The future is bright for laser and light therapy, as both continue to be popular choices to transform skin in new-and-improved ways from head to toe. From removing birthmarks to reducing wrinkles to eliminating hair and even making tattoos disappear, medical spas can use laser and light treatments to help patients in more ways than ever. As people age, they may see a myriad of changes in their skin, including wrinkles, sagging, discoloration, and more. The newest lasers and light therapy equipment can be used together to effectively treat multiple conditions. “When you are fixing the skin, it’s like making chocolate chip cookies,” says Jill Waibel, M.D., board-certified dermatologist, medical director, and owner of Miami Dermatology and Laser Institute. “You can’t just use chocolate chips, you need to add some flour and some sugar. Every
Combined Treatments Optimize Results

A recent study published in the *American Society for Dermatologic Surgery* shows that a single session of combination treatments rejuvenates the face better, quicker, and with less downtime than treatments done separately. Nicole Langelier, M.D., Katie Beleznyay, M.D., and Julie Woodward, M.D., combined neuromodulator, facial filler, laser, intense pulsed light (IPL), and energy-based therapies to treat aesthetic facial problems, such as brow ptosis (sagging brows due to aging) and wrinkles. The study showed that combining these treatments is safe and can provide enhanced rejuvenating outcomes. —Isabela Palmieri

Laser Treats Nail Psoriasis

A study done by the European Academy of Dermatology and Venereology suggests that laser and light therapy can significantly improve, and in some cases eradicate, psoriasis nail lesions. The laser and light therapies were also tested with other systemic or topical therapeutics and showed variable improvement. Some nail lesions were less responsive to the laser and light therapy than others. Subungual hyperkeratosis (chalky substance under nails) and onycholysis (nail detaches from nail bed) were most responsive, while nail pitting was the most resistant. The study concludes that the laser and light therapies have the potential to be an efficient and cost-effective way to treat nail psoriasis, but further testing is needed. —I.P.

LED Light Enhanced with Antioxidants

A study by scientists in Germany and published in the *American Chemical Society* revealed a new noninvasive treatment using a combination of LED light and a green tea cream for facial wrinkles. The research shows that this method works 10 times faster than using LED light alone. According to the study, intense LED light exposure can potentially damage cells, but the potent antioxidant in green tea extract counteracts the damage. When combined, the treatment safely helps diminish facial wrinkles. —I.P.

Laser Detects Skin Cancer

Researchers at Lancaster University (UK) and University of Pisa (Italy) have developed a non-invasive technique that can accurately detect malignant melanoma without a biopsy. Using a Doppler laser, researchers recorded the subtle differences in blood flow beneath a suspicious mole to distinguish between malignant melanoma and non-cancerous moles. The Doppler laser measured the complex interactions taking place in the tiny blood vessels for around 30 minutes. The patients in the study then had their moles biopsied, and the results were compared with the information obtained using the Doppler laser scan. The Doppler laser signal correctly identified 100 percent of the patients with malignant skin. “Skin malignant melanoma is a particularly aggressive cancer associated with quick blood vessel growth, which means early diagnosis is vital for a good prognosis,” says Marco Rossi, a professor at University of Pisa. “The current diagnostic tools of examination by doctors followed by biopsy inevitably leads to many unnecessary invasive excisions. This simple, accurate, in vivo distinction between malignant and atypical moles may lead to a substantial reduction in the number of biopsies undertaken.” —I.P.
Clean Slate

Though the appeal of tattoos may wear off over time, the ink is permanent. Or at least it used to be. What once was everlasting, picosecond lasers have made temporary. The first picosecond laser approved by the U.S. Food and Drug Administration (FDA) was introduced in 2013 and uses very short pulse durations to better break down pigments in the skin. Since then, wavelength advancements make even hard-to-treat tattoo colors, like blue and green, vanish. Syneron-Candela recently expanded its award-winning PicoWay platform to include a novel fractionated handpiece, the PicoWay Resolve, and a new ultra-short 785nm wavelength that utilizes a titanium sapphire laser for removal of blue and green inks. The platform now includes both fractional and nonfractional 532nm and 1064nm picosecond wavelengths for the treatment of benign pigmented lesions and tattoos, plus the 785nm wavelength, which further reduces pulse duration to address smaller ink particles. “The PicoWay’s picosecond technology generates a photoacoustic effect leading to laser-induced optical breakdown (LIOB) producing neocollagenesis,” says Vic A. Narurkar, M.D., dermatologist, founder, and director of the Bay Area Laser Institute (San Francisco). “There is less risk of thermal damage with picosecond laser pulses than with the nanosecond pulses delivered by other lasers.”

The FDA has cleared the Cynosure PicoSure picosecond laser for removal of the full spectrum of tattoo inks and pigmented lesions. The device features a 1064nm wavelength to remove black and other dark tattoo inks along with the existing 532nm and 755nm wavelengths. The new wavelength will be offered as an upgrade to existing PicoSure customers and is expected to be available later this year. Recent research presented at the American Society for Laser Medicine & Surgery Annual Conference backed PicoSure as an effective treatment for melasma and added further support for its tattoo removal use. “PicoSure is widely recognized by aesthetic practitioners for its unsurpassed clinical efficacy and proven performance,” says CEO Michael Davin. “Consumers simply know it works. With the FDA clearance of the 1064nm Laser Delivery System, we believe our picosecond technology has the broadest range of clearances on the market. The new wavelength builds on our aesthetic industry leadership and expands PicoSure’s versatility for tattoos, pigmentation, and skin revitalization.”—J.N.

