

# Two techniques of temporal migraine surgery are 'equally effective'

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Two migraine surgery techniques targeting a specific "trigger site" are both highly effective in reducing the frequency and severity of migraine headaches, according to a randomized trial in the July issue of *Plastic and Reconstructive Surgery*, the official medical journal of the American Society of Plastic Surgeons (ASPS).

Patients with temporal-type migraine derive similar and significant improvement from techniques that relieve pressure on (decompression) or remove a portion of (neurectomy) the [nerve](#) responsible for triggering their headaches, reports the study by ASPS Member Surgeon Bahman Guyuron, MD, Emeritus professor of [plastic surgery](#) at Case School of Medicine, Cleveland, and colleagues.

## Both Approaches Effective for Temporal Migraine Surgery

Dr. Guyuron developed the migraine surgery techniques after noticing that some migraine patients had reduced headache activity after undergoing cosmetic [forehead lift](#) procedures. The surgery targets trigger sites in the nerve branches that produce headaches, identified by preoperative evaluation. Trigger sites are detected using a constellation of symptoms, nerve blocks, ultrasound Doppler and CT scans.

The study included 20 patients with the temporal type of [migraine headaches](#)—one of the two most common trigger sites. All had severe

and frequent migraine attacks despite standard medications. The patients underwent surgery on both sides of the head, targeting the nerve implicated in temporal migraine headaches: the zygomaticotemporal branch of the trigeminal nerve (ZTBTN).

On one side, a decompression procedure was performed to relieve pressure placed on the nerve by surrounding tissues. On the other side, a neurectomy procedure was performed, in which a small piece of the nerve was removed. Neurectomy of the ZTBTN has long been performed as part of several plastic and neurosurgery procedures for decades, with no apparent complications.

To assess the relative effectiveness of the two techniques, outcomes were compared between sides one year after surgery. In nearly 90 percent of operated sites, surgery produced at least a one-half reduction in migraine frequency, days with migraine, and headache severity and duration.

The results were almost identical between sides. Migraine frequency decreased from 14.6 to 2.2 per month with nerve decompression and from 14.2 to 1.9 per month with neurectomy. Migraine severity (on a ten-point scale) decreased from 7.0 to 2.9 with decompression and from 6.8 to 2.6 with neurectomy.

Both techniques also reduced migraine-related disability. There were no complications of either procedure.

Migraine surgery has emerged as an effective option for patients who don't respond to the limited medication options for treating migraine headaches. Since 2000, Dr. Guyuron and his team have published 24 articles in peer-reviewed journals on migraine surgery and its efficacy, with another 12 research projects in process. Five independent centers have confirmed Dr. Guyuron's findings.

The new trial adds to the evidence by showing that decompression and neurectomy are "equally effective" techniques for treatment of appropriate patients with temporal [migraine](#) headaches. Dr. Guyuron and colleagues conclude, "Both procedures can be performed safely with significant improvement in symptom burden, without concern for great morbidity [complications]." They add that patients who don't get adequate relief from initial decompression [surgery](#) might still benefit from neurectomy as a second option.

**More information:** "A Prospective Randomized Outcomes Comparison of Two Temple Migraine Trigger Site Deactivation Techniques" [DOI: 10.1097/PRS.0000000000001322](https://doi.org/10.1097/PRS.0000000000001322)

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