

# MINERAL SUNSCREEN AND COSMETICS

A New Paradigm For Maximizing Patient Satisfaction And  
Results With Minimally Invasive Aesthetic Procedures



## WHITE PAPER

R E P O R T

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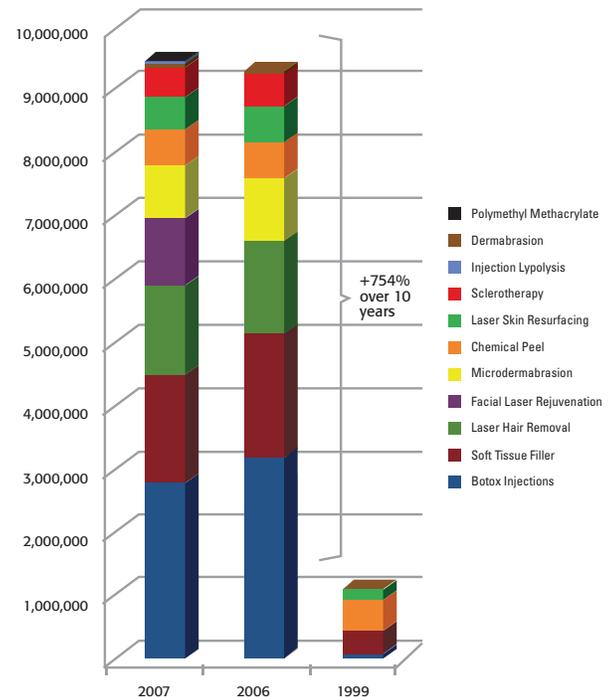
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## The Intersection of Two Major Growth Curves

In recent years, there has been a dramatic rise in the popularity of elective aesthetic procedures, particularly in minimally invasive rejuvenative procedures. Initially, chemical peels and collagen injections were most popular, accounting for the majority of the 1.1 million nonsurgical procedures performed in 1997. If growth to this point was a steady stream, the subsequent 10 years heralded a flood, as botulinum toxin A injections entered the mainstream, totaling 3.2 million procedures by 2006, followed closely by lasers (2.5 million procedures) and soft tissue fillers (1.7 million). The trend evinced by these statistics is that, whereas in-office cosmetic surgery was previously a last resort after retail anti-aging promises had failed, it is now the first choice for a large and growing base of patient-consumers seeking aesthetic improvement.

There is another growth explosion occurring that is more related to the above trends than one might initially assume. In 1976, Diane Ranger first conceived of the concept of "mineral makeup", as a means of addressing the need for color cosmetics that don't harm the skin barrier function, but may actually be beneficial for the skin. She founded Bare Escentuals on that concept, and 30 years later, the Mineral Makeup category is the fastest growing sector in facial cosmetics, now counted as a multi-billion dollar consumer trend. Global Cosmetic Industry data cites mineral makeup as the biggest growth driver in the multi-billion dollar color cosmetics industry with projected growth of 30% versus a 3% overall category growth (10X average growth). It is important for aesthetic practitioners to understand that this remarkable growth reflects building consumer discontent with traditional color cosmetics, which they view as aggravating or even causing poor skin health. The exploding popularity of mineral makeup also reflects the absolute need for cosmetics that complement good skin health practices and, ideally, have functional skin health benefits.



