It tunes the power delivered so that it is absorbed mostly by the fat cells, thus decreasing any potential for side effects and/or pain, as well as zero recovery time.”

According to Jason Pozner, M.D., F.A.C.S., a plastic surgeon in Boca Raton, Florida, U.S., “the Vanquish is good, and for patients it is painless. I’ve seen patients who look like they have really lost circumference. The results are very even, with no hot spots. With other devices, sometimes treatment hurts, sometimes it doesn’t, but the Vanquish doesn’t hurt.”

Currently, Dr. Pozner uses the Vanquish to reduce fat on abdomens and flanks, and he is looking forward to seeing applicators for the legs. “I like being able to treat these whole areas at one time and the results are smooth,” he advised. “I haven’t observed any divots from it. We’re excited to use it on leaner people to see how well it works on them, too. Wherever you use it, I think you’re going to see some secondary skin tightening, and it’s also important for patients to stay very hydrated.”

Marc Salzman, M.D., F.A.C.S., director of the Salzman Institute of Cosmetic Surgery in Louisville, Ky., feels the Vanquish is a good solution for the busy plastic or cosmetic surgeon looking for a non-invasive option to offer patients. After evaluating a variety of possible non-invasive technologies including cryolipolysis, low-level laser and ultrasound, Dr. Salzman selected Vanquish. “I think Vanquish provides a more homogenous heat deposition by creating an RF field rather than having to use a monopolar device, in which you create the field wherever you move it,” he shared, adding that whatever device is used, it has to work as advertised. “When patients come into your office, they expect that what you are doing for them is going to work. You can read all the science you want, but it really has to work. While some other devices definitely work, the Vanquish offers a more effortless way to make people thinner.”

Dr. Salzman explained, the key to understanding tissue response is to use the “three Ts: time, temperature and tolerability. We kind of know what the temperature is going to be. We know what the minimum times are going to be, but nobody knows what the maximum times are going to be. Most people can’t tolerate more than 43° degrees of heat at the skin level, and if you need to be at 45° to 46° to induce apoptosis then you need to figure out a way to have that happen without harming the patient. This is what the Vanquish’s RF field does perfectly. It allows you to keep the skin at 41° to 43° degrees, while deep into the fat you are at apoptotic temperatures of 45° to 46°.”

As a result, Vanquish allows me to offer a procedure that has good efficacy and is universally applicable, Dr. Salzman added. “It is really an improvement
over practically everything we have ever used. As a plastic surgeon, it is the first non-surgical procedure that I’m really comfortable selling to patients. Everybody can be treated and it is well tolerated by all. My patients like it and there really is no downtime involved.”

In addition to its standalone use, the Vanquish can become a central platform for integrated treatment protocols that combine modalities, noted Dr. Moradi. “In non-invasive body contouring, the best approach is combination treatment using the devices that are most effective for different tissues,” he pointed out. “Many of our patients are treated by Vanquish on their abdomen and flanks, combined with CoolSculpting from ZELTIQ Aesthetics (Pleasanton, California, U.S.) for the bra fat. In other cases, we might have performed CoolSculpting in the past and for further improvement introduce Vanquish or Exilis Elite to obtain more fat reduction and skin tightening.”

Similarly, for Dr. Pozner, the Vanquish has become a pivotal aspect of his practice’s body shaping program. “The scientific data and clinicals looked good on the Vanquish, and in practice it was surprisingly better than I anticipated,” he reported. “When we began using it, we got early results, which I wasn’t expecting. Also, it’s a device that we haven’t advertised very much, yet it has gotten pretty considerable use in my practice. It’s easy-to-use and there are no consumable costs.”

Considering the state of the economy, there is a tremendous advantage in using a device that needs practically no consumables, Dr. Moradi expressed, adding, “patients can be retreated if they do not feel the results have been satisfactory. This increases the patient satisfaction rate significantly. The most exciting results so far have been not only with fat reduction, but also skin tightening and perceived improvements in cellulite.”

