Versatile eMatrix Provides Minimally Invasive Rejuvenation for All Skin Types

By Kevin A. Wilson, Contributing Editor

Featuring multi-layer treatment capability and energy adjustment options, Sublative Rejuvenation via the eMatrix radiofrequency (RF) device from Syneron, Inc. (Irvine, Calif.), is garnering much attention as a force to be reckoned with for global skin rejuvenation. Experts agree that this novel alternative to laser skin rejuvenation most definitely belongs in a class of its own, confirming that RF is more versatile than previously believed.
Due to its efficacy, versatility, ease-of-use and safety, it is very possible that Sublative Rejuvenation may end up being seen as an even greater advance in the treatment of skin aging than IPL was.

With eMatrix, RF energy is delivered through a treatment tip that holds a grid of tiny electrodes, or ‘pins,’ giving the modality a fractional aspect. Healthy skin is left between predictable and static pinpoint, minimally ablative wounds. According to Michael H. Gold, M.D., director of the Gold Skin Care Center and Tennessee Clinical Research Center (Nashville, Tenn.), what sets eMatrix apart isn’t simply the novel harnessing of RF energy, it is how this energy is delivered, and what that means. “Unlike most other skin rejuvenation modalities, Sublative Rejuvenation is not laser or light-based. Another unique aspect is that the thermal damage profile is pyramid shaped instead of cone or column shaped; therefore, damage occurs through a small point of penetration but is greater below the surface, for deep volumetric subsurface heating.”

As Dr. Gold explained, energy delivery is variable in three programmed levels: Program A (least aggressive), Program B and Program C (most aggressive). Two distinct treatment tips are also available, each differing in electrode density: standard 5% coverage with the 64 pin treatment tip, and high density of 12.5% coverage with the 144 pin tip. “Between these two distinct tips I can choose lower coverage at higher energies to reach the deep dermis, or higher coverage at lower energies to impact the epidermis, depending on what I need to treat,” he said.

Since sublative rejuvenation is not light-based, treatment is safe for all skin types. The risk of side effects such as post-inflammatory hyperpigmentation is also greatly reduced, which is especially significant given that the device opens up skin rejuvenation treatment to patients with darker skin. “Treatment is also forgiving because it’s so safe, which is not to say that you can’t overdo it, but eMatrix isn’t necessarily as technique sensitive as treating with light energy,” Dr. Gold advised.

“Sublative Rejuvenation is very easy to use. The device itself is small and easily portable, which is great for two main reasons: it doesn’t take up much valuable space, and you can move it from room to room or even office to office,” Dr. Gold continued. “Due to its efficacy, versatility, ease-of-use and safety, it is very possible that Sublative Rejuvenation may end up being seen as an even greater advance in the treatment of skin aging than intense pulsed light (IPL) was,” Dr. Gold noted.

Editor’s Note: In the following clinical roundtable, four aesthetic dermatologists share their knowledge and clinical expertise of Sublative Rejuvenation with eMatrix. Collectively, these physicians have dozens of years’ experience with the full spectrum of skin rejuvenation modalities.
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**What indications do you typically treat with Sublative Rejuvenation?**

**David J. Goldberg, M.D.** – eMatrix is a tremendously effective approach to overall non-surgical skin tightening and facial rejuvenation. We use it for acne scars and facial rejuvenation through resurfacing mostly. I cannot overemphasize that it’s the best thing for darker skin types. You can easily combine eMatrix with dermal fillers or neurotoxins as well, and we do that often.

**Amy F. Taub, M.D.** – Sublative Rejuvenation is excellent for textural changes, fine wrinkles and tightening – a combination seen in most aging skin – with almost no risk and little downtime. eMatrix is also notable for scarring, even with darker skin types I’ve had no incidence of hyperpigmentation. We have not had a single case involving any persistent complication thus far. Difficult-to-treat areas such as the periorbital, perioral and neck regions are also great targets. You can use it focally and do not need to treat the full face, as the potential for pigmentary changes or post treatment redness is negligible. The new High Density pin tip for more aggressive superficial treatment is an exciting development, and when new area tips come out they will complete the circle.

**Mark B. Taylor, M.D., F.A.A.D.** – Sublative Rejuvenation seems to do well for some of the areas we’ve struggled with for a long time, such as stretch marks, scars with rippled textures, acne scarring where patients want treatment without much downtime and large pores. Also old, textured skin that’s been sun damaged, with a crépey appearance – all of these types of patients respond very well to this treatment and are very satisfied with their results.