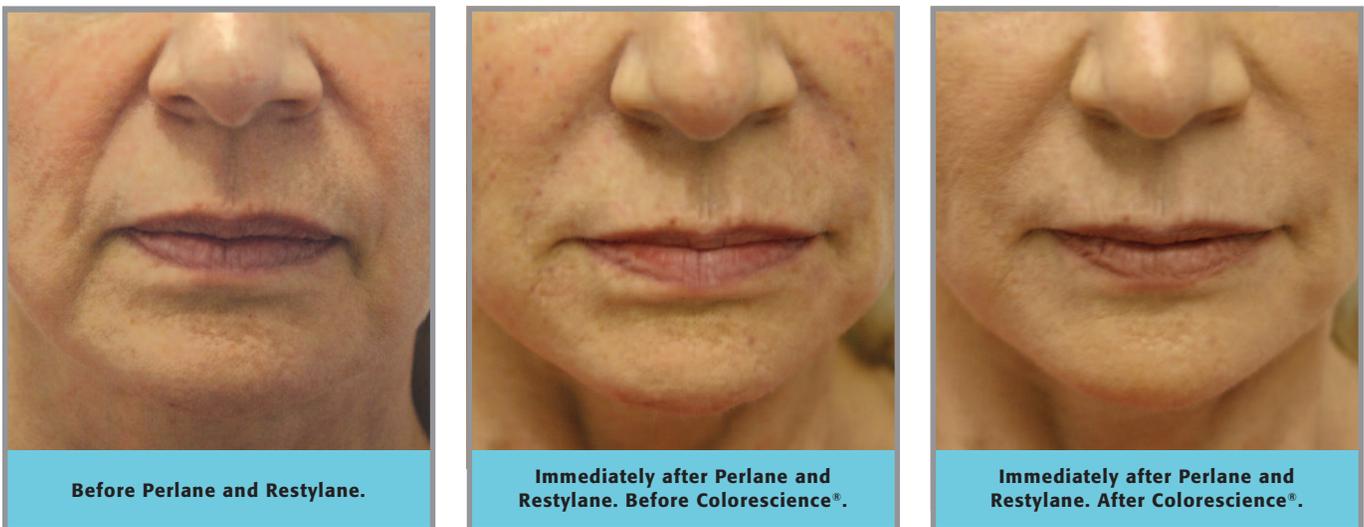
## Mineral Cosmetics in Aesthetic Medicine

At one end of the spectrum are facial cosmetic surgery procedures, including facelifts, blepharoplasty, chin/cheek implants, and rhinoplasty. These procedures provide aesthetic benefits through changes to the underlying muscle and bone structure, and modified draping of the skin across that substructure. At the opposite end of the spectrum are traditional color cosmetics. These products provide temporary aesthetic benefits by covering the surface of the skin, but they do not address the integrity and healthy function of the skin itself, and in fact may irritate the skin, clog pores and thereby impede healthy skin function. Between these two extremes, are neurotoxins, dermal fillers, nonablative and minimally ablative lasers, and other technologies that minimize procedural downtime. Mineral makeup is the product of innovative research that brings color cosmetics up to a highly functional level, to maximize skin health benefits. The aesthetic practitioner is the only one positioned to harness mineral makeup as a tool to optimize patient outcomes from aesthetic procedures and the longevity of their results, via the achievement of skin that truly functions in a younger and healthier manner. The greatest benefit to skin is derived from using the best aesthetic procedures in combination with the best mineral cosmetic products.

The intense demand for mineral makeup has resulted in a plethora of products positioned to capitalize on that demand. However, the original concept of mineral makeup has become a casualty of its own success, now diluted by the influence of large multinational color cosmetic companies, incorporating products that merely contain a mineral rather than products that are pharmaceutical grade mineral compositions and expressly exclude talcs, dyes, fragrances or preservatives, as originally defined.

## PATIENT Verses PHYSICIAN DEFINITION of “Down-Time”

The definition of what constitutes down-time varies widely from patient to patient, and any consensus, to the extent one can be found, is transitory in nature, being influenced by both real and perceived claims of immediate results as portrayed in the media, and by the speculative aspects of new products and procedures. In the past, the definition of down-time may have included restriction of activities, and physical function, or perhaps even prescribed periods of bed rest to allow for healing and restoration of normal tissue and muscle function. Today, however, many patients define down-time to include cosmetic side effects such as ecchymosis, temporary skin erythema or discoloration and skin texture irregularities. This more stringent definition can lead to patients delaying procedures they would otherwise undergo or worse, to patient dissatisfaction with a procedure that is highly successful from a technical point of view.



The most common issues that impact patient perceptions of down-time are as follows:

**ERYTHEMA;** Even the most non-invasive procedures, including most types of laser and intense pulsed light (IPL) treatments result in some degree of erythema at and around the treatment site.

**BRUISING;** The multiple injections usually necessary for neurotoxin and dermal filler treatments often result in bruising that is visible on the skin surface for several days.

**PIGMENTATION;** Post Inflammatory hyperpigmentation can also occur with any procedure that involves applying energy or heat to the skin, such as lasers and IPL, and sometimes with injectable procedures. This problem is particularly common in skin of color.

