Dermatologic Devices: The State of the Art

Innovations continue in the realm of device-based procedures, leaving physicians with many options to incorporate devices into practice.

BY E. VICTOR ROSS, MD

As the market for dermatologic device-based treatments continues to evolve, it nonetheless remains a challenge to identify where device-based interventions stand and where they are headed in our field. Over the last several years, several clear directions have emerged as “hot spots” for device-based therapies. These include skin tightening and non-invasive fat reduction in the aesthetic arena. Although the current emphasis may be on certain procedures, gradual improvements are occurring across the wider device spectrum. Therefore, it is critical for all of us—the owners of multiple devices and the dabblers alike—to consider the growing influence and potential of devices in both our practices and our field.

NEW ADVANCEMENTS IN AESTHETICS

Devices have arguably made the greatest strides in the realm of aesthetics. Specifically, a major focus of new advancements has been in the relatively new arenas of skin tightening and non-invasive fat reduction.

Although the notion of skin tightening has long piqued the interest of the device-using community, the technology gains have outpaced clinical outcomes as far as predictability and patient satisfaction. But in recent years, the skin-tightening front has seen several developments that have rendered it a more viable therapy. Both the RF-based Thermage (Solta Medical) and the ultrasound technology Ultherapy (Ulthera) have been given upgrades that have improved their efficacy. In particular, the recent changes to Ultherapy’s algorithm seem to have yielded overall better results with less pain. Deeply penetrating RF needle devices (such as E-prime and Infini) are also applied for skin tightening.

One of the newer devices on the skin tightening front is PrecisionTX (Cynosure), which is used to lift and contour the lower face and neck. Although the device has only been available for a short time, it has made an impression, with some results continuing to improve three to six months after treatment. Another recent device that has garnered some attention is the ThermiRF, the use of which involves placing a cannula under the skin to heat it with a thermal camera.

Although the gradual improvements in skin tightening have brought it more into the popular fold, even more widespread of late is non-invasive fat reduction. Several technologies are already on the market, including cryolipolysis (CoolSculpting by Zeltiq), ultrasound (LipoSonix, Solta Medical), radiofrequency (Exilis, BTL Aesthetics; truSculpt, Cutera). Recently joining this already crowded space is the RF-based device Vanquish (BTL Aesthetics), which selectively heats adipose tissue to the point of apoptosis, leaving the surrounding tissue less affected.

Each of these technologies offers slightly different methods of action toward achieving the same goal of non-invasive fat reduction. As a broader category of treatments, however, non-invasive fat technology is notable for creating a new niche on the device-based treatment space. Since fat treatment is such a robust area, it has become something that physicians tend to either offer nearly full-time or hardly at all. Some practices offer

PRACTICAL POINTER

While skin tightening, fat reduction, and body contouring procedures in general offer unique advantages to clinicians, these are still-developing areas. Each device has specific benefits and limitations that are worth considering before investing. Non-invasive fat reduction procedures can no doubt be a financially lucrative endeavor for those who wish to invest the resources, but before jumping in physicians would be wise to envision a long-term plan for harnessing the technology.
it as an alternative for those patients who might benefit more from liposuction but are reluctant to have any level of invasiveness. Body contouring procedures have proven to be financially lucrative for some practices offering them, but, scientifically, much work likely remains toward ensuring their efficacy. While each device in the world of skin tightening, fat reduction, and body contouring offers patients unique advantages, they also have specific limitations that both physicians and patients should learn about before investing in them. These run the gamut from applicator fees to unpredictability in results. Given how this area is still very young, physicians can expect continued growth and hopefully more evolution in terms of the viability of many of these devices.

**MEDICAL INDICATIONS AND INSURANCE WOES**

Although many of the newer device-based approaches for aesthetics require weeks or months before seeing results, results are often instantaneous on the medical side of the spectrum. However, advancements have been far fewer when it comes to device-based treatments for conditions such as psoriasis, warts, acne, and other dermatologic conditions. Thus, as devices gain increased popularity for aesthetic indications, their utility on the medical side of dermatology is decidedly more niche-based. Often, smaller dermatology practices can only house one or two devices, due to the significant financial investment and/or space limitations within a practice. While medspas stock devices that treat everything from hair, pigment, cellulite, and tattoos, smaller practices must often decide based on which applications best suit their patient base. Even still, a patient base that’s substantial enough to generate a large enough return on investment remains a challenge for many practices.

In terms of advancements, one area that is continually being investigated for laser treatment is acne. Specifically, some companies are starting to look at how certain devices that might have been developed for cosmetic conditions may also have utility for conditions like acne and scarring. If enough evidence is published to suggest these links, lasers may become more commonplace in care. However, one roadblock for lasers achieving a steady role in the dermatology clinic stems from difficulty with insurance reimbursement. Take, for example, one of the most effective devices for hyperhidrosis: MiraDry (Miramar Labs). It is a sound and well thought out device that offers patients predictable reduction in sweating, but there is no insurance route for reimbursement. And if patients are not willing to pay an out-of-pocket expense for treatment, physicians will require fair reimbursement if and when these types of devices are “coded” specifically with CPTs. Another example would be scars that do not have CPT codes, such as a patient I recently saw who had a dog bite at age 15. There are several devices that could probably offer good results in these cases, but the question that immediately comes up is: Who’s going to pay for it? Is it out of pocket, essentially making it a cosmetic procedure? If insurance companies are willing to reimburse you, will it pay at a rate that will compensate for depreciation, time, and other factors?

Some insurance companies and providers are involved in efforts to integrate new CPT codes for conditions like scars, port wine stains, and acne, in order to pave the way for better reimbursement and ultimately greater access to care for patients. However, the time it will likely require for the potential for fair reimbursement for medical treatment with lasers to be realized will likely be substantial. Thus, lasers for some medical indications will likely continue to be a niche realm for the foreseeable future.

**THE FUTURE OF DEVICES IN DERMATOLOGY**

With the strains associated with device-based procedures for medical indications contrasted with the booming popularity of devices for aesthetic procedures, it’s fair to say that the state of devices in our specialty is at something of a crossroad. Moreover, with the continued advances we are seeing in the
Fractional technology has seen a great evolution in recent years, as evidenced by the sheer number of fractional devices on the market. Radiofrequency (RF) technology also continues to be a popular avenue of devices, and they tend to run much cheaper than fractional devices. A select number of devices offer both fractional technology in a RF device, such as Syneron’s eMatrix and Alma’s RF Pixel, and the Invasix Fractora. It is likely that fractional technology (particularly of the RF variety) will continue to grow, given that they are reasonably cost-effective to manufacture and provide reasonably effective results on the whole. As with any technology, however, there is no one device type that treats the gamut of dermatologic conditions. We will likely see more non-ablative technologies flourish, but the most important thing is to select technologies that are complementary and allow you to treat a range of conditions.

—E. Victor Ross, MD

Dermatologists have always been on the forefront of incorporating new agents and technologies in the treatment of skin. It is up to us to maximize all the tools at our disposal in helping our patients achieve healthy skin.

Dr. Ross has disclosed relationships with Palomar, Cynosure, Lumenis, Alma, Sciton, Lutronic, and Syneron.

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