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The Growing Business of Antiaging

Projections for the US market of skin-improvement technologies.

The following article is adapted and reprinted from a professionally prepared report by Medtech Insight (Newport Beach, CA) called U.S. Markets for Energy-Based Aesthetic Devices and Therapies: May 2007.

Energy-based aesthetic treatments utilize various forms of intense pulsed light, laser, plasma, radiofrequency (RF), and other light or heat-emitting energies to perform a wide variety of fast, virtually painless, and noninvasive office-based treatments. These treatments—including laser hair removal and various skin-improvement treatments—have grown out of increasing patient awareness and demand that have generated expanded availability through various medical and nonmedical clinics.

Consumers' increased interest in aesthetic improvement, and particularly their willingness to pay for these products or treatments out of pocket, has been a major driving force of the nonsurgical aesthetics market (which not only includes energy-based aesthetics but also the topical dermal fillers and neurotoxins, such as Botox [Allergan, Inc., Irvine, CA] and Restylane [distributed by Medicis Aesthetics Holdings Inc., Scottsdale, AZ]). Because these procedures are not reimbursed by insurance, physicians from many different specialties are adopting them at greater rates as a way to boost profitability.

CURRENT AND PROJECTED MARKET GROWTH

According to the American Society for Aesthetic Plastic Surgery, nonsurgical or noninvasive cosmetic procedures (including energy-based aesthetics and other growing procedures, such as Botox and dermal fillers, microdermabrasion, and sclerotherapy) comprised a large segment (more than 9.5 million or 83.2%) of the total surgical and nonsurgical cosmetic procedures performed in the US in 2006 (11.5 million). Noninvasive cosmetic procedures have risen dramatically—nearly 750%—in the US since 1997.

In the US, the total number of energy-based aesthetic

procedures (including cellulite reduction, laser hair removal, and skin resurfacing/tightening/wrinkle reduction, as well as other procedures such as leg vein and tattoo removal) was estimated at 2.6 million in 2006 (Table 1). This figure is expected to increase at a compound annual rate of 18.1% over the next 5 years, reaching more than 6.0 million in the year 2011. The highest procedural growth is forecast to occur in the skin rejuvenation/skin tightening arena due to the aging population, ongoing demand for effective skin toning/tightening procedures performed by experienced professional surgeons, and an increased availability of new, improved aesthetic treatments that promote collagen remodeling and regeneration and provide noninvasive facelifts and clear/toned skin for a more youthful appearance.

DEVICES

The US market for aesthetic devices or systems is formidable, estimated to have reached \$520 million in sales in 2006. Sales are projected to expand at a compound annual rate of 18.4%, reaching approximately \$1,209.6 million in the year 2011.

The US market is expected to continue double-digit growth over the next 5 years (approaching 20%), due to continued high demand, a large and growing baby boomer population, and improved, more cost-effective/profitable technology.

Perhaps one of the biggest growth factors is that most of these treatments are fast, virtually painless, and noninvasive, requiring little or no patient downtime while offering long-lasting results.

Other major growth factors for the aesthetics devices market include increased awareness, company marketing/advertising, and product availability at traditional

TABLE 1.
ENERGY-BASED AESTHETIC TREATMENTS,
PROCEDURE VOLUMES FORECAST, 2006-2011*

Year	Skin Resurfacing	Skin Tightening and Wrinkle Reduction
2006	576.5	325.0
2007	702.1	416.0
2008	807.4	520.0
2009	904.3	676.0
2010	1,012.8	899.1
2011	1,185.0	1,195.8
CAGR (2006-2011)	15.5%	29.8%

* Quantities in thousands.

and nontraditional locations such as physicians' offices and medical spas, which is making it easier to expand treatment to a larger population base.

SKIN REJUVENATION

The skin rejuvenation market segments (which include skin resurfacing and tightening as well as wrinkle reduction) will experience higher-than-average growth (from 15% to nearly 30%) in the energy-based aesthetics market. The skin-resurfacing segment is expected to more than double, reaching an estimated \$235 million in the year 2011, while the skin-tightening segment is expected to more than triple, reaching an estimated \$265 million in the year 2011. This high growth rate is due to improved and more efficacious technology that offers fast results and reduced pain and downtime for the patient. These systems will promote the growth of facial skin rejuvenation/tightening procedures if they provide the longer-term, effective, yet natural-looking results afforded by nonsurgical facelifts while also expanding treatment for nonfacial areas (such as the abdomen, hands, and neck—areas that commonly show skin pigmentation or sagging).

