

ASLMS

to Showcase Innovation in Aesthetics

Bob Kronemyer, Associate Editor

Imagination and innovation will permeate the annual *American Society for Laser Medicine and Surgery (ASLMS)* meeting in Kissimmee, Fla. This year's show, held April 2-6, 2008, will feature technological advancements in body contouring systems, home-use devices and photographic imaging.

"This year, all posters will be electronic," said ASLMS program chairman, Emil Tanghetti, M.D., a clinical professor of cosmetic dermatology at the University of California, Davis in Davis, Calif. This change is in response to paper posters of the past that have been difficult for attendees to read or get close to in the meeting rooms. Electronic posters will appear at a number of stations and be available for viewing after a session. "We're also trying to post several presentations online, after the meeting," Dr. Tanghetti added.

A new innovation-and-industry award will also be introduced this year. "It is being jointly sponsored by

a number of companies to recognize an investigator who shows promise or who has been working on an interesting topic," Dr. Tanghetti explained.

"It is important to understand that for our field to be successful, it is not just through the efforts of physicians, but the industry as well."

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Fat, acne and fractional rejuvenation are three subjects at the forefront of this year's meeting. "I

would say new developments in fat appear to be the leading tide," Dr. Tanghetti noted. For treating fat, suction devices are one modality. Another technique is through the surface of the skin. Acne is not far behind. Innovations in acne treatments include



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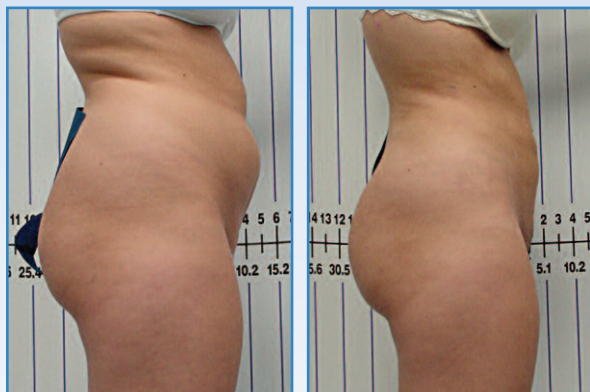
"new ways to use photodynamic therapy (PTD). We also continue to improve on the idea of non-ablative treatments, which includes fractional devices for different indications."



Emil Tanghetti, M.D.
Associate Professor
UC Davis Medical Center
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Sacramento, CA

Furthermore, some of this year's presentations are being shortened to allow more time for discussion. "This will hopefully allow us to hash out the pros, cons and validity of these devices," Dr. Tanghetti explained. One controversial topic, in particular, is fractional systems. Potential users want to know: "Do they work the same? How do they work differently? What works better for certain conditions? As for fat: Is it best to treat with a cannula or through the surface of the skin?" Conversely, "Are we getting any better at treating vascular lesions? What can we use as adjunctive treatment to remedy vascular lesions in a better way, whether it be pharmacologic agents or devices?"

ASLMS is also committed to serving the laser user, from beginner to highly experienced. For instance, a laser bootcamp will be offered to novices. "There will also be a series of intermediate courses, with more attention given to issues such as fat and treating skin of color," Dr. Tanghetti conveyed.



Abdomen Before Tx

Abdomen after CoolLipo Tx

Photos courtesy of Edward Zimmerman, M.D.

An ASLMS course on non-invasive fat removal will be facilitated by Mathew Avram, M.D., J.D., director of the Massachusetts General Hospital Laser and Cosmetic Center in Boston, Mass. Technologies being used and investigated include ultrasound, radiofrequency (RF) and laser. "However, it is still a little early to determine what is going to work best," Dr. Avram said.



Mathew Avram, M.D., J.D.
Director
Massachusetts General Hospital Laser
and Cosmetic Center
Boston, MA

Employing ultrasound technology, the UltraShape from UltraShape, Ltd. (Yoqneam, Israel) will be featured at ASLMS. The UltraShape device has not received FDA approval but is being used outside the U.S. "This device has shown some effectiveness in non-invasively removing fat," Dr. Avram noted. On the other hand, the VelaShape from Syneron, Inc. (Irvine, Calif.) is FDA approved and uses RF and light-based technologies. "This system has also shown some efficacy in fat removal."

