

# Microneedling improves appearance of surgical scars—especially if performed early

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(Left) Face lift incision scar 13 weeks postoperatively before first microneedling treatment. (Right) Face lift incision scar 8 weeks after third and final microneedling treatment. Credit: *Plastic & Reconstructive Surgery* (2022). DOI: 10.1097/PRS.00000000000009466

Performed early after surgery, a procedure called microneedling can improve the final appearance of surgical scars—with best results if done within six to seven weeks, reports a study in *Plastic and Reconstructive Surgery*.

That's in contrast to the "conventional wisdom" that treatments to

improve the appearance of surgical scars should be delayed for up to a year, according to the new research by Casey Gene Sheck, DO, and colleagues under the direction of R. Brannon Claytor, MD, Chief of Plastic Surgery at Main Line Health at Claytor/Noone Plastic Surgery in Bryn Mawr, Pa. "Our findings suggest that microneedling 6 weeks after surgery to restart the [healing process](#) is an option to improve the final outcomes of postoperative scarring," the researchers write.

## **'Paradigm shift' on preventive approaches to improve scarring**

Microneedling is a nonsurgical technique that has been used to improve the appearance of the skin in a number of conditions, such as chronic acne scars. In this procedure, after the skin is numbed, a power handpiece with needles of different sizes is used to create tiny channels in the skin.

Sometimes called "minimally invasive percutaneous collagen induction," microneedling works by inducing the body's own healing factors, such as collagen and elastin. Typically, microneedling or other treatments to improve the appearance of surgical scars have been delayed until after the scar has fully matured: between 6 and 12 months. Dr. Sheck and colleagues evaluated an alternative approach using microneedling in earlier phases of the healing process, with the goal of reactivating the healing pathway.

## **Microneedling results**

The study included 25 women with surgical scars resulting from various plastic/skin surgery procedures, such as benign lesion removal, facelift, or tummy tuck. Each patient underwent microneedling, with the first treatment performed at 6 and 16 weeks after surgery. The second and

third treatments were performed 4 and 8 weeks later, respectively.

After microneedling, the patients had significant improvement in scar appearance, based on three different standardized assessments. For example, on the Patient and Observer Scar Scale (POSAS, with a range from 6 to 60, with lower scores indicating better appearance), average score decreased from 23.7 before microneedling to 11.7 at follow-up (2 months after the last treatment).

The researchers also compared results for patients who started microneedling earlier, 6 to 7 weeks after surgery; versus later, 13 to 16 weeks. The results showed "markedly better" improvement in POSAS scores for the earlier treatment group: from 16.8 to 8.1, compared with 26.1 to 14.2 in the later treatment group. Outcomes were similar for patients in different age groups and for those with scars located on the body versus face.

## **New advice improves outcomes**

"While more research is needed to fully evaluate this finding, it certainly represents a significant [paradigm shift](#) in scar management," Dr. Sheck and colleagues conclude. "Patients and surgeons interested in maximizing scar management may elect for early intervention with microneedling prior to development of undesirable scars as a matter of preventative care."

In contrast to the standard advice to delay treatment until the scar is completely healed, the new study suggests that early microneedling—performed during the late proliferation/early maturation phase of healing—can markedly improve final [scar](#) appearance. The improvement may result from reactivation of the healing process at a time when collagen production has started to decline.

**More information:** R. Brannon Claytor et al, Microneedling Outcomes in Early Post-Surgical Scars, *Plastic & Reconstructive Surgery* (2022). [DOI: 10.1097/PRS.00000000000009466](https://doi.org/10.1097/PRS.00000000000009466)

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