

laser pulse

An update on lasers and other energy-based technologies.

Aerolase: Evidence Suggests Laser Treats Onychomycosis

A recent pilot study in *Journal of Cosmetic and Laser Therapy* published early on-line suggests that treatment with the LightPod Neo™ 1064nm Nd:YAG laser is effective for the



treatment of onychomycosis. Seven of eight patients who had positive fungal cultures at baseline were mycologically cured after a series of two to three laser treatments

administered at least three weeks apart. Treatments were well-tolerated.

Aerolase lasers provide a 0.65msec pulse duration—below the Thermal Relaxation Time of the skin tissue surrounding targeted structures such as hair follicles—that facilitates natural skin cooling between pulses and therefore obviates the need for time-consuming, costly, and potentially messy skin cooling during treatment. LightPod lasers incorporate Nd:YAG 1064nm and Erbium 2940nm modalities for permanent hair reduction, PFB, wrinkle reduction, skin tightening, pigmented spots, vascular lesions, and many other aesthetic and medical uses.

Alma: New Handpiece Added for Pixel

Recently unveiled for the Pixel CO₂ system (Alma), the new iPixel tip is intended to improve the function of the hand piece to provide a faster, deeper and more powerful fractional ablative technology. The company says the handpiece provides these advantages while maintaining the low risk for side effects associated with Pixel Technology.

Alma Lasers recently launched the



Soprano Xli laser, which uses IN-Motion technology with the ability to treat all skin types, including tanned skin, for pain-free hair-free laser hair removal.

BTL: New Contouring/Modeling System Launched

A new radiofrequency device promises facial modeling and body contouring in one system. Exilis (BTL) allows controlled depth of penetration to provide younger-looking, smoothed skin from a series of brief 20–30 minute sessions. Optimal results are seen with four sessions provided over a three to four month period, the company reports. The system is designed for patient safety, with energy flow control and constant skin temperature monitoring. For facial modeling, energy is delivered to stimulate neocollagenesis. Body contouring is made possible by delivery of energy to target adipocytes.

Cutera: Updated Vascular/Pigmented Laser Available

Combining a high-powered green laser (532nm) with Nd:YAG (1064nm) technology, the new Excel V from Cutera is designed to treat a broad range of vascular and pigmented lesions. The system, described as compact and efficient, includes a hand-piece delivery system that provides the most spot sizes available on the market.

Also from Cutera, the GenesisPlus laser sub-millisecond 1064nm Nd:YAG appears to be effective for improvement of the cosmetic appearance of nails affected by moderate to severe onychomycosis.

According to results of a trial available on the company's website, laser treatment had a 70 percent efficacy rate among seven patients who underwent two treatments with the laser.

Cynosure: Smaller Handpiece; Higher Power

A new Petite Laser Handpiece is available for the SmoothShapes® XV system developed by Eleme Medical and recently acquired by Cynosure. The SmoothShapes XV,

launched in April 2010, delivers 50 percent more power than previous generation devices, according to Cynosure. The device is based on what they call Photomology, a combination of laser energy and mechanical manipulation intended to non-invasively reduce the appearance of cellulite. The new handpiece, designed to be 50 percent lighter than previous handpieces delivers 50 percent more energy.

Cynosure says the SmoothShapes device complements the recently launched Cellulaze™ Cellulite Laser Workstation, cleared for marketing in Europe and under review by the FDA for possible 510(k) clearance. The Cellulaze procedure, which is performed under a local anesthetic, uses targeted thermal laser energy to treat pockets of fat along with a small cannula for fat extraction. The system is intended to increase the elasticity and thickness of treated skin. Patients require just one treatment.

Hoya ConBio: Marking 20 Years with New Tattoo/Pigment Laser

Hoya ConBio, which has initiated festivities for its 20th anniversary next year, debuted a high-performance RevLite laser at the Annual Meeting of the AAD last month. The Smart Infinite™ (SI) handpiece along with internal upgrades provide enhanced precision, power, and versatility in the RevLite Q-Switched Nd:YAG laser, the company says.