Investigations are ongoing in using lasers or monopolar RF to selectively target fat, such as with the ThermaCool from Thermage, Inc. (Hayward, Calif.). Phosphatidylcholine (PC) injections, more commonly referred to as mesotherapy, are generating a lot of interest as well. "Over the next few years, we will see devices that provide benefits for fat contouring and the improvement of cellulite,"



Neck before Tx



Neck after CoolLipo Tx

Photos courtesy of Edward Zimmerman, M.D.

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Dr. Avram predicted. "However, these technologies initially will do more in the way of contouring than large volume fat removal as with liposuction."

Thermage will feature their ThermoTip CL treatment tip for use with the ThermoCool system to offer a new procedure designed to noticeably improve the appearance of cellulite on the thigh and buttocks area in a single treatment, without surgery, injections or downtime. This advanced, deep heating tip rebuilds collagen connective tissues and improves blood flow to the tissue, thereby improving the smooth appearance of the skin's surface. All Thermage procedures use a unique, patented monopolar capacitive RF technology for controlled heating of tissue.

Another body contouring device to be exhibited at ASLMS, the CoolLipo 1320 nm laser system from CoolTouch Inc. (Roseville, Calif.), received FDA clearance earlier this year for laser lipolysis or melting fat. "Scientifically, the energy from the 1320 nm wavelength is absorbed by fat two to three times more readily than from the 1064 nm wavelength, which is the other wavelength we have available to treat fat," explained Edward Zimmerman, M.D., who practices aesthetic medicine in Las Vegas, Nev. "Both wavelength systems now have equivalent wattages and equivalent fiber sizes."

Dr. Zimmerman primarily uses the CoolLipo to treat small or difficult areas, such as the jowl or the submental area. Other popular indications are slightly flabby arms, fibrous fat from previous liposuction,

the male chest and fat accumulation on the back of the neck, also known as a 'buffalo hump'. "We are also seeing increased interest among women in treating the perineal area, as sort of a laser vaginal rejuvenation procedure," Dr. Zimmerman said. For any indication, patients schedule one session only. "You can see the change in contour of the fat immediately. And at ten months out, my initial patients are still noticing subtle improvement in skin tightening," he reported. "Contouring and skin tightening results should last for years."



Edward Zimmerman, M.D.
Las Vegas, NV

DermaMed International, Inc.'s (Lenni, Pa.) C-Sculpt Cellulite Treatment System will also be presented at ASLMS. "C-Sculpt reshapes the body and can be used on the entire body, including the face," said Gale Lawrence, M.D., who practices family medicine in Seal Beach, Calif. "This system helps define the muscle, for example, in the arms and the legs. It also provides a bit of a face-lift, although the face-lift is not permanent." Cellulite is reduced as well, "by about 30%," Dr. Lawrence noted. Among medical applications, C-Sculpt provides lymphatic drainage and lymphatic massage.

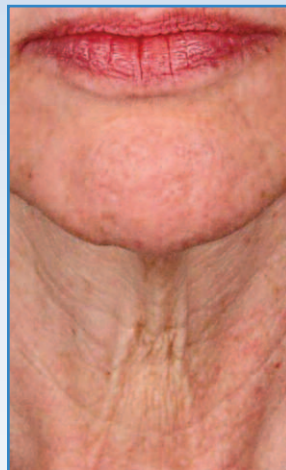


Neck before Tx

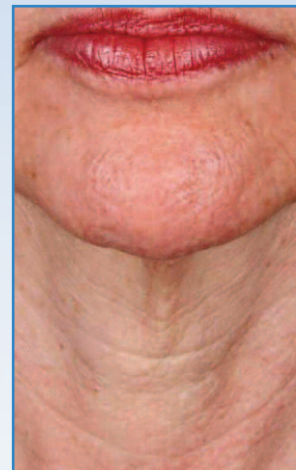


Neck after Accent Tx

Photos courtesy of Macrene Alexiades-Armenakas, M.D., Ph.D.



Neck before Tx



Neck after Titan Tx

Photos courtesy of David Goldberg, M.D.

