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**ANDREW P. ORDON, MD**  
BRINGS MEDICAL AESTHETICS TO THE MASSES



Some predict that in the near future surgical aesthetic procedures will become all but extinct as new, noninvasive procedures and products advance to the forefront. Better consumer education and continued advances in topical formulations are two components fueling speculation that this trend is indeed taking hold. "Those in the general population are taking better care of their skin starting in their mid- to late teen years, so by the time they're in their 30s, 40s or even their 50s, they've practiced so much maintenance, there's not that much corrective skin care that needs to be done," says Beverly Hills, California-based dermatologist Howard A. Lancer, MD ([lancerdermatology.com](http://lancerdermatology.com)). As far as we've come, one thing seems clear: Consumers coming of age today will have even more tools at their disposal to ward off the visible signs of aging as traditional skincare staples are supplemented by smart, new home use devices; super-charged, yet gentle, topicals; and truly airtight packaging systems that could have some preservatives meeting an early expiration date.

# Skincare

## Trends

# 2010

The face of skin care is changing with power-packed handheld devices, brighter lighteners and preservative-free packaging innovations.

By Andrea Sercu

## Skincare Trends

### Preservative-Free Packaging

Consumer concerns surrounding the use of parabens combined with a drive to develop topicals with limited ingredients for patients with sensitive skin led Eau Thermale Avène (aveneusa.com) to develop new, preservative-free packaging for its Tolérance Extrême Cleansing Lotion and Cream. Eight years of research went into the new packaging unveiled earlier this year. It is constructed of an airtight membrane, a plate, a unique metal spring mechanism and a tamper-proof cover. Positioned toward sensitive skin types, the airtight dispenser allows the manufacturer to pack the line's signature pure spring water formula in a contaminant-free environment with zero use of preservatives. "No air or bacteria can enter the formulation, as the dispenser locks as tight as a safe," says Karen Rohweder, U.S. marketing manager for the brand. "In the past, we had to use monodoses to deliver these types of formulas to sensitive skin. Now we can deliver a sterile product in a much more convenient-to-use and larger

Avène's new airtight packaging allows for limited ingredients and no preservatives.



Concepts once limited to the energy device arena are now surfacing in topical skin care.

multidose—more than 3 ml—package and still maintain sterility that's protected for the entire life of the product."

While the first products in the novel packaging are serving hypersensitive and allergic skin, Rohweder foresees future applications for the baby market, contaminant-free cosmetics like eyelash products and lip balms, and all postprocedure products for treatments like lasers and peels.

Other functional packaging innovations geared toward preserving product integrity include Murad, Inc.'s antibacterial silicone tip for undereye applicators designed to prevent bacteria from recontaminating the product and DDF's Discoloration Reversal-PODs, in which miniature buffing pods are squeezed between two fingers to release a spot-sized application of niacinamide, n-acetyl glucosamine and undecylenoyl phenylalanine.

### Topicals and Technology Merge

Concepts once limited to the energy device arena are now surfacing in topical skincare. Johnson & Johnson has introduced CYTOMIMIC Technology (jnj.com), designed to mimic the body's own bioelectricity for optimal intercellular communication. Launched at the 2010 Annual Meeting of the American Academy of Dermatology (AAD, aad.org), this technology—which is incorporated into topical treatment products—



combines energized particles of zinc and copper in an exclusive delivery system. According to Johnson & Johnson, when activated by moisture, the energized microparticles harness the power of low-level electrical currents, or bioelectricity, used for cell-to-cell communication. The CYTOMIMIC technology promises a wide range of potential indications, including the capacity to calm inflammation, increase extracellular matrix production and inhibit melanogenesis, according to Ying Sun, PhD, Jue-Chen Liu, MD and Jeannette Chantalat, MS, the scientists who discovered the patented technology.

CYTOMIMIC follows on the heels of early research done 20 years ago by Johnson & Johnson scientists studying how electrical currents enhance the delivery of actives into the body without needles.

Years of research have also yielded a new, patented technology for Nia24 (nia24.com). Heralded by more than 30 years of lab work at the University of Arizona, the company has added a lipophilic tail to nicotinic acid. This allows the traditionally water-soluble niacin to more effectively penetrate the stratum corneum for continuous release of the

topical used to activate DNA repair proteins, optimize cell energy, speed cell turnover and strengthen the skin's defense mechanism.

## A Bright Future for Lighteners

The multicultural population is increasing worldwide, resulting in a wider range of skin tones and a growing demand for overall skin lightening, particularly in Asia and India. In the United States, consumers want skin brighteners that will help allay the new target of their aging concerns, hyperpigmentation.