COMPLEMENTARY/COMPETITIVE PROCEDURES

The impact of competitive noninvasive products such as dermal fillers and neurotoxins is not expected to negatively affect energy-based aesthetics but instead continue

to complement sales in both markets. This expectation is due to the ability of some energy-based technologies to firm/tighten or lift sagging skin and have the results last for a period of 90 days or more; while topical fillers also promote collagen production, they primarily restore volume and fullness to the skin by filling out moderate-to-severe facial wrinkles/folds, or soft tissue facial contours such as nasolabial folds. As skin laxity is an inevitable result of aging and is difficult to treat with over-the-counter or topical applications, energy-based skin tightening or rejuvenation treatments will remain in high demand if newer technologies such as fractional infrared laser, radiofrequency, and/or ultrasound provide consistent and proven results and demonstrate safety, reduced pain/downtime, and long-lasting results.

CAVEATS

The procedural and market forecasts for energy-based aesthetic products are based on the assumption that emerging technologies will continue to prove safe and effective over the next 5 years. Due to the fact that the energy-based aesthetics market is limited by a lack of clinical trials, results are often questionable or controversial and must be proven through actual treatment results. The success of new, improved technologies will be determined not only by patients but by physicians who purchase the product(s) and perform the treatment(s). Additionally, if manufacturers fail to distinguish their technology (via superior treatment results) and perform aggressive marketing, sales, and training to providers, sales growth may be limited, and this report's projections will be overly optimistic.

Manufacturers must continue to prove clinical results or longer-term safety and efficacy while expanding their training and advertising/sales/marketing to make it easier for physicians to select the most profitable and effective aesthetic systems while helping physicians/medical spas better reach their patients/clients, who soon will be able to select from a plethora of new over-the-counter systems offering a variety of aesthetic treatments. In the meantime, there is strong demand for effective, long-term treatments for deep wrinkles and skin laxity. Technologies that succeed will be eagerly adopted not only in the US, but worldwide. □

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For the complete report, please contact Medtech Insight at (949) 219-0150; <http://www.medtechinsight.com>.

Incorporating Thermage Into the Ophthalmic Practice

A plastic surgeon and ophthalmologist discusses Thermage's role in an eye care clinic.

BY BRIGGS E. COOK, JR, MD

In response to patients' inquiries several years ago, my staff and I at the Skin Center of North Carolina in Huntersville, North Carolina, were looking for a non-surgical modality to tighten skin. We already offered chemical peels and skincare product lines, but we wanted a more effective technology that was noninvasive. There are many skin-resurfacing systems on the market, but many are light-based and do not penetrate very far underneath the skin. The Thermage ThermoCool system (Thermage, Inc., Hayward, CA) is the only monopolar radiofrequency (RF) skin rejuvenation device that is clinically proven to tighten skin (Figure 1).

We received our first Thermage ThermoCool system approximately 2.5 years ago. It has since undergone several changes in its protocol and the design of its delivery tips that have made the procedure particularly safe, fast, and effective. Yet, the treatments are tolerable and have almost no recovery time or side effects.

HOW WE USE IT

Usually, my staff and I perform a Thermage treatment as a single, separate procedure. Patients may opt to treat their entire face, a part of their face, or just their eye area. We combine approximately one quarter of these treatments with another procedure such as eyelid surgery, a chemical peel, Botox (Allergan, Inc., Irvine, CA), a collagen filler, etc.

Although refractive surgical procedures such as LASIK and PRK would not be performed at the

same time as Thermage, we have combined these procedures into a cosmetic and refractive package with a reduced cost to the patient. I arrange this package through my cosmetic and refractive coordinators. I typically perform the Thermage treatment before LASIK, because the dermatologic procedure can lift the eyelids and brows to the point that it may change the eye's shape slightly and hence, its refraction. Should this occur,

I would need to readjust the planned LASIK treatment. Generally, I wait about 4 to 6 weeks after the Thermage treatment, by which time I can see its full effect, before I perform LASIK. Otherwise, there is no need to delay the surgery.