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Four modalities available with the C-Sculpt are light-emitting diode (LED), heat, suction and massage. "All four components work in concert," Dr. Lawrence said. A typical treatment session lasts about 30 minutes. "I recommend two to three treatments for the first two weeks, then once a week for one month, followed by monthly maintenance sessions," she said. "There is no patient discomfort. In fact, they like it and wish the sessions were longer. Of all the body contouring systems I've used, the C-Sculpt has been the most effective. The light therapy is particularly efficacious. It is very easy to compare the results of a treated arm or leg with an untreated arm or leg. The difference is phenomenal."

Macrene Alexiades-Armenakas, M.D., Ph.D., an assistant clinical professor of dermatology at Yale University School of Medicine in New Haven, Conn., will direct "My Approach to Skin Tightening", a course offered at ASLMS. "The first approach was applying RF devices on top of the skin, then allowing the RF to penetrate," Dr. Alexiades-Armenakas explained. "Initially, we were confined to a stationary device, which featured monopolar RF with a grounding pad. Disadvantages of this device included pain and some risk of complication, although it was very low."



Macrene Alexiades-Armenakas, M.D., Ph.D.
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Next, the industry moved to bi-polar RF currency as featured in Syneron's ST Refirme and VelaSmooth and the Accent (Alma Lasers, Buffalo Grove, Ill.), "which allows the RF to move from one electrode on a handpiece tip to another," Dr. Alexiades-Armenakas noted. "However, there was a limit to the penetration depth – around 4 mm. On the other hand, it was far less painful than previous devices and had an extremely low side effect profile. However, both modalities required a number of treatments and the amount of improvement was very minimal."

Concurrent with bi-polar RF was the development of unipolar RF, again found in the Accent. "The advantage of unipolar RF is that it penetrates much more deeply – to 20 mm – but yet remains painless," Dr. Alexiades-Armenakas stated. Treatment is comfortable because the handpiece moves continually. Having a mobile unit also appears to significantly decrease the risk of burns or side effects from burns.

"I believe we have maxed out what we can do by applying RF on the skin. I think we need to start developing techniques that allow for better targeting of layers within the skin."

Dr. Alexiades-Armenakas favors unipolar RF for treating the body because of its deeper penetration. "In my experience, there is greater improvement in cellulite or laxity, and fewer sessions," she said. "But I believe we have maxed out what we can do by applying RF on the skin. I think we need to start developing techniques that allow for better targeting of layers within the skin. The skin thickness truly varies at different locations on the body." A new 1310 nm laser from Candela (Wayland, Mass.), "allows for variable depth targeting. You can dial the device to target superficial, mid or deep dermis."

ASLMS' course on skin tightening will also cover infrared light. The Titan from Cutera (Brisbane, Calif.), which emits from 1100 to 1800 nm, "has been very effective, especially on the neck," Dr. Alexiades-Armenakas said.

According to Elliot Battle, M.D., a cosmetic dermatologist in private practice in Washington, D.C., using lasers to treat patients of color was last year's

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highest attended course at ASLMS. Dr. Battle will once again direct this clinical application class. "The Holy Grail of lasers is to safely treat skin of color, as practitioners need to increase their patient base and revenue base." These patients include Italians, African-Americans, Africans, Asians, Brazilians, Mexicans and other Latinos. "Skin of color has really become the major population in terms of demographics around the world," Dr. Battle pointed out. Tanned skin also falls in this category.



Elliot Battle, M.D.
Cosmetic Dermatologist
Washington, D.C.

"We have now reached a point where lasers, in the right hands, are very safe to treat skin of color. But there are particular lasers that work well for us," noted Dr. Battle, an assistant clinical professor of dermatology at Howard University Medical School in Washington, D.C. In the arena of laser hair removal, for example, the longer the wavelength, the safer the laser. "The Nd:YAG laser has become the gold standard in treating skin of color safely. With the appropriate parameters, we can now treat the darkest of skin safely," Dr. Battle noted. "But we have learned recently that the genetic aspect of ethnicity plays as much of a role as does color in the success and safety of treatment."