Singular Solution

Founded on simple, consistent laser treatments, Skin Laundry is the DryBar of laser skin rejuvenation. The first location opened in Los Angeles in 2013, and now the chain is refreshing clients’ skin in 14 locations and counting across the country and in Hong Kong. In each, founder Yen Reis seeks to revolutionize the way people clean and care for their skin with a single treatment on the menu. The Laser & Light Facial ($65, 10 minutes) combines the YAG laser with an IPL treatment. Package options and memberships provide savings for clients. “No one is utilizing laser technology the way that we are,” says Isabel Vigil, U.S. head of operations for Skin Laundry. “I love that it is one thing, and we keep it simple. There are so many places that do 10 to 15 different types of laser treatments, and it gets too complicated. We do one thing, and we are really good at it.” Each location is staffed with certified healthcare professionals trained on the proven Skin Laundry method and overseen by a team of medical advisors. But the treatments aren’t about a quick fix. Instead, they focus on working to improve skin over time with consistent maintenance. A breezy California beach house aesthetic enhances the overall experience during each visit.—J.N.
Bed Rest

Recently approved by the FDA, the LightStim LED Bed relies on four different wavelengths of therapeutic light energy. There are 30 separate modules of LEDs that rejuvenate, repair, and energize the entire body. The innovative bed allows clients to lay down and soak up the LED benefits in peace. A few of the FDA-cleared benefits include a temporary reduction of muscle and joint pain, diminished arthritic pain and stiffness, and temporary increased blood circulation. Says CEO Steve Marchese, “The Bed utilizes the same technology as our LightStim for wrinkles device, which is the first to receive FDA clearance for the treatment of wrinkles on the entire face.”—J.N.

Getting Intimate

Lasers have advanced to treat the invisible, yet powerful, effects of aging for women.

Just like every other part of the body, the vagina changes with age. Major life events like childbirth and menopause may also decrease healthy vaginal function. Now, Sciton’s DiVa provides a quick, comfortable, no-downtime solution. Relying on hybrid fractional laser technology, the treatment can be customized to achieve desired results. “There are two wavelengths of light that work together—one ablative, the other non-ablative—to improve the quality of the tissue by stimulating new collagen growth,” says Jessie Cheung, M.D., dermatologist and director of Jessie Cheung MD Dermatology and Laser Center (Willowbrook, IL). “This technique delivers a new level of result, together with patient comfort and minimal downtime.” Each procedure takes three to five minutes, and doctors recommend one to three treatments for optimal results. According to recent clinical studies, patients reported minimal discomfort and no side effects. Almost all patients said the treatment and results met their expectations. “DiVa is the ultimate embodiment of innovative product,” says Cheung. “It utilizes hybrid fractional resurfacing to rejuvenate mucosal tissue safely, comfortably, and most important, effectively.”—J.N.

A Bright Future

The laser and light market is moving at the speed of light. Here is what top dermatologists and doctors predict is coming up next.

“The future of laser and light technologies will be increased energy output, increased effectiveness without sacrificing safety, a wider range of applications and new treatments, and the ability to treat darker skin types, which is currently not recommended for laser therapy.”—Harry Glassman, M.D, cosmetic surgeon, (Beverly Hills, CA)

“The real advancement in light technology, particularly when applied to aesthetics, is coming from the LED space. LED technology has advanced dramatically in the last decade, driven by the consumer electronics industry, and making its way into innovative new devices.”—Ryan Spitler, Ph.D., postdoctoral research fellow, Stanford University School of Medicine (CA)

“Laser technology will continue to evolve, with emphasis on new treatments that are more efficient and effective, and with fewer side effects and less downtime. New wavelengths of light are being studied for hair growth, tattoo removal, and skin tightening, and new energy modalities are used to treat unwanted fat and hair.”—Jessie Cheung, M.D., dermatologist and director, Jessie Cheung MD Dermatology and Laser Center (Willowbrook, IL)
“I think that the future of laser and light technologies rests in the combinations of fractional lasers and treatments with other technologies. This will allow for better results with quicker healing times.” — **Mark Schwartz, M.D., FACS, plastic surgeon, (New York City)**

“I believe that there are many viable and promising possibilities for light therapy on the horizon. There is definitely a need for healthy, noninvasive, and result-driven skincare treatments.” — **Amy Gardner, director of education, LightStim**

“Lasers have been a popular treatment option for the face. Many laser companies are developing and improving lasers to treat a variety of areas and concerns on the body, such as body contouring. This area will continue to improve and expand in the future.” — **Norman Rowe, M.D., board-certified plastic surgeon, Rowe Plastic Surgery (New York City)**

“I firmly feel that the next generations of lasers will continue to improve on maximizing results and stimulating collagen growth with decreasing overall injury to skin. This will allow patients to bounce back to work or their social engagements much more quickly. Also, newer lasers will lead to safely treating individuals with darker skin tones.” — **Sachin Shridharani, M.D., plastic surgeon, Luxurgery (New York City)**