

# Microneedling plus cupping may aid skin rejuvenation

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A combination of emerging and alternative techniques—microneedling to induce collagen and cupping to increase tissue perfusion—may have a synergistic effect in producing skin rejuvenation, according to an experimental study in the June issue of *Plastic and Reconstructive Surgery*.

"Cupping therapy can be added to microneedling therapy and used to increase certain desired effects on skin," comments lead author Burak Pasinlioğlu, MD, of Kecioren Research and Training Hospital, Ankara, Turkey. "This combination might provide an easy and effective method to improve skin quality in [plastic](#) surgery practice."

## Experiments look at cellular effects of microneedling plus cupping

Microneedling is a nonsurgical technique that has been used to promote skin regeneration and scar healing. Needles are used to create tiny channels in the skin, with the goal of inducing collagen and other healing factors. "Many studies have demonstrated that microneedling has significant benefits for skin regeneration and scar healing," Dr. Pasinlioğlu and co-authors write.

Cupping is a centuries-old method of alternative medicine that has been shown to produce beneficial effects on the skin. "These effects are similar to those of negative pressure wound therapy, an approach

commonly used in [plastic surgery](#)," according to the authors. They designed an experimental study to examine the effects of adding cupping therapy to microneedling.

In the study, the researchers performed a single session of microneedling on the skin of anesthetized rats. One group of animals underwent microneedling alone, while the other group underwent microneedling followed by a brief session of cupping. Cupping consisted of applying gentle negative pressure (suction) on the treated skin.

Other animals underwent three sessions of treatment with microneedling, alone or followed by cupping. The goal of the procedures, alone or in combination, was to trigger inflammation and blood supply (vascularization). After four weeks of healing, cellular-level skin changes were compared for rats undergoing microneedling alone or microneedling plus cupping.

## **Significant increases in skin thickness and collagen levels**

The results showed significant improvement in skin thickness. In the outer layer of the skin (epidermis), thickness increased from about 24 micrometers ( $\mu\text{m}$ ) with one session of microneedling alone to 42  $\mu\text{m}$  with microneedling plus cupping. Cupping was also associated with increased thickness of the dermis, the skin layer beneath the epidermis. There was no further increase in skin thickness with three sessions compared to one session of treatment.

On immunohistochemical studies, microneedling led to greater increases in levels of type 1 collagen within the skin. The ratio of type 1 to type 3 collagen also increased—a high percentage of type 1 collagen is characteristic of younger [skin](#), the researchers note. Percentages of type

1 and 3 collagen were not significantly affected by adding cupping to microneedling.

The preliminary, experimental findings suggest that a combination of microneedling and cupping might provide a useful technique for [plastic surgeons](#) seeking to improve on the results of facial rejuvenation procedures. Dr. Pasinlioğlu and co-authors conclude, "The added benefit of negative pressure with microneedling may prove to be an easy and practical method with synergistic effects."

**More information:** Burak Pasinlioğlu et al, Comparison of the Effects of Skin Microneedling with Cupping Therapy and Microneedling Alone: An Experimental Study, *Plastic & Reconstructive Surgery* (2023). [DOI: 10.1097/PRS.00000000000010134](#)

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