

How long does edema after rhinoplasty really last?

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The decrease in postsurgical nasal edema following rhinoplasty was found to be highly accurate using three-dimensional morphometric assessment, according to [a study](#) in the December edition of *Plastic and Reconstructive Surgery*.

The authors note that post-op edema can mask the final result of rhinoplasty for several months, but that no objective evidence supports this time estimate.

The investigators three-dimensionally quantified the decrease in post-op nasal edema after rhinoplasty by using 3D volumetric data culled from the Vectra 3D imaging system (Canfield), “that was then analyzed and processed using Geomagic software (3D Systems),” corresponding author Derek Steinbacher, D.M.D., M.D., tells *Cosmetic Surgery Times*.

“Serial time points were captured postoperatively and compared to the baseline (first week postop image),” Dr. Steinbacher says. “The difference in volume (subtraction) over time was then seen and analyzed.”

The retrospective study consisted of 40 patients with primary, open rhinoplasty, all of whom had at least three postop 3D images taken over the first year, for a total of 146 pictures.

A six-point moving average was used to create an inverse function line of best fit.

Results show that roughly two-thirds of edema resolves within the first month, 95% after 6 months and 97.5% after 1 year.

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Further, a plateau is reached at 84.4% of the original postoperative volume.

Dr. Steinbacher, an associate professor of plastic surgery at Yale School of Medicine and Yale New Haven Health, says this method of assessing post-op edema resolution is “quite accurate,” plus “three-dimensional and quantifiable.”

However, the authors expected 100% of the edema to be resolved by 1 year. In reality, though, “some edema still remained and resolved past the 1-year mark,” Dr. Steinbacher says.

The findings from the study “help us counsel patients and frame both surgeon and patient expectations better,” says Dr. Steinbacher, director of craniomaxillofacial and facial aesthetic surgery at Yale. “3D technology and simulation are powerful analytic tools in aesthetic surgery and rhinoplasty. These techniques enable us to answer exciting research questions, and improve the results we achieve.”