**MOTTLED PIGMENTATION;** Hyperpigmentation and hypopigmentation can also occur after laser resurfacing, and deeper chemical peels, when underlying skin tissue is exposed to the sun's ultraviolet (UV) radiation.

In most cases these issues are temporary and will resolve spontaneously. However, an interim solution is needed to meet patient expectations of little or no down-time and undetectable aesthetic procedures without adversely impacting the ultimate outcome of these procedures.

Patient Illustration: Patient application of Colorescence® in combination with Perlane and Restylane treatment. Courtesy of Hema Sundaram, M.D.

## Improving Patient Retention, Satisfaction and Referral

Because patients are looking for comprehensive aesthetic solutions, aesthetic physicians who incorporate mineral cosmetics into their treatment protocols and product offerings are reporting increased patient retention and satisfaction. This differentiates their practices and is accelerating their practice growth. The contributing factors to this growth are many but include;

**Reduction and Elimination of "Social Down-time"**: due to their authentic mineral consistency, these products can be used over wide areas of the skin, and natural mineral colors are effective pigmenting agents to eliminate the appearance of skin irritation. This provides the physician with the ability to correct skin tone and texture irregularities before the patient walks out of the office. The result is a much more satisfied patient who feels completely at ease in public settings, and can already visualize the end result of the procedure.



Acne: Before Colorescience®



Acne: After Colorescience®

**Reduced Irritation and/or Erythema**; In broad or very targeted application, these products act as a cover, or second barrier against the elements. This adds a second critical function to the post-procedure healing process by providing soothing mineral compounds that actually coat and cover the wounded area, providing an environment that may be more conducive to healing and is highly preferable to chemical-rich cosmetics that the patient would be more likely to use in the absence of physician instruction, and a physician provided/approved alternative.

**Improved Post-Procedure Patient Experience**; When procedure wounds are camouflaged immediately post-procedure, the patient has a tendency to perceive the procedure as more successful. There is also a reduced tendency to focus on any pain or irritation when the visible signs of such are reduced, giving the patient a psychological boost toward healing.

**Increased Protection Compliance During Most Critical Phase of Healing**; Several of the minerals used in mineral cosmetics are natural full spectrum UV blockers. As such, these products are ideal physical blocks to provide critical protection for fragile and damaged skin during the healing process. This is critical following aesthetic procedures as well as during acne and rosacea treatments when skin is particularly sensitive to the effects of sun exposure. Patients tend to ignore any direction to forgo cosmetics, and tend to use acne aggravating cosmetics in an attempt to cover the blemishes. When acne and rosacea patients are left to find their own sunscreens and

makeup, they may select products that are comedogenic and/or irritating to the skin, thus reducing the success of their treatment regimes. Patients who go without sunscreen, especially when undergoing retinoid or benzoyl peroxide treatment, are vulnerable to an increased risk of ultraviolet-induced skin damage. Because mineral sunscreens are provided in a dry powder form, they also offer a number of advantages over other commercially available sunscreens and sun blocks.

Patient Illustration (top right): Day 3 after Fraxel re:pair™ fractional ablative CO2 laser resurfacing. Colorescience® applied to right half of face. All pictures this page courtesy Hema Sundaram M.D.

## Advantages of Authentic Mineral Sunscreens in Powder Form

The advantages of mineral makeup translate to greater patient compliance in applying daily broad spectrum sun protection, thus reducing the risk of post-procedure hyperpigmentation and other problems arising from UV exposure. Perhaps more importantly, patients are educated on the desired composition and properties of quality mineral sunscreens and cosmetics, empowering them to select long term alternatives to mass market cosmetics that may contribute to deterioration in skin appearance and function. The patient inset on this page experienced improvement in skin quality and dramatic reversal of pigmentation irregularities after using Colorescience® mineral cosmetics regularly for two years, in place of traditional cosmetics.

There is no clinical evidence to suggest that mineral sunscreens and makeup actually treat skin disease, and in fact the products are specifically designed to stay on the surface of the skin and not to penetrate the epidermis. However, it is entirely possible that it is the absence of elements (primarily sun exposure), and contaminants (from traditional cosmetics), that can and do penetrate the skin barrier, that results in a visible improvement in the skin of those who are using mineral sunscreens and makeup. As such, perhaps one of the most valuable services physicians can provide to their patients is to reduce environmental insult to the skin on a daily basis over long periods of time.