THERMAGE IN DETAIL

The duration of a Thermage treatment depends on the area being treated. Treating the eye area alone takes me about 25 minutes; the entire face plus the eyes probably takes 1 hour and 20 minutes. The Thermage device transfers RF energy underneath the skin to tighten collagen through a heating effect. The Thermage tip is placed against the skin (Figure 2), and each pulse of RF energy lasts approximately 2 seconds. At the end of the procedure, I look for a clinical tightening of the tissue and skin to indicate that it has received sufficient treatment.

The effects of the Thermage ThermoCool treatment are designed to last about 2 to 3 years, with some results lasting as long as 4 to 5 years. Touch-ups are possible. Some patients like the results enough to want a treatment every year. Our Thermage re-treatment rate is roughly 5% of all patients.



(Courtesy of Flor Majoral, MD.)



Figure 1. The Eyes by Thermage procedure has been shown to reduce hooding noninvasively with a single-treatment, without injections and with little to no downtime. (Baseline [A] versus 15 months [B].)

There is virtually no healing time with Thermage. Patients' skin might be a little flushed or red afterward for perhaps 1 to 2 hours (we explain to patients that, "when heat enters the skin, it must come out"), but the reaction does not feel, look, or act like a sunburn. I tell patients that with Thermage, there are no lumps, bumps, scarring, swelling, bruising, or other side effects.

The Thermage ThermoCool unit does not require much space in the clinic. The procedure is so easy that many physicians let their nurses or technicians do it, although I personally treat all of our Thermage patients and do not charge patients extra for this personal service.

PATIENT SELECTION

There are very few contraindications associated with the Thermage treatment. Typically, the technology should not be used on people who have a pacemaker or who are pregnant or nursing. My staff and I find that the best candidates for Thermage are those who either want a skin



Figure 2. Thermage treatments deliver monopolar radiofrequency energy through the use of a handpiece and patented ThermoTip that deliver a series of individual pulses of energy into the tissue.

treatment that does not involve surgery or people who expect to have surgery eventually but are not quite ready for it and first want a bridge procedure. Patients must be informed that Thermage's effect is not as significant as that of a surgical facelift; it is a gentle tightening, not a dramatic one. If a patient indicates the amount of tightening they want by pulling their skin back toward their ears, we discuss surgery instead. Thermage patients typically see approximately 20% tightening immediately after the treatment, and this tightening continues for 3 to 6 months.

BUSINESS PERSPECTIVE

Thermage is a good gateway procedure; people who come to us to learn more about it usually schedule it, and many of these patients return at a later date for a Botox injection, an eyelift, or a filler procedure.

I do not discuss fees with my patients; I leave that to my nurses. Treatments anywhere on the face range from \$1,800 for the midface alone, \$2,500 for the midface and neck, to \$3,200 for the entire face and neck.

The technology has been a great practice booster and is easy to incorporate. It sells itself and needs only advertising, which the manufacturer assists with. I expect Thermage to remain an important offering in my practice. As an ophthalmologist, I believe Thermage is an excellent addition to an ophthalmology practice. The technology allows the practitioner to expand the scope of a practice and capture patients who already seek cosmetic treatments. □

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Thermage for the Ophthalmic Market

A plastic surgeon trained in ophthalmology gives his perspective on the technology.

BY ROGER BASSIN, MD

I purchased the Thermage ThermaCool system (Thermage, Inc., Hayward, CA) when it first debuted, approximately 5 years ago. At that time, it was the first noninvasive facial tightening treatment of its kind, and we advertised it as an alternative to surgery. Since then, we have experienced all of the system's redesigns and new tips as it has gained FDA approval for use on the body.