For skin tightening, "most of the lasers used are beyond the wavelength where pigment is absorbed," Dr. Battle said. "The issue, though, is that the parameters that most manufacturers suggest cause erythema, redness and swelling. For skin of color, there is a likelihood that redness will turn into post-inflammatory hyperpigmentation. Therefore, these patients need to be treated more conservatively so they will be under the erythema threshold."

African-Americans, in particular, need to be treated at conservative settings. "African-American is not one ethnicity, it is a combination of ethnicities so we don't know the true ethnicity of who we are

treating," Dr. Battle said. Furthermore, any skin of color should be cooled aggressively. "Side effects occur when our skin heats up past 45° C," Dr. Battle observed. Appropriate post treatment care, to reduce inflammation, is essential too.

Home-use devices will also be covered at this year's ASLMS meeting. Photo Therapeutics, Inc. (Carlsbad, Calif.) will be launching two handheld LED systems. The Omnilux Clear-U for acne alternates red and blue light therapy and "is extremely effective for reducing acne bacteria and decreasing inflammation," reported Neil Sadick, M.D., a clinical professor of dermatology at Weill Medical College of Cornell University in New York City, N.Y. "When used in conjunction with topical treatments, the Clear-U is very helpful in keeping individuals off systemic antibiotics like Accutane (Roche Pharmaceuticals, Nutley, N.J.)."

"Home-use technologies are a wave of the future. But they are best used in conjunction with in-office procedures."

Omnilux New-U, for skin rejuvenation, "is helpful in building up small amounts of collagen and keeping skin inflammation under control," said Dr. Sadick, who was lead investigator for studies of both home-use devices. "There was a large improvement in acne lesion count with the Clear-U and global improvement in photorejuvenation with the New-U," he said. "Home-use technologies are a wave of the future. But they are best used in conjunction with in-office procedures."

Pain management is another hot topic to be covered at ASLMS. In January, the Serenity Pro system from Candela Corporation received FDA clearance for reduction of pain during laser and intense pulsed light (IPL) treatments. "One of the biggest factors limiting people to sign up for laser hair removal in large areas, such

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as their legs and back, is pain," said Eric Bernstein, M.D., a clinical associate professor of dermatology at the University of Pennsylvania in Bryn Mawr, Pa. "We conducted a substantial study on 40 patients that showed the Serenity Pro dramatically reduced pain. To be honest, though, I was very skeptical."

Candela's Serenity Pro system relies on Pneumatic Skin Flattening (PSF), a proprietary and patented technology that exerts pressure on the skin. "The skin is flattened against the sapphire window," Dr. Bernstein explained. "The theory is that if you feel pressure, you don't feel pain at the same time. Overall, 90% of study patients had significant pain reduction. A number of my patients also appear to achieve better hair reduction with a single session at one month out, but we have not investigated this finding long-term."

"Serenity Pro has revolutionized my practice and is a big benefit. By reducing pain, it keeps patients from moving around, so treatment time is reduced."

According to Dr. Bernstein, who has three Serenity Pro systems, "It revolutionized my practice and is a big benefit. By reducing pain, it keeps patients from moving around, so treatment time is reduced." Dr. Bernstein also concluded, from study results, that there is less redness post treatment. Furthermore, Candela has enhanced the Serenity Pro by improving the ease of use through automatic contact sensing technology with single-touch laser activation for quicker treatments. A new integrated handpiece has also been designed exclusively for the GentleLASE and GentleYAG systems.

PhotoMedex, Inc.—ProCye (Montgomeryville, Pa.) will feature their MD Lash Factor and Neova

Manganese Skin Brightening Serum at this year's meeting. MD Lash Factor is an eyelash conditioner which is applied with a brush along the base of the upper lash line. The initial clinical study showed a 53% increase in the appearance of lash length after four weeks of daily application. MD Lash Factor is also safe for contact lens wearers. The three key ingredients are glucosamine, to help strengthen the hair shaft to absorb water, sorbitol sodium PCA (humectants) and panthenol/biotin for hydration. "I think MD Lash Factor is a safe product that really shows some remarkable results," said Janet Allenby, D.O., a cosmetic dermatologist in private practice in Boca Raton, Fla. "It is something that can be widely used in an aesthetic practice and the patient satisfaction is terrific."



