Microneedling

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Microneedling, or skin needling, is an aesthetic technique used for decades prior to resurfacing lasers, but it has recently experienced a surge in popularity, particularly for ethnic skin. In 1995, subcision or dermal needling was identified as an effective treatment for scars. Since then, the technique initially referred to as collagen induction therapy has become a staple in the treatment of acne scars, surgical scars, photo aging, and stretch marks.

The skin needling technique involves using fine sterile needles 0.1mm-2.5 mm in length that repeatedly pierce the stratum corneum, producing microscopic “holes” in the dermis. These microscopic wounds lead to the release of growth factors stimulating the formation of new collagen, elastin, and neovascularization in the dermis. There are many brands and manufacturers of microneedling tools on the market, including dermarollers, Dermapen, Dermastamp, Cosmopen, and multiple other in-office and at-home devices. At-home devices usually have shorter needles and provide significantly less penetration and injury, and therefore may be less effective.
Prior to the procedure, patients are often anesthetized with topical anesthesia without vasoconstrictors for 1 hour. The area is cleaned with sterile gauze and alcohol or Hibiclens, and a microneedling device is used to either roll or prick the skin in multiple alternating passes. The depth of penetration, number of passes, and degree of overlap is highly dependent on the underlying condition, the area being treated, the brand of device used, and the length and frequency of the needle insertion. Petechiae and pinpoint bleeding occur during the treatment. Treatments are usually done 4-6 weeks apart. Post procedure, the patient often experiences mild erythema, bruising, and some mild edema.

This technique has been particularly beneficial to patients with skin of color who are not candidates for fractional lasers because of the risks of hyperpigmentation and scarring. There is low risk of hyper- or hypopigmentation with microneedling, and multiple treatments can be performed in patients with types III-VI skin and those with a history of melasma.
Contraindications and precautions when considering microneedling include: history of keloid or hypertrophic scarring, recent skin rashes, history of herpes simplex infections if the perioral area is being treated, and the presence of raised moles, warts, or any raised lesions on the targeted area. Absolute contraindications include: scleroderma, collagen vascular diseases clotting problems, active bacterial or fungal infection, and immunosuppression.

Microneedling is a safe, effective, in-office procedure with a range of uses. Many new indications are currently being explored. In my practice, we have used microneedling for atrophic scars, repigmentation of depigmented scars and vitiligo, stimulation of hair regrowth in noninflammatory alopecias, and treatment of burn scars. Patients are generally very happy with the quick treatment time, minimal downtime, and overall long-term results.

References


Dr. Talakoub and Dr. Wesley are cocontributors to a monthly Aesthetic Dermatology column in Dermatology News. Dr. Talakoub is in private practice in McLean, Va. Dr. Wesley practices dermatology in Beverly Hills, Calif. This month’s column is by Dr. Talakoub.

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