

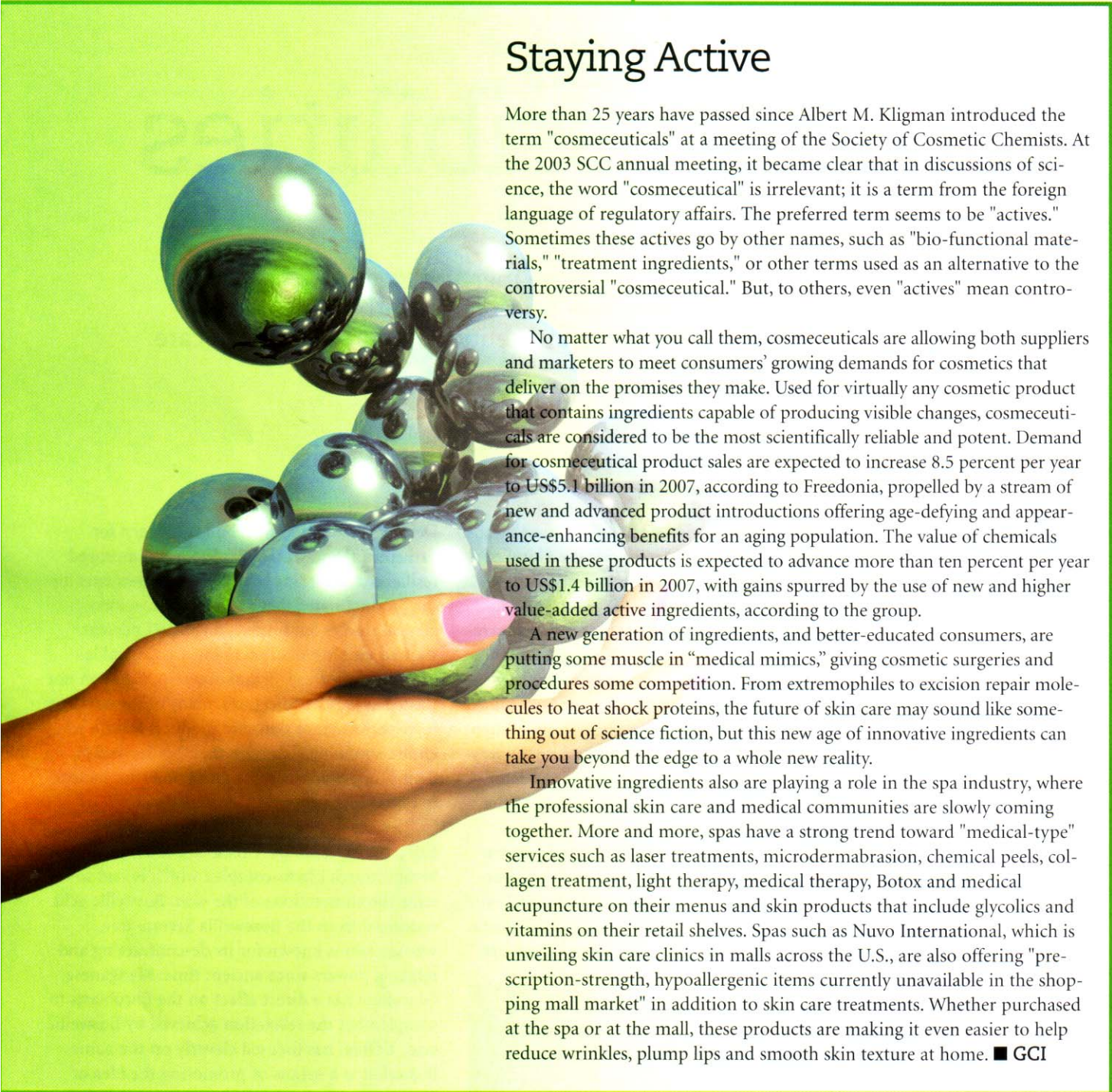
Staying Active

More than 25 years have passed since Albert M. Kligman introduced the term "cosmeceuticals" at a meeting of the Society of Cosmetic Chemists. At the 2003 SCC annual meeting, it became clear that in discussions of science, the word "cosmeceutical" is irrelevant; it is a term from the foreign language of regulatory affairs. The preferred term seems to be "actives." Sometimes these actives go by other names, such as "bio-functional materials," "treatment ingredients," or other terms used as an alternative to the controversial "cosmeceutical." But, to others, even "actives" mean controversy.