The RevLite SI handpiece allows spot size adjustments in 0.1 mm increments while maintaining the highest fluence possible, enabling a spot size range from 2.0mm to 8.5mm in the 1064nm wavelength and 1.2mm to 6.0mm in the 532nm wavelength. Micro-adjustment preserves the flat-top beam profile and can be used to extend flexibility of the PhotoAcoustic Technology Pulse (PTP) mode, which harnesses up to 60% greater power, the company says.

The SI handpiece automatically communicates with the laser each time the spot size is adjusted, so

there are no manual settings and less potential for user error. According to Hoya ConBio, the new handpiece and its versatility will provide more speed and accuracy in matching pigmented lesion size and tracing tattoo design. An aiming beam spot size matches the treatment beam size in the 532 wavelength.

Also available for the RevLite is a 532Lite handpiece, designed to minimize risk of PIH or hypo-pigmentation for treatment of tattoos and dermal pigments on Asian and other skin of color, that can be adjusted to very low fluences at smaller spot sizes, 1.2 mm to 3mm, in 0.1mm increments.

Iridex: ClearView 3 Headset Available

The new ClearView 3 headset is an all-in-one solution to eye safety, magnified vision, and cross polarization illumination during laser treatments. Eye safety filters provide unmatched visual clarity by using narrow-band, color-balancing coatings, with protection against 532nm, 940nm, and 1064nm laser light. The light bulb features a special color-corrected thermal coating that improves visualization and patient comfort during examinations. Available as an optional accessory from Iridex for use with multiple laser systems, ClearView 3 enhances the physician's visualization into the dermis or surface structures when treating vascular and pigmented lesions with a laser like the Gemini. The Gemini laser offers both KTP 532nm and 1064nm wavelengths in one system. The laser comes with 42 spot sizes for treatment versatility, including a 10mm spot size for the speedy and effective treatment of larger, deeper vessels. The device also has parallel contact cooling, providing patient comfort before, during, and after laser treatment.



Lumenis: Fractional Resurfacing Upgrade Coming

MultiMode technology, coming soon from Lumenis, is intended to allow fractional treatments of both deep and superficial structures with a single-point button touch using



the AcuPulse fractional CO₂ laser. The company previewed the technology at the AAD annual meeting last month. The AcuPulse fractional CO₂ is a mid-level version of the UltraPulse Fractional CO₂ laser system and will provide improved versatility with the new technology.

The company's recently unveiled LightSheer Duet laser, which reduces hair removal treatment time by 75 percent, now offers the LightSheer HS handpiece. The 22x35mm spot size is the largest of any diode laser with pulse widths up to 400ms and no need for cooling or anesthetics.

Palomar: At-home Laser System Now Available

Cleared by the FDA for home use in 2009, Palomar's PaloVia™ Skin Renewing Laser™ is now available to consumers.

According to the company, the availability of an at-home laser system provides opportunities to increase demand for office-based procedures by increasing general awareness about the benefits of laser-based skincare, engage consumers, and "open the eyes and minds of consumer to the broader possibilities of professional aesthetic procedures."

The non-ablative fractional laser system was shown to provide a "noticeable reduction" in wrinkles, as scored by an objective panel of physicians, in 92 percent of subjects after one month of use. After 12 weeks of use, 84 percent of subjects said the system improved fine lines.

Consumers should use the PaloVia laser, retailing for \$499 through dermatologists' offices, once daily for one month, then twice per week thereafter. Treatments typically take three to four minutes.



Sound Surgical Technologies: Vaser Data Confirm Benefits

Providing a new approach to fat reduction, harvesting, and re-implantation, the Vaser device from Sound Surgical Technologies uses small probes that emit ultrasound energy to gently break apart fatty tissue for removal without destroying the fat cells themselves. Fat can be easily harvested and re-injected to contour and/or augment the face, hands, breasts, and buttocks.



