New Study Reports Significant Reduction in Postsurgical Scar Depth Following DC Microcurrent Stimulation

Pilot study using high-resolution 3D ultrasound found an average 23.8% reduction in measured scar depth immediately after one treatment.

Before and After Treatment

CANADA, August 11, 2026 /EINPresswire.com/ -- Pilot study using high-resolution 3D ultrasound found an average 23.8% reduction in measured scar depth immediately after one treatment

TORONTO, ON — August 12, 2026 — A newly accepted pilot study in the Journal of Bodywork & Movement Therapies reports that direct-current (DC) microcurrent stimulation was associated with a statistically significant reduction in measured postsurgical scar depth immediately following a single treatment. The article, Effects of DC Microcurrent Stimulation on Scar Remodeling and Tissue Recovery, has been accepted for publication and assigned DOI 10.1016/j.jbmt.2026.07.039.

The prospective, non-randomized cohort study included 17 patients with surgically induced scars. Researchers measured scar depth at the same anatomical locations immediately before and after treatment using a 17 MHz three-dimensional volumetric ultrasound probe.

Each participant received one DC microcurrent treatment using two Dolphin Neurostim devices. Stimulation was applied bilaterally along the scar for 30 seconds per point at approximately half-inch intervals, using opposing polarities. Treatment sessions lasted approximately 15 to 20 minutes.

Mean scar depth decreased by 0.447 mm, representing an average reduction of 23.8%. The change was statistically significant, with a 95% confidence interval of 0.264 to 0.630 mm and $p<0.001$.

The authors state that, to their knowledge, the study represents the first report of DC microcurrent therapy producing a measurable reduction in the physical size of scar cicatrix. The study used high-resolution ultrasound to provide an objective structural measure rather than

relying solely on visual assessment or patient-reported change.

All participants also spontaneously reported improvements in pain and range of motion. However, these outcomes were not formally measured as part of the study and therefore require further investigation.

The authors propose that changes in scar morphology may have implications for tissue mobility, fascial glide and rehabilitation, but these potential clinical effects remain hypotheses that require confirmation in controlled trials. The manuscript notes that thickened or tethered scars can restrict fascial glide and alter biomechanics, while reduced fibrosis or tissue softening could potentially improve mobility and reduce mechanical irritation.

Scar Treatment using devices

“This study introduces an objective imaging approach for evaluating scar response to DC microcurrent stimulation,” said Dr. R. Gokal, corresponding author. “The findings are encouraging and support further investigation using larger controlled studies and longer-term follow-up.”

Scar treatment device

The researchers emphasize that the study was preliminary. It included only 17 patients, had no control or placebo group, and measured outcomes immediately after a single treatment. The study therefore does not establish whether the observed changes are sustained over time or whether repeated treatment would produce similar or greater effects.

The authors conclude that high-resolution ultrasound may provide clinicians and researchers with a useful objective method for studying structural changes in scar tissue following non-invasive interventions.

Study citation:
Gokal R, Armstrong K, Todorsky W, Durant J. Effects of DC Microcurrent Stimulation on Scar Remodeling and Tissue Recovery. Journal of Bodywork & Movement Therapies. DOI: 10.1016/j.jbmt.2026.07.039.
Disclosure: The researchers emphasize that this was a small, uncontrolled pilot study. Larger randomized studies and long-term follow-up are required to confirm durability and determine optimal treatment frequency.
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