soft tissue regeneration. As vehicles for controlled delivery of growth factors, platelets are injected into the dermis where they induce proliferation of fibroblasts, promote the production of new collagen and other extracellular matrix components, stimulate stem cell migration proliferation and differentiation, and improve micro-vascularization. The RegenACR A-PRP kit is used to treat scars, acne scars, stretch marks and keloids, as well as highly fibrotic and thick scars.

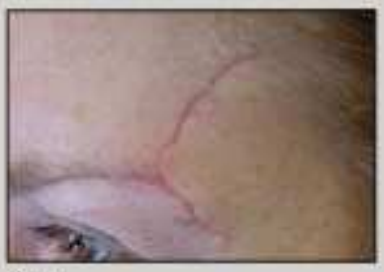
Other emerging technologies also hold tremendous promise. For instance, embrace™ technology, from Neodyne Biosciences, Inc. (Menlo Park, California, U.S.), is a new approach to dealing with post-surgical scars. It has been clinically proven to reduce scarring by providing a uniform compressive strain across the length of an incision, via a specialized applicator and tension treated elastomeric dressing. Studies have shown that providing a tension free environment for several weeks after surgery promotes better healing and reduces scarring. This patented technology is based upon mechano-modulation of the skin's surface. The dressing adheres over the closed incision and surrounding skin. When released from the applicator, the dressing retracts, providing a flexible uniform compressive strain that actively controls mechanical stresses across the length of an incision site.

Among developmental products, two pharmaceutical products are being tested for scar therapy. Designed to inhibit hypertrophic scar formation following surgery or trauma, EXC 001, from Excaliard Pharmaceuticals (San Diego, California, U.S.), prevents scarring by interfering with connective tissue growth factors. Capstone Therapeutics (Tempe, Arizona, U.S.) is currently working to develop AZX100, a novel synthetic 24-amino acid peptide, one of a new class of compounds in the field of smooth muscle relaxation and fibrosis. The compound is currently being evaluated for prevention of hypertrophic and keloid scarring. Capstone filed an Investigational New Drug (IND) application with the FDA to evaluate AZX100 for a dermal scarring indication in 2007 and as of mid-2012, clinical evaluations were ongoing.

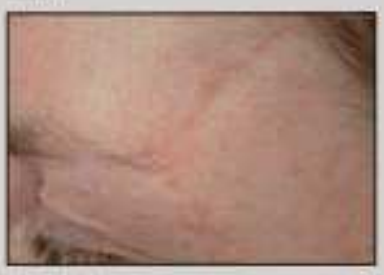
Celotres, from Halscion, Inc. (Suwanee, Georgia, U.S.) is a hydrogel scaffold intended to improve the appearance of incisional scars. It is injected into the subdermal layer prior to final closure of an incisional wound, and also addresses keloids. The company announced European CE Mark in April 2012.

In a category of its own, the DermaPen handheld microneedling device from DermaPen (Salt Lake City, Utah, U.S.), is intended for scar therapy and treatment of burns, among other things. Constructed of multiple needles that vertically pierce the skin, the device stimulates collagenesis. Phase one begins with the release of growth factors and new epidermal growth, fibroblast chemo-taxis and proliferation, as well as matrix production. Tissue regeneration continues with the release of growth factors from fibroblasts, keratinocytes and monocytes.

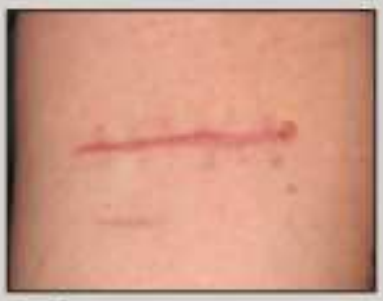
Even as the techniques for treating scars continue to grow more sophisticated and diverse, Dr. Moelleken reminds practitioners that no amount of technology will help unless the patient buys into the treatment and follows their physician's orders. "There is much more to treating scars than the device or product used. The patient is the one who has to be responsible for the outcome," he concluded. ■



Before Tx



After Regenlite Tx
Photos courtesy of Dermagenex



Before Tx

Four weeks after four Ellipse A/S IPL treatments
Photos courtesy of Ulrich Schaeffer, M.D.