Thermage's Place in the Clinic

Thermage is a great tool to have in the practice. It is a wonderful procedure to be able to offer patients in the 40-to-55 age range who are noticing early signs of aging but are not yet ready for surgery. Our most popular Thermage treatments are either full face or mid-to-lower face. We also perform a high number of Thermage body treatments with great success; the stomach treatments in particular produce fantastic results, in my opinion.

We combine approximately 15% of our Thermage treatments with Botox (Allergan, Inc., Irvine, CA) and collagen-filling procedures such as Restylane (distributed by Medicis Aesthetics Holdings Inc., Scottsdale, AZ) and Radiesse (BioForm Medical, Inc., San Mateo, CA). Typically, we perform the Thermage treatment first, then we do the fillers, and we finish with Botox if necessary.

In an ophthalmic setting, Thermage could easily be introduced to a LASIK patient. The ThermaCool system includes a special tip for contouring and smoothing the skin around the eyes (Figure 1). Theoretically, a refractive or refractive cataract surgeon could offer a staged procedure

that restored some youthfulness to a patient's vision as well as the appearance of his or her eyes.

The Thermage procedure is so safe that I let my physician assistant and nurse practitioner perform it, but I insist on being present. This strategy frees up my schedule for surgical consultations. We have never experienced a complication with Thermage.

Effects and Duration

For a noninvasive procedure, results with Thermage are noticeable enough that patients are happy and do not feel as though they should have requested surgery instead (Figure 2). In terms of the duration of effect, none of our original patients from 5 years ago have returned for a follow-up procedure.



Figure 1. Thermage's patented ThermaCool technology cools and protects the surface of the skin while heating the deeper layers of skin underneath the epidermis.

THERMAGE STEP BY STEP

The steps involved in a Thermage treatment are few and simple, for both the practitioner and the patient. Thermage patients have no preoperative requirements. Before presenting to the clinic, they may eat, drink, and perform any other normal activity on their scheduled treatment day. Nor is there any procedural preparation for the practitioner, other than removing any makeup the patient may be wearing and coating the face with a proprietary surface gel that allows the Thermage tip to maintain contact with the skin. Next, the patient lies on a table, and the practitioner places a removable grid on his or her face that ensures that no treatment spot is missed. The practitioner delivers a couple of test treatment spots in order to tailor the strength of the pulses to the patient's comfort level. During the actual procedure, each pulse lasts approximately 1 to 2 seconds, and a full-face treatment takes about 1 to 1.5 hours. There are different types of treatments for different areas, and pulses can be stacked (repeated) over the same area if necessary. Every patient sees immediate results at the end of the procedure, and the effect continues to improve during the following 3 to 6 months.

Afterward, the patient gets up from the table and goes on his or her way. Other than a gentle sensation of warmth, patients feel no side effects. They require no postoperative cream or any other type of care, they do not have to avoid sunlight, nor do they have to refrain from exercising or performing any other type of activity. Thermage is a true lunchtime procedure.

CAVEATS

I believe that Thermage should be performed in a doctor's practice by staff who have experience in plastic surgery. Only someone with this training can identify the differences between a Thermage candidate and a surgical candidate. Candidates for Thermage do not have the advanced age-related changes that are better suited to surgical intervention. Also, a practitioner trained in plastic surgery can better judge the correct treatment parameters for each patient based on facial tone, structure, etc.

Furthermore, patients' expectations must be tempered so that they understand the limitations of

Thermage. I tell my patients up front that as a noninvasive treatment, Thermage can only contour the skin so much and that they should not expect a surgical result. I believe that the reason some Thermage patients have been unhappy with their results is because they had not been properly informed preoperatively.

IN CLOSING

I think Thermage can be a wonderful adjunctive procedure for ophthalmologists who practice surgery; particularly refractive surgeons who are comfortable with applying lasers to the face. I would recommend this procedure for any practice that sees a high volume of patients and is looking to increase its bottom line. Non-surgical intervention is currently plastic surgery's most popular treatment, and Thermage is the leader in nonsurgical intervention. □

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Figure 2. The Eyes by Thermage procedure has been shown to reduce fine lines and wrinkles by smoothing and tightening the eyelid and periorbital tissue. (Baseline [A] versus 6 months [B].)

(Courtesy of Brian Biesman, MD.)

