

Enzyme-Based Topical Treats Pigmentation

Topical treatment to improve the appearance of patients with excess pigmentation has long been the domain of hydroquinone. Though effective, this skin lightener is potentially irritating, resulting in some patients being unable to use it. However, a new enzyme-based, topical formulation tackles pigmentation in an entirely different manner – direct reduction of melanin – with experts reporting faster, better and safer results than other topicals for pigmentation. Furthermore, it is easy for patients to use as well.

Physicians Embrace elure as Safer Alternative for Pigmentation Disorders

By Kevin A. Wilson, Contributing Editor

Initially unveiled in February 2011 at the annual *American Academy of Dermatology* (AAD) meeting in New Orleans, La., elure™ from Syneron, Inc. (Irvine, Calif.) is poised to take the aesthetic medicine world by storm. This new, quick acting topical formulation for skin lightening is not only extremely effective, it is non-irritating and very safe.

According to Tina Alster, M.D., a dermatologist and medical director of the Washington Institute of Dermatologic Laser Surgery in Washington, D.C., Melanozyme™ (lignin peroxidase, or LIP enzyme), the active ingredient in elure, selectively catalyzes melanin degradation. "On a histological level, pigmentation results from excess accumulation of melanin in skin cells. Hydroquinone and other topical products exert their effects by preventing the formation of melanin in skin, whereas, Melanozyme basically breaks down the melanin once it has formed, thereby approaching the problem from an entirely different direction."



Tina Alster, M.D.
Washington Institute of Dermatologic
Laser Surgery
Washington, D.C.

Dr. Alster also pointed out that for many years hydroquinones were the most effective method available, but tolerability issues drove the development of alternative lightening compounds such as azelaic acid, arbutin, kojic acid, licorice abstract, soy proteins and n-acetyl glucosamine. However, success with alternatives has been limited. "elure can be used on just about anyone because it is relatively easy for patients to tolerate," she said.

This new product is available as a lotion or cream, and is applied in two stages: Melanozyme first, followed by a proprietary activator formulation. A temporary reaction, due to their combined application, causes degradation of epidermal melanin. "Although the overall body of clinical experience is still relatively early," Dr. Alster continued, "I have high hopes for elure. It's safe, easy-to-use and works well. Within a month of regular use, the skin appears brighter and more evenly toned. Many patients report even faster clinical responses."

Editor's Note: In the following clinical roundtable, four aesthetic physicians share their knowledge, clinical expertise and experience with elure. Although these physicians have only a few months of experience using the product, together they bring dozens of years of experience in the treatment of pigmentation.

[Based on your experience, what excites or interests you most about elure?](#)

Roy G. Geronemus, M.D. – As a non-hydroquinone lightening agent with a markedly improved safety profile, elure is quite different than anything we've seen in the past. For me it boils down to three simple things. First is safety, next is efficacy; it seems to help most patients, at least to some degree. Third is the rapidity of response. Some patients respond in a matter of days, which is something we've never seen before.



Roy G. Geronemus, M.D.
Director
Laser & Skin Surgery Center of
New York
New York, NY

"Melanozyme basically breaks down the melanin once it has formed, thereby approaching the problem from an entirely different direction."



elure product line

Alan H. Gold, M.D., F.A.C.S. – I am impressed with the way elure lightens existing pigment. Other products turn off the pigment generating mechanism and as pigmented skin migrates for natural exfoliation we see the lightening effect, but this process takes months. With elure we see significant benefit as early as a few weeks into the course of treatment. It's also easy-to-use and well tolerated. The two-step application process is simple, and patients can start right away; you don't have to worry about building the patient's tolerance over time. With existing alternatives you might have to start with application every two or three days and build up to



Alan H. Gold, M.D., F.A.C.S.
Plastic Surgeon
Great Neck, NY

daily use, and some patients have to discontinue because of redness or surface discoloration. This is not so with elure.

Debra Price, M.D. – It's great to have a new topical for treating pigmentation because this is such a large problem, particularly in South Florida where I practice. We have a high incidence of pigmentation disorders from the more intense solar exposure. It also works by a different mechanism, which is valuable because having more than one angle from which to approach treating any condition is advantageous. There's never really a single treatment that works for everybody, so it's always good to have alternatives available.