No matter what you call them, cosmeceuticals are allowing both suppliers and marketers to meet consumers' growing demands for cosmetics that deliver on the promises they make. Used for virtually any cosmetic product that contains ingredients capable of producing visible changes, cosmeceuticals are considered to be the most scientifically reliable and potent. Demand for cosmeceutical product sales are expected to increase 8.5 percent per year to US\$5.1 billion in 2007, according to Freedonia, propelled by a stream of new and advanced product introductions offering age-defying and appearance-enhancing benefits for an aging population. The value of chemicals used in these products is expected to advance more than ten percent per year to US\$1.4 billion in 2007, with gains spurred by the use of new and higher value-added active ingredients, according to the group.

A new generation of ingredients, and better-educated consumers, are putting some muscle in "medical mimics," giving cosmetic surgeries and procedures some competition. From extremophiles to excision repair molecules to heat shock proteins, the future of skin care may sound like something out of science fiction, but this new age of innovative ingredients can take you beyond the edge to a whole new reality.

Innovative ingredients also are playing a role in the spa industry, where the professional skin care and medical communities are slowly coming together. More and more, spas have a strong trend toward "medical-type" services such as laser treatments, microdermabrasion, chemical peels, collagen treatment, light therapy, medical therapy, Botox and medical acupuncture on their menus and skin products that include glycolics and vitamins on their retail shelves. Spas such as Nuvo International, which is unveiling skin care clinics in malls across the U.S., are also offering "prescription-strength, hypoallergenic items currently unavailable in the shopping mall market" in addition to skin care treatments. Whether purchased at the spa or at the mall, these products are making it even easier to help reduce wrinkles, plump lips and smooth skin texture at home. ■ GCI



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1: Endless Possibilities

Science and skin care are merging together as cosmetic scientists explore new possibilities within the area of cosmeceuticals and nutraceuticals for at-home skin care.

**BY IMOGEN MATTHEWS
OXFORD, UNITED KINGDOM**

Microderm-abrasion is the fourth most requested cosmetic treatment.

Today's cosmeceuticals are taking on a new meaning. "The new style cosmeceuticals are a kind of extension of the luxury at-home trend," believes Claire Briney, Euromonitor. "Last year, you could recreate the spa at home—this year you can recreate the doctor's surgery!" To accomplish these tasks, high-tech skin care products are making and attempting to deliver increasingly bold claims. Products delivering everything from teeth-whitening kits and tanning to hair detox and no-surgery body care are available. In virtually every sector there are now products that replace a trip to the dermatologist or physician.

Many of today's new style cosmeceuticals claim to reduce the appearance of wrinkles. Avon's Anew Clinical Line and Wrinkle Corrector claims to be better than collagen injections. Its

Derma 3X Technology "rebuilds collagen for firmer skin" and "recreates elastin for improved resilience," according to Avon. Advertisements for the product stated that 85 percent of women in clinical studies felt firmer skin and 97 percent showed visible reduction in lines and wrinkles with continued use. Briney observes, "Though not classed as OTC medications, many of the new high-performance skin care products feature scientific-sounding claims on their bottles and in their product advertisements. Manufacturers seek to outdo each other with product claims."