A recent study shows that fat harvested using Vaser is as viable as fat collected by conventional suction assisted liposuction, with nearly 80 percent volume retention. For the study, detailed cellular viability analysis was performed on tissues collected from a female subject who underwent lipoplasty of the thighs and flanks with Vaser Lipo and with suction-assisted liposuction. There was little or no difference at the cellular level between samples collected via the two treatments.

Syneron/Candela: Three New Systems Unveiled

Newly-launched products from Syneron and Candela include the ePrime™ Energy-Based Dermal Volumizer™, CO₂RE versatile Fractional CO₂ Resurfacing System, and elure™ Advanced Skin Lightening Technology™.

The radio frequency (RF)-based ePrime delivers energy directly into the deep dermis to stimulate collagen while providing a skin tightening effect. According to the companies, ePrime provides dramatic tone and volumetric improvements of the skin in a single treatment.

CO₂RE Fractional CO₂ Resurfacing System allows for both fractionated ablative resurfacing as well as traditional ablative resurfacing. The system provides operators flexibility to control the intensity, pattern and depth of ablation.

The first RF-only technology for facial rejuvenation, eMatrix delivers high-intensity dermal impact but reduced epidermal ablation so there is minimal patient downtime. eMatrix subla-



tive rejuvenation treats skin texture and tone in patients of all skin tones.

The Tanda™ LED system from Syneron recently received 510(k) clearance for at-home treatment of periorbital wrinkles, rhytides, and fine lines. The device is the latest in the Tanda line from Pharos Life Corporation, which Syneron acquired last December.

Viora: Studies of RF Reduction and Tightening Underway

A study of cellulite reduction treatment using the multi-frequency RF Reaction™ is now underway, according to Viora. The study, which commenced last fall, involves the first and only multi-frequency radio-frequency cellulite treatment device available in the US. David J. Goldberg, MD is lead investigator for the study, which Viora says “will contribute to the clinical evolution of the Reaction, and will enable Viora to optimize treatment protocols further.”

Compared to single-frequency devices, the Reaction's targeted multi-frequency RF capability is intended to pro-



Other Device News

•Lexington International, LLC has submitted a 510(k) application to the FDA for clearance for marketing of the HairMax LaserComb® for the treatment of certain classes of androgenetic alopecia in females based on results of a double blind, device controlled clinical study in this population. The six-month study of women with hereditary hair loss involved the home use device, which has FDA Class 2 clearance for marketing for the treatment of androgenetic alopecia in males. According to the company, which announced its application at the Annual Meeting of the AAD in February, the study showed significant improvement in hair counts attributed to active treatment compared to the control device.

vide practitioners flexibility to treat and cover a greater spectrum of cellulite conditions and their triggers.

Another study, to assess the safety and efficacy of the Reaction with the ST Applicator for temporary improvement in facial wrinkles, has nearly completed enrollment. Neil Sadick, MD is the investigator for the study, which now has some subjects with up to six months of follow-up. Clinically, physicians report use of the device for post operative irregularities, loose neck skin, and other tightening procedures.

Zeltiq: LargerHandpiece Speeds Treatment

Using the new eZ App 8 applicator with Zeltiq helps to treat 2.5 times the amount of fatty tissue in one hour, the company reports. Smaller eZ App 6.2 and eZ App 6.3 handpieces are also available.



The CoolSculpting procedure recently received FDA clearance. Additional benefits of the eZ App 8 include curved cooling plates for enhanced fit, 8 cooling zones for increased cooling capacity, and additional sensors for monitoring the system's performance, Zeltiq reports. ■

• Lerner Medical Devices, Inc. can now CE mark its products; The company this month was certified under the ISO 13485 Quality Standard. The company's Levia® at-home phototherapy unit is the first Personal Targeted Phototherapy® treatment system. It offers physician-directed and patient-managed, convenient, fast and safe treatment in the privacy of the home. Levia's® technology features proprietary beam delivery attachments to precisely direct targeted UVB light to the affected areas of the skin and scalp, sparing uninvolved skin and a patient-friendly touch screen interface with pre-programmed prescription to monitor usage, enhance safety, and encourage compliance. ●