Debra Price, M.D.
Dermatologist
Miami, FL

Dr. Alster – I got excited about elure for three main reasons. The patented active ingredient, Melanozyme, reduces pigment in a totally different way than prior fading creams – by breaking it down. Secondly, the clinical effects are relatively fast, and lastly, patients find it easy to use and/or tolerate. When I began dispensing elure and patients were reporting a clinical difference within several days, I was skeptical at first, but the amount of positive feedback since then has been significant. Other products might give patients results for a short period of time, but they eventually stop working or cause skin irritation, so the low irritancy profile of elure is a big advantage. Virtually every day, I have patients presenting with difficult pigmentation problems and they request laser treatment. That's not the way

to go for many of them because although some lasers can specifically target pigment, they cannot reduce the inflammation that often leads to more pigmentation. elure on the other hand, is safe to use on any patient.

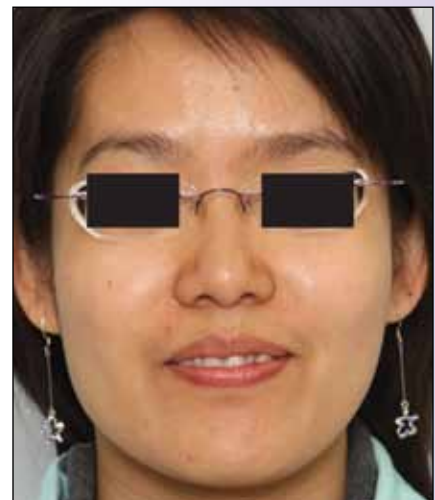
[How does treatment of pigmentation affect a patient's quality of life?](#)

Dr. Price – In South Florida we see this issue regularly and it is devastating for some people. The face is what people notice first when they look at you, but this is a climate where people don't like to wear a lot of make-up because of the heat. We also spend a lot of time outdoors boating, swimming and participating in outdoor sports that cause sweating, making it difficult to wear make-up to camouflage pigmentation.

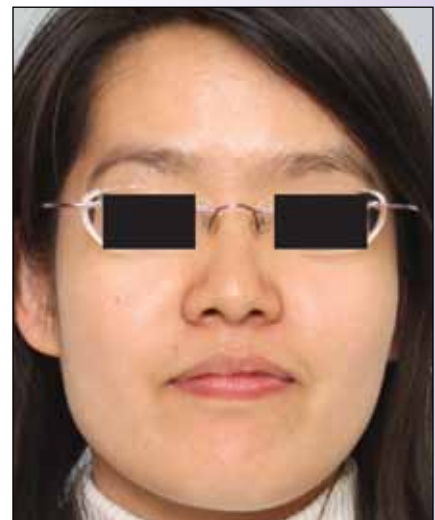
Dr. Alster – Since pigmentation irregularities often occur on the face, people may feel marred or disfigured in ways other, more medically worrisome conditions may not. I have several patients in my practice who avoid social situations in the summer because they know that sunlight exposure (even with sunscreen protection) worsens their pigmentation. Reduction of unwanted pigmentation can boost these patients' confidence and make a difference in their lives. A lot of people I see have tried other products or treatments and have been left wanting more. With elure we have a simple, safe and effective product that patients can use with their normal daily skincare regimen.

[In the past, what have been the most effective topical products you have used to brighten or improve the evenness of skin tone? What were your primary concerns with these previous topical offerings?](#)

Dr. Alster – Hydroquinones have been the choice for pigmentation because they worked; however, patients needed to be monitored for skin irritation and, in some cases, worsening of the pigmentary problem. Alternative fading creams were developed in response to these limitations, but they attacked the problem of pigmentation in the same way (inhibiting a critical enzyme and blocking pigment formation)



Before Tx



After elure Tx

Photos courtesy of Syneron / Candela

and were even less clinically effective than hydroquinone. Once pigment was formed, additional treatments such as chemical peels, lasers and microdermabrasion were necessary to remove it.

Dr. Gold – I still use retin-A, hydroquinone, teamine and kojic acid, combined in a single preparation because I find them to be effective for some patients. I get a synergistic effect and better results when they're used that way. I mix in a low-dose steroid to mitigate potential reactions to retin-A or hydroquinones in the formulation to improve tolerance. There are other drawbacks to the alternatives such as irritation and exfoliation, and it takes far longer to see the clinical result. We don't have these issues with elure.

Dr. Geronemus – The higher irritation profile seen with hydroquinones, as well as a general concern about their reputation, prevents us from using them on some patients and has also limited compliance to some degree.

[Which patients will benefit the most from elure, and what have you been treating most commonly in your practice?](#)

Dr. Geronemus – Pigmentation is a major concern for many people, including a subset of the population across the world where hyperpigmentation is the primary sign of aging. It's also the area where in many cases we are the least successful with laser treatments. The profile of the elure patient would generally be someone with melasma, post-inflammatory hyperpigmentation or diffuse discoloration with increased pigmentation.