**Michael H. Gold, M.D.** – I started with scar improvement and then moved into overall rejuvenation. Now I’m experimenting with eMatrix for pigmentation and stretch marks. One major advantage with Sublative Rejuvenation is its versatility, which we have yet to fully realize. With variable energy settings and new tip designs, our options grow with each advance and we haven’t even come close to saying we’ve fully harnessed this new and novel technology. Syneron is putting a significant amount of resources towards this to explore the capabilities.

**How versatile is eMatrix compared to other rejuvenation options?**

**Dr. Gold** – We’ve proven that Sublative Rejuvenation is useful for fine lines and wrinkles, skin tightening, acne scars and traumatic scars; it may handle scars faster than some of the other modalities out there. My results indicate I can treat scars quickly, maybe one to two sessions with less downtime than full-blown CO₂ ablation.
Pigmentation issues may be the next focus area, especially in darker skin, since the majority of the world has darker skin types. We need to make sure that we maximize eMatrix for pigmentation issues like post-inflammatory hyperpigmentation. So far things are looking positive in that regard.

Dr. Taylor – I’ve found that unlike many rejuvenation devices, you can treat off-face areas safely and achieve significant improvement in traditionally hard-to-treat conditions such as acne scars, striae or rippled texture, with relatively few sessions and manageable downtime. It’s hard to treat off-face aggressively with other modalities because healing is usually a problem, yet taking a conservative approach will not yield adequate results. However, with eMatrix we are able to manage the aggressiveness to treat the neck, chest, hands and arms, as well as a range of areas that other devices are not successful at treating. The options for aggressiveness with eMatrix make this balance possible. You can vary the energy delivery, the depth of treatment, or the number of passes. I usually use fairly aggressive settings.

Dr. Taub – Sublative Rejuvenation is also very good for large pores and very superficial wrinkles. It actually imparts some improvement of very deep wrinkles – the kind you wouldn’t expect anything other than totally ablative procedures to handle – such as glabellar wrinkles, forehead wrinkles or nasolabial folds. It doesn’t have the same effect that neuromodulators and dermal fillers would have, but there is a large population adamantly against injectables; this would be an option for them. Finally, you get more significant tightening than you do with most rejuvenation options, other than those specifically targeted for tightening.

When it’s said that Sublative Rejuvenation belongs in its own treatment category, what does that mean?

Dr. Gold – The mechanism of action with eMatrix forces us to adopt a totally different paradigm. Photorejuvenation uses lasers or other light sources such as IPL, whereby thermal injury is concentrated at the surface and defuses or loses impact as it travels deeper. With eMatrix the cone of damage is inverted; the character of clinical outcomes seen with Sublative Rejuvenation is unlike what we see with lasers. For physicians with my experience, we achieve great results with lasers, but I believe Sublative Rejuvenation may end up being easier to perform and involve less aggressive energy delivery with equivalent results, which is always advantageous.

Dr. Taub – With Sublative Rejuvenation there is ablation but no oozing; there is less downtime than with ablative therapies; and there is more tightening than with most non-ablative therapies. The ablative aspect is not the sole means of rejuvenation. Instead it is a means of getting the RF energy into the dermis. The geometry of the electrodes on the eMatrix tip allows RF energy to be transmitted from one electrode to the next; the more energy delivered, the deeper the penetration. Ablative lasers promote linear contraction on the X-Y axis, as well as some tightening on the Z axis. Sublative rejuvenation is more of a loop, circular with an inverted cone of damage that’s greater beneath the skin (versus column shaped), so it has an inversion quality to it. By that I mean it pushes the surface up, thus elevating the skin and making it look less flat. This is what I mean by inversion rejuvenation. Sublative Rejuvenation has this quality of plumping the surface out at the same time as shrinking it down, so it acts more like an
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Ablative device but with much less downtime. With make-up you can go to work the next day or even the same day.

Dr. Goldberg – The bottom line is that Sublative Rejuvenation is a radically different approach to skin rejuvenation and tightening. Bi-polar RF isn’t new, but the multiple electrode configuration and the use of ablation, heating and coagulation in this manner is novel. The easy analog is fractional lasers, of which there are many different versions and they all work very well, but they’re all light-based and have the same basic mechanism of action. The impact on tissue with eMatrix is very different, which is why it works so well for any skin type. Lasers mostly impact the surface, and the effect dissipates as you go deeper, but eMatrix is the opposite. There’s nothing like it. There is no comparison with the results one sees with surgery, but we must consider the relative lack of risk and downtime, plus reduced discomfort overall.