Established skin brighteners, such as hydroquinone, arbutin and kojic acid—both natural forms of HQ—reduce pigmentation by suppressing melanin production at one junction along the tyrosinase/melanin pathway, says Eric Cowles, general manager of Skinceuticals (skinceuticals.com). Today, we're seeing combinations of ingredients used to intercept the transfer of melanin-converting constituents along several pathway points.

Peter Foltis, director of scientific affairs, L'Oreal USA, notes that newer hyperpigmentation formulations are both better tolerated than past offerings and combine the multiple components needed to effectively address pigmentation problems. "An effective treatment regimen includes a tyrosinase inhibitor, some exfoliation to remove surface pigmentation and UV protection, particularly UVA," he says. New formulations "could contain a tyrosinase inhibitor, an exfoliating agent, an antioxidant and perhaps a melanosome transfer inhibitor," says Foltis.

Howard Murad, MD, founder of Murad Inc. (murad.com), has addressed the Asian market's zeal for brighteners with several forms of vitamin C, niacinamide and tyrosinase-inhibiting plant extracts, including scutellaria and saxifrage extracts. According to Cowles, Skinceuticals' multi-faceted hyperpigmentation topical Pigment Regulator with emblica, kojic acid and hydroxy acids has demonstrated comparable results to a 4% hydroquinone topical in an independent, double-blind trial.

Emblica—a berry with roots deeply planted in Indian Ayurvedic medicine and rich in vitamin C—is a natural skin brightener gaining attention of many in the skincare industry. "Emblica is a multifunctional material," says Foltis. "Besides providing anti-pigmentation properties, it offers a cascading antioxidant capability." Still other promising melanin regulators include curcumoids like the new white turmeric, and synthetic brighteners, such as Chromabright (Lipotec, lipotec.com), which has shown comparable efficacy to hydroquinone without the cytotoxicity. "Chromabright is a tyrosinase inhibitor. The data shows good efficacy in various models as well as in



Featuring three melanin suppressors: arbutin, kojic acid and vitamin C-rich emblica, Dermelect (dermelect.com) Beautone Enlightening Spot Treatment reduces hyperpigmentation and discoloration by targeting melanogenesis at multiple junctions along the tyrosinase/melanin pathway.



Rapid Exfoliating Serum from Nia24 (nia24.com) features nicotinic acid with a lipophilic tail that allows the traditionally water-soluble niacin to more effectively penetrate the stratum corneum. The daily-use, leave-on treatment gently exfoliates dead skin cells while strengthening the skin barrier.

NEOCUTIS (neocutis.com) PERLE Skin Brightening Cream features patent-pending MELAPLEX, an enzyme complex made up of four active ingredients that inhibit melanin production by targeting different steps in the pigment formation process. The nonirritating cream includes moisturizing ingredients shea butter and jojoba oil plus antioxidant vitamins C and E.



TRIA Beauty (triabeauty.com) has launched the Skin Clarifying System for acne control. The combination system offers an FDA-cleared handheld blue light device and two topical products—Clarifying Foam Cleanser with salicylic acid and Rebuilding Complex, a blend of antioxidants and essential nutrients used after blue light exposure to reduce inflammation and activate new skin cell growth.



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vivo," says Foltis. "Also important though is that the tolerance is very good."

NEOCUTIS recently introduced PERLE, a non-prescription lightener with MelaPlex, a patented complex that includes four ingredients to stop the formation of pigment at multiple pathways. MelaPlex includes tyrosinase inhibitors phenylethyl resorcinol and L-Leucine; calcium binder sodium glycerophosphate and undecylenoyl phenylalanine, an alpha-MSH antagonist. According to Michael Gold, MD, of the Gold Skin Care Center in Tennessee, who spoke on behalf of NEOCUTIS at the 2010 American Academy of Dermatology Meeting in Chicago, 4% hydroquinone formulations remain the gold standard for hyperpigmentation, but prescriptions are often not reimbursable and therefore remain unfilled. Over the counter, retail lighteners that offer patients an effective option at a lower price point are popular in his practice, he noted.

International concerns and regulations associated with hydroquinone are fueling much of the innovation in hyperpigmentation products. "Regulation-wise, hydroquinone is not allowed in many countries globally," says Foltis. "Arbutin is a glucoside of HQ and, when hydrolyzed, would be expected to share some of the issues associated with hydroquinone." In fact, some countries are beginning to regulate other natural forms of HQ, including kojic acid, "and/or limiting the max percentage," says Foltis.