Dr. Gold – It's ideal for pigment issues overall, but in comparison to existing topical therapies we see changes in the luminescence of skin with elure as

well, so I readily use it for patients with a duller complexion. It actually seems to help moisturize, likely because of other ingredients in the preparation, but also because elure doesn't irritate or dry out the skin like other formulations for pigmentation might.

Dr. Price – We see a variety of patients who would benefit from treatment with elure. I have used it for lentigines and blotchy pigmentation associated with sun damage, and in combination with other topicals for melasma. Some cannot tolerate hydroquinones because they either have sensitive skin or rosacea. I've also had some success using elure for photodamage on the chest.

[What about the use of elure with other products in the patient's regular daily regimen?](#)

Dr. Alster – elure can be used with a patient's regular daily skincare regimen because it is non-irritating and doesn't react negatively with other topical products, even prescription-strength. Most of my patients are already on an anti-aging topical skincare regime consisting of the application of at least an antioxidant (e.g., vitamin C) and sunscreen. For them, I would recommend the use of elure at night. Although it's recommended for twice daily use, I am comfortable with the results I've been seeing with simple nightly use in people who are already on a good skincare regimen. Otherwise, I recommend waiting an hour after elure application before applying another active ingredient in order to ensure that the Melanozyme is fully activated. For people who are not already on any other products, I have them use elure twice a day.

The packaging of this product is smart and cosmetically elegant. The

“We see a variety of patients who would benefit from treatment with elure. I have used it for lentigines and blotchy pigmentation associated with sun damage, and in combination with other topicals for melasma.”

dual chamber design makes it easy to determine which of the two creams/lotions (Melanozyme or activator) to apply to the skin first. I have recommended the use of the cream formulation in the winter months in order to avoid excessive dryness, but the lotion is good for those with oilier skin because it's a lighter weight.

[How satisfied have you and your patients been with the results obtained with elure? What about patients who've tried other topicals?](#)

Dr. Geronemus – People get excited when they see relatively rapid clearance of their pigmentary condition without irritation. There is also a group of patients who are seeing a synergistic effect with the laser treatments that we do.

Dr. Price – As with every therapy there's a mix, but I definitely have patients satisfied with the clearance they've observed so far with elure at this early stage. Since I don't always use it as a monotherapy it can be hard to isolate the effects, but the overall

sense is that we get a more rapid clearing when we add elure to the mix. Pigmentary disorders are challenging for anyone to treat, so having another effective method at our disposal that treats in a novel way is very helpful in maximizing our chance of success.

Dr. Gold – For one thing, I haven't seen any adverse reactions with elure, and while my initial round of patients received no other treatments in conjunction, I'm now comfortable enough to use it as an adjunct to other modalities, such as laser- and light-based technologies. Patients are pleased with the results they are achieving, as well as how quickly they see changes.

Dr. Alster – I see a lot of benefit for anyone with skin dyspigmentation, but especially those whose conditions have proven resistant to previous

treatment and who have inherently sensitive skin. Melasma patients often fall into this category because the condition is difficult to treat and is associated with skin inflammation. The clinical effectiveness and low irritation profile of elure makes it an excellent product for these patients.

"I see a lot of benefit for anyone with skin dyspigmentation, but especially those whose conditions have proven resistant to previous treatment."

How do you combine elure with other therapies?

