

layering for **BEAUTY**

Fractional Skin Tightening and Fractional Laser Resurfacing

By Todd E. Schlesinger, MD, FAAD

■ There are a tremendous number of ways to enhance one's natural beauty. Collagen, the building block of skin, would look like long rods woven in threes and cross linked to one another if it could be seen with the naked eye. However, collagen fibers are only visible with the highly specialized electron microscope. Over time, the collagen fibrils become loose, weak and thin producing skin that is loose, flabby and lacks luster. Unfortunately, the skin may have stretch marks or appear like cigarette paper on the surface.

When heat, whether from laser or light, is delivered to the skin surface or underlying skin layers striking these collagen fibrils, a certain amount of microscopic damage occurs. As a result, this damage calls up the skin's repair mechanism which goes to work repairing the damage. Like ice looks after being swept by the ice-cleaning machine at the hockey rink, once the repair is complete, the collagen fibrils are smoother, stronger and more in number than before. Collagen buildup continues for months after the series of 3-5 treatments are complete. The concept can be likened to "banking" collagen or saving it for the future. New collagen will be there to make the skin look smoother, be more healthy and also more resilient to future damage from external forces such as the blistering sun.

Fractional light or laser delivery involves a patented process whereby laser or intense pulsed light is broken into smaller individual beams before being delivered

to the skin surface. Between the beams are areas that are left untreated. By intensely treating certain areas and leaving untreated areas between them, ample fresh collagen producing cells are made available to repopulate the treated areas. In sharp contrast, older laser resurfacing techniques completely or partially removed the protective top layer of the skin, called the epidermis, in order to treat the collagen-rich layer below. Removing the protective layer is dangerous because it does not always heal well. During the healing process, while the underlying areas are exposed, infection could set in causing scarring or abnormal skin texture.

Many different devices and procedures have been promoted to tighten skin, but some are unreliable and produce results for only a fraction of patients treated. Others are fraught with reports of side effects such as depressed areas of skin or scarring.

One such set of fractional devices that I have a lot of experience with and have witnessed spectacular results of is manufactured by Palomar Medical. Palomar recently won the 2007 Professional's Choice Award for the Favorite Laser and Light Manufacturer. I believe these two are the most effective and beneficial devices: the Palomar Lux1540 Erbium Fractional Resurfacing Laser and the Palomar LuxIR Fractional Skin Tightening Intense Pulsed Light Device. Both use internally chilled sapphire treatment tips that cool the surface of the treated skin incredibly well. Sapphire conducts heat away from the skin as well as

metal and does this much more efficiently than the quartz tips used in other devices. Unlike other devices that use bulk (non-fractional) energy delivery, these new fractional hand pieces protect the skin while intense light or heat is delivered to the treatment area with the greatest safety and effect.



Patient treated with the Palomar Lux 1540



Patient treated with the Palomar Lux IR

But, what about the results? Erbium Fractional Laser Resurfacing has been a very satisfying and successful part of my practice. Our patients are ecstatic over the smoother skin, a reduction in fine lines and wrinkles and improved skin texture. Since about twenty percent of the actual skin surface is treated during each session, typically a series of five treatments is

suggested, although three is often enough around the eyes. Fractional resurfacing is not just for wrinkles; we use it to treat acne scars, surgical scars, keloids and stretch marks as well. It is easier for the patient than the alternative Fraxel treatments as much less preparation time is needed and there is much less discomfort allowing the use of an application of topical numbing cream, not nerve blocks.

Fractional Skin Tightening has also been rewarding for both our staff and our patients, producing very good results in terms of tightening the lower face and jaw line. The jowls are reduced in size and there is tightening of the skin below the chin and down onto the neck. The facial contour is improved for a more youthful appearance. Again, five treatments are generally suggested for optimal results. In contrast, Thermage treatments have been less reliable with some patients getting little or no result. The necessary expense of several treatment tips drives up the cost and the procedure has been repeatedly reported to be painful. More side effects such as depressed areas and thermal burns have been reported with Thermage as well. Fractional Skin Tightening is used not only for tightening loose skin, but for stretch marks, scars and pain relief.

When you think of a surgical facelift, the skin is pulled tighter, but the quality of the skin is not affected. With fractional treatments, the quality of the skin is improved as is the tightness of the skin resulting in a smoother, more natural appearance.

As a result, fractional treatments are an excellent option as an adjunct to a surgical facelift or as a stand alone procedure. Remember, no matter what procedure you may think is best for you, always put your skin in the hands of a board-certified dermatologist. ■



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