Key practitioners that are investigating the device’s settings and developing best practices have confirmed the Vanquish’s verisimilitude in the field. As well, Dr. Salzman has worked on defining an optimal protocol for the device.

“Right now, we are mostly doing a series of four treatments usually given ten to twelve days apart,” he indicated. “When we get a little better at it, maybe we’ll reduce to as few as two one-hour sessions instead of four half-hour sessions. We’ve played around with mixing Vanquish and the Exilis Elite, all in the same session. Since we already have a head start on heating the skin, due to the heat radiating out from the skin, we can add some more external heat and keep it going as there is a rhythmic relationship between temperature and time. You need much higher temperature intervals for sure. However, if you are going to use much lower temperatures then you are going to need to extend the intervals in order to obtain the same response in the patient. My thought was maybe we’ll just do treatments in concert and do them one right after the other. I am still trying to determine the best protocol using both machines.”

Another practitioner working to achieve the best results using Vanquish is Melanie Palm, M.D., a dermatologist and cosmetic surgeon in Solana Beach, California, U.S. “If you look at the initial clinical study that was done on humans,
they did four treatments based a week apart and each treatment was about 30 minutes. That was the study that gave us an average reduction of 2.25 inches in waistline circumference,” she stated. “I have been telling patients we’ll do a series of six treatments and we’ve been achieving some good results from that. I see them weekly for a 30-minute treatment, then I like to see them back in a month. At this time, I’m starting to see some patients for their follow-up and we are probably going to see them again in about three months.”

In Dr. Palm’s opinion, identifying the ideal Vanquish candidate is easy. It is someone who wants the benefits of liposuction without surgery or downtime. “They might have a muffin top, or maybe stubborn areas of fat in the midsection, flanks, back of the waist or the bra area. They just want to look better in clothes,” she expressed. “I caution patients that this treatment isn’t a substitute for liposuction and it will achieve more modest results, but many patients are still happy with that. They like the idea of no downtime and no pain, and the ability to do treatments gradually, over time, as simply as sitting still for 30 minutes at a time. I think that is the real appeal of Vanquish.”

Along with satisfying patient requests for non-invasive body contouring, Dr. Palm also wanted an energy-based device that could run in the background while she continues seeing other patients, one that was easy enough to use so that she could delegate treatments to a trained assistant. “I think that the Vanquish has phenomenal potential,” she said. “It is important that both the operator and the patient be fully onboard for treatment success.”

The addition of the Vanquish has also greatly enhanced the non-surgical armamentarium of Hartrough Dermatology in Loves Park, Illinois, U.S., according to practice manager David Leum. “I was very interested in the Vanquish because of the skin tightening results we got from the Exilis Elite,” he stated. “For us, the Exilis Elite has become kind of a gateway that attracts people to us, and from there we book them for broadband light therapy, facial resurfacing and treatments using the Vanquish. When I saw Vanquish I was intrigued. I had a chance to talk to BTL’s engineer. The way he explained the system’s mechanism of action, and my understanding of RF signals from my own due diligence, made me become very interested.”

Due to the “gateway results” achieved from using the Exilis Elite, as well as BTL’s track record of excellent service and support, Mr. Leum recommends buying the Vanquish. “We’ve gone down the road with Vanquish and started achieving very astounding results on some of our patients. We measure their fat content to give us an empirical benchmark to work off of,” he explained. “Vanquish has been phenomenal for reducing a lot of that belly fat.”

The repeated success of combining Vanquish body contouring and Exilis Elite skin tightening treatments have helped formulate Hartrough Dermatology’s Skin Trim program. “It has been going full tilt,” Mr. Leum reported. “I don’t know how many patients we have treated already, but there is excitement about it among existing patients. This has led to an increase in new patients coming in who are interested in the program. It has just worked very well.”

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