The key ingredient in L'Oréal Paris Dermo-Expertise Wrinkle De-Crease is Boswelox, a breakthrough phyto-complex which is said to relax the contractions of the skin. Boswellic acid is derived from the *Boswellia Serrata* tree, whose resin is known for its de-contracting and relaxing powers since ancient time. Manganese Glucanate has a direct effect on the fibroblasts to complement the relaxation achieved by Boswellic acid. L'Oréal has focused cleverly on the name Boswelox as a means of promoting the idea of "Botox in a bottle." RoC's Retin-Ox anti-aging skin treatment similarly makes a play on the word Botox in its product name.

Another product category gaining momentum from a popular cosmetic procedure is lip conditioners that imitate collagen implants to produce fuller, plumper lips. Avon's Beyond Colour Nutralush Lip Conditioner claims to stimulate lips' own natural collagen and create fuller lips and less noticeable lines via its Maxi-Plump complex. The lipstick contains retinol, long advocated by skin care experts for wrinkle repair.



Avon's Anew Clinical Line and Wrinkle Corrector claims to be better than collagen injections. Clinical 2-Step Facial Peel is the brand's latest addition to the Anew line.



3: Actives with Attitude

A new generation of ingredients and better-educated consumers are putting some muscle in "medical mimics," giving cosmetic surgeries and procedures some competition.

BY REBECCA JAMES GADBERRY

Aggressive skin care products are used to prolong the roughly five-year lifespan of cosmetic surgeries.

More than ten million people tuned in to ABC TV's *Extreme Makeover* on March 7. The show is riding the wave of popularity of reality television and fits right in with a growing interest in surgical and nonsurgical cosmetic procedures in the U.S. Since 1997, according to the latest survey by the American Society of Aesthetic Plastic Surgery (ASAPS), there has been a 293 percent increase in the total number of cosmetic surgery and aggressive treatment. Surgical procedures increased by 87 percent, and nonsurgical procedures increased by 471 percent. Botox injections, laser hair removal, microdermabrasion, chemical peel and collagen injection led the way in nonsurgical cosmetic procedures in 2003, according to the survey.

Cosmeceuticals, whose results often mimic these and other procedures, are used to treat skin problems that aren't serious enough to require medical attention, but which may be too bothersome to ignore. And there are tradeoffs: medical procedures can result in pain and financial expense, but results come quickly, while medical mimics take time to achieve results. More and more, aggressive skin care products are used along with the medical procedures to prolong the roughly five-year lifespan of cosmetic surgeries.

The ingredients to follow fall into the category of medical mimics and were chosen because of the availability of strong data for each. In order to get the expected results, however, manufacturers are cautioned to utilize ingredients in the percentage used in tests by the supplier or to conduct their own tests.

Within the Lines

A number of ingredients are being presented to manufacturers based on their ability to generate dermal tissue. This activity is spurred by the U.S. Food and Drug Administration's recent approval of Restylane, the synthetic hyaluronic acid injectable, as well as the popularity of other line-

fillers, such as collagen. The grand-daddy of the cosmeceutical line-fillers is Matrixyl from Sederma, the patent for which is owned by Procter & Gamble. Early in 2004, Sederma presented another ingredient, Dermaxyl, a beefed-up version of Matrixyl. Basically, these ingredients generate dermal tissue (collagen, elastin, hyaluronic acid) or protect dermal tissue from being destroyed by matrix metalloproteinases (MMPs), a family of enzymes that contributes to tissue breakdown and remodeling.

Barnet Products Corporation recently introduced a number of ingredients that also can be considered in the line filler category: Aroleat Samphira, Sea Fennel wax that is rich in phytoosterols, can be used as an alternative to Retinol; Phycojuvenine, concentrated brown algae, protects mitochondrial DNA and delays biological aging; and Angelica Keiskel Extract is a Japanese extract with the active fraction Luteolin 7-0-glucoside that stimulates hyaluronic acid production.