### Anti-Glycation

Based on diabetes research that uncovered a link between 3-deoxyglucosone in the skin and a loss of elasticity and collagen in aging skin, anti-glycation ingredients are appearing in a growing number of antiaging products, even inspiring a dedicated product line, Meg21 from Dynamis Skin Science ([dynamisskinscience.com](http://dynamisskinscience.com)). Botanical extracts, including "some specific blueberry and bilberry fractions have shown anti-glycation properties," says Foltis. But the verdict is still out on their ability



**"Working on the inside is one of the antiaging strategies that has been completely missed."**

to penetrate the skin and affect collagen production. The glycation process is relatively slow so long-term studies are needed. "There is some clinical data to show cosmetic improvement following a 12-week course of a cream containing blueberry extract. This improvement was shown by instrumental evaluation and confirmed by dermatologist grading and panelists' perception," says Foltis.

### Inside-Outside Comes Full Circle

In the 1990s, Dr. Murad spawned a greater awareness of how nutritional supplements can have a positive impact on acne, lines and wrinkles, and even the SPF function of sunscreens. While the trend never caught on in a big way, the dermatologist reports a steady increase in his supplement sales each year. "Working on the inside is one of the antiaging strategies that has been completely missed," says Jason N. Pozner, MD, a plastic surgeon and founder of Sanctuary Plastic Surgery and co-owner of Sanctuary Medical Aesthetics Center in Boca Raton, Florida. Dr. Pozner puts all of his patients on a steady diet of fish oil supplements, citing one study showing the omega 3-rich oil improves skin elasticity by 14% (Segger, D, et al, *Derm Treatment*, 2008, Vol 19:5 (279-283))

Physician-guided, bioidentical plant-derived hormone replacement has also produced promising results for the

physician. "I find hormone replacement therapy probably improves skin more than anything else," he notes.

### Handhelds—Downsized but Not Diminished

At the 2010 Annual Meeting of the American Society for Laser Medicine & Surgery (ASLMS, [aslms.org](http://aslms.org)) Luminary Session, handheld home use devices were highlighted as a growing trend that is here to stay. Luminaries, including Dieter Manstein, MD, of Harvard Medical School, noted that these devices are becoming increasingly sophisticated as manufacturers hone the technologies used in-office for use at home. In the coming years, there will be devices to grow hair; devices to reduce hair growth; fractional rejuvenation devices to diminish brown spots; light-based devices to reduce redness and acne; cryolipolysis devices for fat removal; and heat- and microcurrent-based devices to facilitate topical drug penetration. Some of these devices are already on the market; others are currently awaiting FDA approval. "There's a lot of great work being done, but many [of these devices] are still in the regulatory stage," says Cowles.

The main differentiating factor between home use and in-office devices involves energy output. In an effort to strike a balance between efficacy and consumer safety home use devices may be limited with specific caps on energy emission levels. While some professionals view these devices as competition, many physicians, like Dr. Lancer, see them merely as "tasting menus" that will "stimulate a thirst for the greater benefits

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available at the hands of professionals.”

“Consumers want something to use between treatments,” says Laura J. Goodman, MS, a senior scientist with Procter & Gamble Beauty Skin Care (pgbeautyscience.com). Her company recently joined brands like Clarisonic (clarisonic.com), Tria (triabeauty.com) and Tanda (tandaskincare.com), in the home use device market with the DDF (Doctor’s Dermatologic Formula; ddfskincare.com) Revolve 400x Micro-Polishing System. “This device provides deep resurfacing exfoliation without the scraping or suction of microdermabrasion,” she says.

### The Growth of Hybrid Treatment Strategies

What the combination of electricity, gas and battery power did for hybrid vehicles, new combinations of active ingredients,

fillers and aesthetic devices are doing for skin care—dramatically driving the end state of antiaging treatments.

“While key categories of concern remain the same—wrinkles, brown spots, pigmentation issues in general—the modalities continue to advance and separate from the old way of doing things,” says Cowles. “At the medical congresses, we’re seeing an accelerated pace of correction with combinations of devices and topicals, and topicals and fillers.”

James Fulton, MD, PhD, medical director of Vivant Skin Care (vivantskin-care.com) plans to add the LED-based Tanda blue light for acne and red light for collagen stimulation to his patient’s homecare regimens as an adjunct to Vivant’s cleansers, toners and Vitamin



A-based Derm-A-Gel acne treatment. Dr. Fulton will loan the patients the LED devices “for a month or so” to complement topical therapies and help speed up healing times, he says.

The experts we spoke with predict that skin care will continue on its path to less aggressive but more effective formulations featuring gentle yet potent actives. Combined with in-office treatments and new home use devices, these topicals will represent a key component to the 360° clinic-to-consumer approach that marks the new age of antiaging skin care. **M**

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