Janet Allenby, D.O.
Cosmetic Dermatologist
Boca Raton, FL

NEOVA Manganese Skin Brightening Serum is the first product of its kind since kojic acid was introduced about ten years ago, "however, kojic acid was not as effective," Dr. Allenby said. The manganese serum "inhibits the natural enzyme tyrosinase, so that pigment will not occur. By blocking pigment production, skin becomes lighter and brighter." Patients apply the serum twice a day. "Unlike the hydroquinones, there is little irritation." Visible results of lightening are attained in about 12 weeks. "The skin also has a more luminous look to it," she said. "Manganese is also supposed to repair DNA and improve collagen elastin synthesis. But you should never use a lightener without a sunscreen."

Profect PhotoPro is a new state-of-the-art, clinical photography system which Profect Medical Technologies, LLC (Brewster, N.Y.) will feature this year. This system adds cross-polarized lighting to the daylight and ultraviolet capabilities of existing versions. "The PhotoPro permits visibility of pigmentation and vascular conditions," said CEO Freddy Jones. The innovative design of the PhotoPro features

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a mobile, height-adjustable base and a multipoint positioning guide “for the most natural patient positioning available.”

A new software package, the Ultra-III Pro, comes standard with the PhotoPro system. This software includes an updated user-interface and the addition of subsurface skin measurement and analysis tools. “This provides measurements in real unit scores of distance, area and angle,” Mr. Jones explained. The Ultra-III Pro also has some new presentation tools; in particular, printable patient reports that explain the results of the analysis “in ways the patient can understand,” Mr. Jones said. “It is a great marketing resource.” The Ultra-III Pro is also an upgraded software version for existing customers who are using the Ultra-II software.

“RevLite Q-switched Nd:YAG is an example of returning to the roots of non-ablative treatment, but doing it with a better approach.”

“These two new products allow medical practices, cosmeceutical companies and device manufacturers to not only document their results, but also standardize their photographs and analyze the condition of their patients’ skin,” Mr. Jones said.

A poster, to be displayed at ASLMS, will demonstrate impressive results from a study of ten subjects with photodamaged facial skin treated with the RevLite Q-switched Nd:YAG laser from HOYA ConBio (Fremont, Calif.). Subjects were scheduled to six sessions, two weeks apart. “This is an example of returning to the roots of non-ablative treatment, but doing it with a better approach,” said co-investigator David Goldberg, M.D., a clinical professor of dermatology at Mount Sinai School of Medicine in New York City, N.Y. “The original

laser used for non-ablative treatment was the Q-switched Nd:YAG laser. Even though we were able to produce skin toning and better quality of skin, there had to be a bleeding wound.”

In contrast, the unique pulse dispersion or PhotoAcoustic Technology Pulse (PTP) of the RevLite laser produces “both a photoacoustic and photothermal effect,” Dr. Goldberg explained. “As a result, we are able to create results with very low energies.” Clinical improvement was evaluated through blinded investigator assessments of photographs obtained before and three months after final treatment. “In our study, we saw clinical improvement, improvement based on biopsies and improvement based on ultra-structural changes using electron microscopy.” In addition, no study patient had serious or long-term complications. “The RevLite represents a leap forward in applications for the Q-switched Nd:YAG laser,” Dr. Goldberg said.

Lumenis’ (Santa Clara, Calif.) UltraPulse DeepFX, a fractional CO₂ skin resurfacing treatment, will be highlighted at ASLMS. “UltraPulse DeepFX allows me to treat lines around the upper lip and crepey skin around the eyes in a single treatment, with anywhere from four to seven days of downtime,” said Dore Gilbert, M.D., an assistant clinical professor of dermatology at the University of California, Irvine. “There is also minimal risk of hypopigmentation.”



Dore Gilbert, M.D.
Assistant Clinical Professor of Dermatology
University of California, Irvine
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Both the ActiveFX and DeepFX are interchangeable handpieces. “The ActiveFX “puts down a pulse of light with multiple points of microthermal energy that are 1.3 mm in diameter and separated by normal tissue,” Dr. Gilbert explained. “The DeepFX is similar, except its pulse diameter is no longer 1.3 mm, but instead about 120 microns. Penetrating deeper than the ActiveFX, the DeepFX reaches between 440 and 700 microns into the skin.” ■