Power Relaxation

Botox® works by partially blocking the nerve to the injected muscle. A number of ingredients give similar line-smoothing results. One such ingredient that comes with good data is a peptide extracted from okra. Myoxinol® from Laboratoires Serobiologiques is a natural, topical alternative to botulinum toxin that inhibits muscle contraction, thereby reducing stress on facial muscles. Silab also introduced Bioxilift® earlier this year, a Botox-like cosmetic solution featuring anise extract rich in mineral salts, to reduce tension in the subcutaneous muscles. NAB Siberian Ginseng Extract, offered by Arch Personal Care Products, is a "25 percent active, aqueous extract consisting primarily of the complex polysaccharides and associated glycoproteins from the root *Eleutherococcus senticosus*." According to the supplier, when applied to the skin in a cosmetic vehicle, these compounds will form an elegant film



on the skin that will tighten and smooth the treated skin immediately. This perceivable phenomenon is due to physical changes in the polymer structure of the polysaccharides as they dry on the skin. This gentle sensation of smooth skin is claimed to last for hours without flaking or leaving the skin feeling overly tight.

Dermox SRC, from Barnet, stimulates collagen synthesis naturally so that the vital skin cells are restructured to their maximum capacity. It contains a blend of Bamboo silica, pea extract and glucosamine. The glucosamine works in synergy with bamboo and pea extract to increase production of collagen and hyaluronic acid, induce cell proliferation and differentiation and make skin firmer while acting on deeper wrinkles to make them less visible.

Unlike the products named above, Argireline—acetyl hexapeptide-3—from Lipotec S. A. is marketed as an anti-wrinkle peptide. Studies have shown that Argireline can reduce the depth of wrinkles on the face caused by the contraction of muscles of facial expression, especially in the forehead and around the eyes, making it more of a milder version of Botox than a line filler.

Check your Bags?

Cosmetic procedures to repair and rejuvenate the eye area are perennially popular. The most common reason people state for getting plastic surgery around the eyes is to make them seem more refreshed and rested.

For a similar effect, Pentapharm offers REGU®-AGE, a soy peptide, hydrolyzed rice bran

extract. The active helps reduce dark circles and puffiness around the eyes by improving microcirculation. It strengthens the collagen and elastin matrix and, at the same time, reduces free radical formation. REGU-AGE is a complex of botanical and biotechnologically derived peptides. Other similar innovative ingredients include NAB Arnica Extract, from Arch, an aqueous extract from the flowers of the *Arnica montana*, which has been shown to reduce skin "puffiness" and reduce inflammation. Eyeliss®, from Sederma, based on advanced peptide technology, reduces the appearance of chronic bags under the eyes. For dark circles, MDI Complex, from Atrium Biotechnologies Inc., inhibits enzymes that destroy the skin's collagen network.

Lighten Up!

A large number of skin brighteners are coming into the market, but most don't have solid research data to support them. Among the more interesting new ingredients that have significant research is Sepiwhite™ from Seppic. It competes for a place with the Agouti protein on the melanocyte receptor that triggers melanin production. Basically, it interferes with the biological message that stimulates melanin. So, instead of interfering with the melanin production process, it doesn't allow the process to begin.

Roche is in the skin brightener fray with STAY-C® 50, marketed as stable vitamin C to fade out age spots, using ascorbic acid to reduce the formation of melanin. Arch offers Lotus Symbiosome Lysate, skin lightening through free-radical control, and NAB Asafetida, a skin tone evening botanical that works by decreasing tyrosinase activity that leads to a reduction in melanogenesis.

Beyond the Edge

While the ingredients that come under the heading of "medical mimic" don't give the same results as surgery, they may be able to maintain and enhance the effects of surgery, and prolong the time between surgical procedures to keep the skin looking fresh and youthful. What can we expect next? A new generation of ingredients and better-educated consumers are putting some muscle in "medical mimics," giving cosmetic surgeries and procedures some competition. From extremophiles to excision repair molecules to heat shock proteins, the future of skin care may sound like something out of science fiction, but this new age of innovative ingredients can take you beyond the edge to a whole new reality. ■ GCI

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