Please share your treatment protocol with eMatrix.

Dr. Goldberg – I prefer treating without anesthesia, but sometimes I’ll use local topical anesthetic with aggressive parameters. The skin has to be cleaned very well with either alcohol or some other degreasing agent to get all the oil and residue off the skin. You do not need goggles like you do with lasers, and we don’t cover patients’ eyes, so they don’t get claustrophobic. Then you basically track this applicator over the course of the skin; the entire face can easily be treated in 15 or 20 minutes. There is some post treatment erythema and redness that tends to resolve over the course of one to three days. We generally have been treating people around three times.

Dr. Taylor – We use Zimmer Coolers during treatment and a light ointment afterward, which patients like to use during recovery. Patients seem to really do well with this approach and are happy with the results. I think it’s a real advantage that treatment can be carried out without any sedation or major pain medication. This reduces risk and patients can drive themselves to and from the office, which is very convenient.

What differentiates eMatrix clinical outcomes from that of other popular rejuvenation technologies such as fractional ablative lasers?

Dr. Taylor – Sublative Rejuvenation brings back some of the luminescence to the skin in a unique way. Patients are pleased to get a little bit of brilliance and light reflectance of their skin. It also smoothes the surface in such a way as to give them a healthier, glowing, youthful look in fewer treatments than many of the other devices out there. I do a lot of aggressive ablative treatments when treating scars. When you’re aggressive with an ablative laser you’ll have redness typically lasting a few weeks to a few months, with greater risk of infection, plus you must protect the skin from sun a lot longer. This is not so with eMatrix. Ultimately if we get great results from ablative laser treatments – we typically get it in one treatment – the patient pays for that with more downtime, more inconvenience and more risk than you see with eMatrix.

Dr. Taub – It’s difficult to document or even discuss, frankly, but eMatrix does more than simply tighten. You get a firming or tightening that’s fundamentally different from what you see with other devices. It’s almost a glow, and patients really like it. The aging face becomes a lax envelope, so to speak; normally when you tighten the skin it becomes firmer, and takes up some of the slack. For example, with tightening
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Dr. Gold – With eMatrix the downtime is variable depending on the aggressiveness of the settings, just like many other machines. Even still, the most aggressive treatment will give you maybe three days of downtime at most with this device, down to almost nothing on lighter settings. An easy way to look at it is setting A is one day, B is two days and C is three days. It’s simplistic but that generally works for me.

Dr. Taub – For one thing downtime with eMatrix is very low, maybe a day depending on the settings you use, and you can easily go right back to work. Any redness subsides within 24 hours. Edema can be pronounced, and I recommend two days of steroid treatment to make it truly no downtime. You do get fine, diffuse crusts that correspond to the ablative points but it’s barely noticeable. Since it doesn’t cause pigmentation problems or demarcation lines, you can treat just part of the face, which you have to be careful of when using a laser resurfacing device.

Dr. Goldberg – If you think in terms of the weeping and oozing you might see with some of the ablative fractional lasers, you don’t get that with eMatrix. If you are using a less aggressive approach then there is zero downtime. If you use the most aggressive approach, which we sometimes do for deeper wrinkles, people do it on a Friday. They will be red over the course of a weekend, but they’re fine by Monday.

Dr. Taylor – Overall, downtime is not terribly significant, almost nothing if you’re talking social downtime. Sublative Rejuvenation has to be considered minimally ablative because it does breach the epidermal barrier, but it’s nice not to have the oozing or pinpoint bleeding you see with fractional ablative lasers. It’s less messy and much easier to take care of than anything but the lightest ablative fractional laser treatment. I underwent this treatment myself and although I looked a little red and blotchy for a few days, I continued to work, looking respectable all the while.

Dr. Taub – The easy answer is that eMatrix is now our treatment of choice for darker skin types. Darker skin types age differently, but more importantly these patients want to be treated too, and the flagship device just won’t do it most of the time. This is true for both rejuvenation and scarring. Even in Caucasians, it accomplishes many of the things that ablative devices cannot without a significant amount of downtime or discomfort, striking a good balance between non-ablative and ablative. We have many fewer patients willing to undergo totally ablative procedures out of fear of discomfort and short-term disfigurement, as well as lack of downtime.