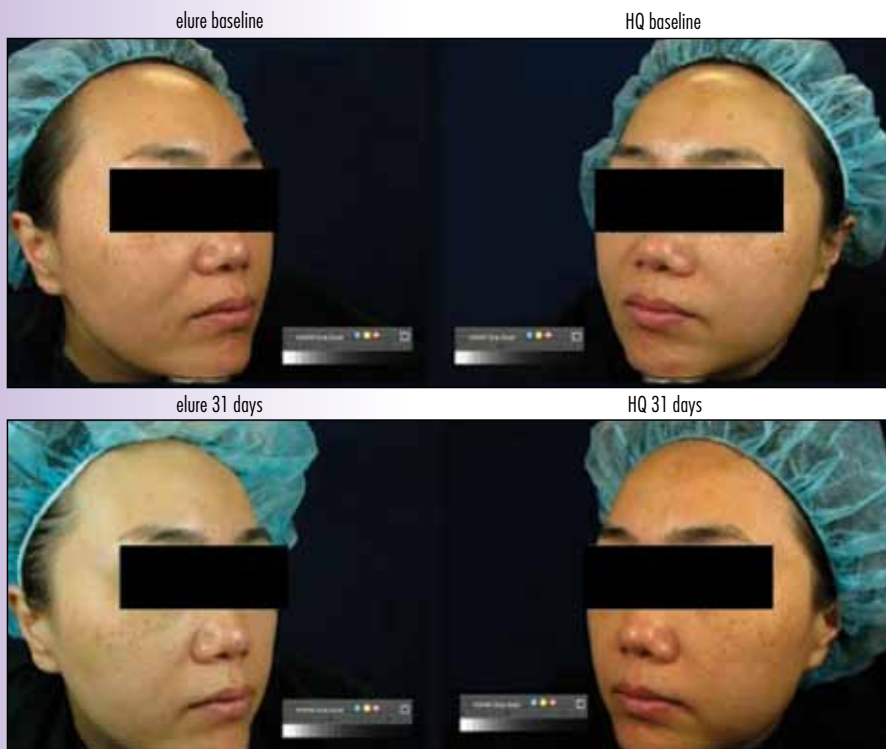
Dr. Price – I often use elure with other topicals to hasten resolution of recalcitrant melasma, for example. We don't have 100% response but many respond. I also have had patients alternate elure with other cosmeceutical and prescription treatments for hyperpigmentation for a multi-targeted approach. The exact protocol depends on the challenges associated with each patient's unique profile. I always use these products with broad-spectrum sunscreen.

Dr. Geronemus – As we're primarily a laser practice we often use creams as an adjunct to laser therapy. We'll sometimes pre-treat with elure to minimize the chance of post-inflammatory hyperpigmentation, or treat afterward if it develops.

Dr. Gold – As we learn more I think protocols will change, but for now I have patients start using it 48 hours after treatment with lasers or intense pulsed light (IPL) or even eMatrix RF (Syneron) to enhance the overall result. I have patients discontinue use 48 hours prior to their next treatment. I haven't combined it with any other specific topical protocols yet but as previously mentioned patients do not need to discontinue their normal skincare regimen when using elure.

How does elure compare to device-based alternatives for pigmentation?

Dr. Alster – I think non-topical therapies for pigmentation don't necessarily overlap with elure. People with pigmented birthmarks or discrete lentigines are not candidates for topical treatment. Rather, they would benefit



Split-face study of elure versus hydroquinone Tx
Photos courtesy of Syneron / Candela

from pigment-specific laser treatment. However, diffuse dyspigmentation or blotchiness from repeated ultraviolet injury is a different story. Thus, patients with melasma or post-inflammatory hyperpigmentation are excellent candidates for treatment with elure.

Dr. Geronemus – Lasers will be superior in some instances, especially for patients with fair skin types with lentigines because lasers are often ideal for discrete lesions. For darker skin types the use of lasers is problematic, so in some of those types of cases elure may find a niche.

What does elure bring to the plastic surgery practice?

Dr. Gold – Both dermatologists and plastic surgeons share a common focus

on cosmetic medicine. Our armamentarium for treating age-related changes and photodamage is pretty much the same, and we often see the same types of patients with the same concerns. Not everyone is a surgical candidate, nor will everyone benefit maximally from just topical preparations, or from non-invasive or minimally invasive technologies. With elure we have another option that isn't just like everything else already out there, and it appears to have wide applicability.

What do you see as the future of elure?

Dr. Gold – I'm looking forward to seeing how well we can combine elure with other therapies for enhanced overall benefits. We still have a lot to learn, but because the product

is safe and generally non-reactive, there's a lot of potential there to bring additional benefits to the patient.

“With elure we have another option that isn't just like everything else already out there, and it appears to have wide applicability.”

Dr. Alster – elure is well-positioned to take off because it has a lot of things going for it, starting with its safety and efficacy. As dermatologists and other physicians who dispense skincare products are educated about the differences between elure and other topical lighteners and brighteners, Syneron will no doubt add additional products or devices to the market. The packaging and marketing of elure is smart. The container is large enough so that the patient will not be running through excessive product every month. Although it may seem pricey, it's less expensive than many other topicals on the market, and it works.

Dr. Price – elure is an exciting addition to the armamentarium for pigmentation and will have a significant impact on care by itself and as an adjunct to other therapies. In patients with sensitive skin this is another option to lighten recalcitrant pigmentation. Any new therapy of this nature is going to be exciting for the people in our field who have to deal with pigmentary disorders on a daily basis. ■



Split-face study of elure versus hydroquinone Tx
Photos courtesy of Syneron / Candela