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Dermapen:™ a New Tool for Skin Rejuvenation and Repair

In San Antonio, Texas, where I practice cosmetic surgery, we have 300 days or more of sunshine a year, and most of my patients have Fitzpatrick skin type 3 or greater. These factors greatly impact my efforts to treat the cutaneous effects of age, sun exposure, acne and trauma in the exposed areas of the face, neck and décolletage. Since there are significant risks of complications with laser therapy and even IPL treatment in dark-skinned individuals, I have been extremely interested in other effective therapeutic interventions that might be of benefit to my patients.

Several years ago, I began using activated platelet rich plasma (PRP) injected directly into the dermis to stimulate cell regeneration and collagen formation. Although the initial results were promising, the injections were painful and few patients returned for second or third treatments. Another technique I tried was using the DermaRoller® micro-needling device to inflict a controlled injury, spare the epidermis and stimulate the regenerative process. This, too, met with success, but patients were skeptical; it was difficult to control the depth of the injury, there was significant discomfort with the longer needle lengths and compliance was poor. And finally, the advent of fractional radio-frequency devices (3 Deep FX™ and E Matrix™) proved useful in our practice but cost, discomfort and downtime remained significant obstacles to their widespread use.

After researching alternative modalities, I came across one possibility at the AACS' 2012 Annual Scientific Meeting in Las Vegas this past January – a new device for skin rejuvenation called the Dermapen. The device is about the size of a fountain pen. (fig. 1) On one end, there is a spring-loaded disposable piston with 11 micro-needles mounted on the endplate. At the other end is an electric cord. There are two dials that control depth of the needle entry and frequency of the piston stroke. Thus, at the highest setting, (90 Hz) it can produce 990 individual micro-holes/second. Needle depth can be varied

between 0.3 and 2.5 mm. The device therefore provides a method for inflicting controlled injury to the dermis while sparing the epidermis. I have found the use of this device is also an ideal way to administer PRP and take advantage of the natural synergy offered by this technology.

After substantial testing and training, I introduced the Dermapen into my practice. The indications for treatment are: aging skin, wrinkles (fig.2), acne scars, stretch marks (fig. 3) and surgical scar hypertrophy. As of this writing, my practice have used it with 70 patients. Nineteen were treated with Dermapen alone, 48 were treated after activated PRP had been painted on the skin, and three had both types of treatment during their course of therapy. Most patients had multiple treatments. There were no complications.

Patients have reported being pleased. The drop-out rate from a multi-treatment program has been very low. While there is an initial perceptible change in skin brightness and tone, this diminishes over a two-week period. As the collagen begins to strengthen and form, and fibroblast proliferation takes place, the beneficial effects are restored.

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The beneficial effects are maximized at one month post treatment. At this point, I typically perform another treatment.

Much clinical and experimental work is being done to define the role of Dermapen used both alone and in combination with PRP for skin rejuvenation and scar therapy. In my practice, this device has proven advantageous in terms of patient comfort, satisfaction, recovery and results. Complication rates and costs are much lower than the energy-mediated modalities, and it can be safely used in patients of all skin types.

Disclaimer: This article reflects the experiences of Dr. Mozersky's office and does not constitute an endorsement of the AACS on any product or person mentioned.



Figure 1



Figure 2



Figure 3



Scan the QR code to see a video of Dr. Mozersky using the Dermapen.