Dr. Taylor – We’ve used eMatrix on just about every skin color and have had no problems
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with either hypopigmentation or post-inflammatory hyperpigmentation, so it seems amazingly safe, despite being moderately aggressive. I’m a little surprised that it does work so well because most of the time, it’s risky to create some inflammation and ablative change in the skin of patients who have a tendency to hyperpigment. The patients we’ve treated haven’t had that problem, which is very gratifying. I’m sure it could happen, and it’s important to ask patients about their tendency to hyperpigment after injury or acne, but so far we’ve been able to treat every skin type without a problem.

Also, eMatrix can be used for almost any age group. In younger patients you’re not going to be treating sun damage, you’ll be treating scars. In teenagers, you might be using it to treat acne scars. Then you get to patients in their thirties and forties who’ve seen too much sun and start to show uneven skin texture; that’s a great time to use this device as well. Older patients tend to get the crépey neck and hands, the spots on their arms and other expected manifestations of photodamage. Additionally, the ability to treat off-face is another way to increase the device’s appeal.

How have patients reacted to eMatrix and the results they attained? What are they looking for that eMatrix provides?

Dr. Taylor – One simple fact is that when you compare eMatrix to lasers, you can apply make-up to cover the problem for the few days of downtime you might go through. Maybe you’ll be a bit red and blotchy for a few days, but it’s nothing you can’t easily deal with the day after treatment. You don’t have to stop working or avoid social events. That, plus the quality of improvement, is very appealing to patients and is one of the biggest advantages of Sublative Rejuvenation.

Dr. Taub – Patients want something that works and something they don’t have to take time off from work to recover from, with minimal disruption of daily life. This is no secret, it has been the trend, and it’s safe to say that ‘more results with less downtime’ is the Holy Grail of aesthetic medicine. We all know you can do ablative resurfacing and get the greatest result and we’ll probably never be able to get that result with no downtime, but that’s what people want. Furthermore, people are scared of procedures and potential complications. I think what eMatrix does is inch a bit closer to ablative-type results in the dermis. What’s really different is that the shape of their face changes. Nothing is ever free of complications, but we haven’t observed any significant side effects or anything we’d need further treatment to fix.

Are there any treatment tips with Sublative Rejuvenation that you would like to share?

Dr. Gold – The first is to be sure you understand what any new terms mean; this will help you understand eMatrix. The other is that for treating scars, I usually treat the entire face first, with a second pass over the scar being treated. This seems to work well.

Dr. Taylor – When treating the face, I’ll perform a full-face treatment, then after about 15 minutes I will note where I’ve been, which is easy to do because of the redness. Then I perform a second pass on trouble spots where we want greater improvement.

Dr. Goldberg – I think the biggest thing is that Sublative Rejuvenation requires very
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clean, dry skin to ensure proper energy delivery, which is a switch for those of us used to laser therapies. Thorough pre-treatment cleaning with a high alcohol content solution is essential.

What are your final thoughts for readers? What do you see as the future with eMatrix?

Dr. Taub – I think eMatrix is going to be a great anti-aging weapon for your average patient, including the rapidly increasing population of darker skin type patients interested in cosmetic procedures. It fills a very big niche. The unique combination of dermal remodeling and little downtime is appealing. The ability to treat focal areas without having to worry about full-faces, which also makes it less expensive for the patient, is another bonus. The other niche is younger people. Patients are looking for rejuvenation sooner and sooner, when they don’t have as much damage – eMatrix hits that sweet spot, too.

Dr. Taylor – I’d like to reiterate how great it is to have a device that can successfully treat off-face with somewhat aggressive settings to obtain worthwhile results.

Dr. Gold – The potential for this device is very exciting. Syneron will continue to develop new tips and treatment settings and other changes that will further expand the versatility of Sublative Rejuvenation. We can further maximize this treatment as we discover new combination therapies. There’s a lot to uncover with what we have now, just in developing and refining protocols with this new modality. With the merger of Syneron and Candela, I’d like to see their core technologies merged to produce powerful new tools as well. Things like this might help us shift our focus back to medical from the aesthetic, so we can conquer other indications.

Conclusion

Across the board, roundtable participants agreed that Sublative Rejuvenation with eMatrix is a powerful new modality offering a wealth of untapped potential in a category of its own. Efficacy, safety and minimal downtime are all hallmarks of eMatrix treatment, resulting in unique and remarkable outcomes. The versatility of eMatrix lies in both the adjustability of treatment parameters, as well as the type of energy involved. As Sublative Rejuvenation evolves and further studies are executed, the versatility and value of this modality will only increase.