SunReliable™  
SPF 20 Primers



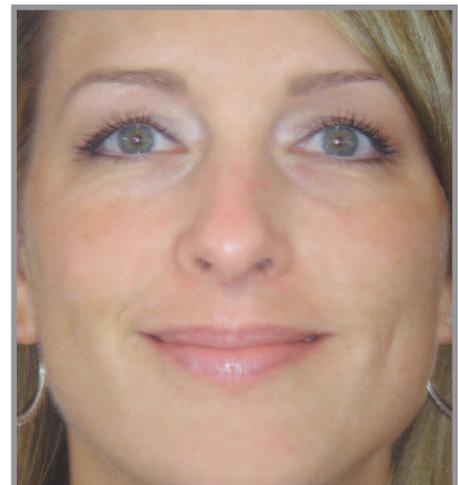
**Before: No foundation.  
Shows severe hypopigmentation.**



**After applying Colorescience®  
Mineral Makeup.**

*"Colorescience® has changed my life! In my twenties I had deep cystic acne. I worked with and used Department Store cosmetics for ten years and nothing helped my skin. When I switched to Colorescience® my face cleared up within a month. Now my skin is not as oily and I am camouflaging my scars with Colorescience®. Thank you for helping my face and confidence!"*

*- Missi Nordberg*



**Two Years Later: Wearing no foundation.  
Shows improved skin tone from  
Colorescience® Mineral Makeup.**

**Patient Illustration: Patient used Colorescience® Primer and SPF powder on a daily basis to camouflage hypopigmentation, in lieu of prescription treatment. After two years of protective use, hypopigmentation issues appear to have largely self resolved. Pictures courtesy of Colorescience®, Inc.**

## Conclusion

The use of high quality aesthetic mineral cosmetics in post-procedure protocols addresses a critical unmet need in cosmetic dermatology and aesthetic medicine. Colorescience® is a leader in the field of providing pharmaceutical grade mineral products, which are designed, packaged and presented specifically for the medical aesthetic office. Physicians who provide these products as part of their aesthetic offerings can better fulfill their patients' desires for an immediately acceptable aesthetic outcome, and also provide safe, superior protection against future skin damage and extrinsic aging. The results are enhanced patient outcomes from procedures, and higher overall patient satisfaction and aesthetic practice growth.

Sunforgettable® SPF 30  
Mineral Sun Protection



## References and Endnotes

- i Data taken from statistics published by the American Society of Aesthetic Plastic Surgery, 2007. <http://www.surgery.org/press/statistics-2007.php> May 15, 2008.
- ii Drug Store News, "Mineral Makeup intros soar in '08", Antoinette Alexander, January 14, 2008. [http://findarticles.com/p/articles/mi\\_m3374/is\\_1\\_30/ai\\_n24264063](http://findarticles.com/p/articles/mi_m3374/is_1_30/ai_n24264063) May 15, 2008.
- iii Global Cosmetics Industry® "Color Cosmetics; A Comeback Story", January 2, 2008. <http://www.gcimagazine.com/marketdata/12974227.html> May 15, 2008.
- iv Sources on antimicrobial action of Titanium Dioxide include: Journal of Photochemistry and Photobiology A: Chemistry; Volume 184, Issue 3, 15 December 2006, Photocatalytic microbial inactivation over Pd doped SnO2 and TiO2 thin films Pages 313-321

## Mineral Sunscreen Benefits

- There is an absence of the carriers, emollients and fragrances used in traditional sunscreens that have a tendency to irritate, sting and burn fragile skin.
- Mineral sunscreens are immediately effective to their SPF rating, and do not require a 15 to 20 minute waiting time as traditional sunscreens do.
- Certain mineral sunscreens such as those tested by Colorescience®, express a high resistance to breaking down under water, humidity and sweat secretions in the skin. In other words, they are very water resistant according to current FDA standards, and offer a high level of stability.
- Powder sunscreen is not greasy or sticky on skin and can be easily reapplied throughout the day, over or under makeup, creating a higher level of patient compliance to physician recommended protocols.
- Recent studies suggest that titanium dioxide (a primary mineral sunscreen active) acts as a catalyst or photocatalyst to provide antimicrobial activity, suggesting possible support for the benefit of powder sunscreens on acne-prone skin<sup>iv</sup>.

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