



Rush Facial Nerve Surgery Study Compares Best Patients Options



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A study conducted by Rush University Medical Center's Ryan M. Smith, MD, and Peter C. Revenaugh, MD, compared the results of hypoglossal and masseteric nerve transfer procedures. These procedures are currently the most popular cranial nerve transfer techniques for patients with facial paralysis, and the masseteric option has only been widely used in the past 10 years.

This study was conducted by accessing main databases for medical literature and reviewing the findings of previous studies that either singularly discussed or compared the two types of nerve transfers. Revenaugh and Smith then pooled data from these patient analyses to show statistical differences between each procedure.

The primary data points compared in the Rush study included the amount of movement, time to movement, and amount of tone. Revenaugh says, "While the gathered data showed that the masseter nerve achieves greater movement earlier, it also found that less resting tone may be provided by the masseter nerve. The study seemed to suggest that the hypoglossal nerve offers better resting tone."

Overall, combining both procedures may offer the best comparative results, improving tone by using the hypoglossal procedure and improving movement through the masseteric procedure. Patient choice, thorough evaluation, and risk assessment all play a role in choosing which procedure is best for a patient. If indicated, patients at Rush are offered combined nerve transfers that may more fully improve their facial paralysis.

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“Although we do these transfers at Rush, we don’t always have a good way to compare these procedures between institutions across the country. Everyone uses different methods to measure how well these procedures work, but we’re preaching how to use standardized metrics so we can all compare notes and learn from each other,” says Revenaugh. The hope is that this study will lead towards the standard use of metrics to improve procedural choice and results for patients.

Citation

1. Urban, M. J., Eggerstedt, M., Varelas, E., Epstein, M. J., Beer, A. J., Smith, R. M., & Revenaugh, P. C. (2021). *Hypoglossal and Masseteric Nerve Transfer for Facial Reanimation: A Systematic Review and Meta-Analysis*. *Facial plastic surgery & aesthetic medicine*, 10.1089/fpsam.2020.0523. Advance online publication. <https://doi.org/10.1089/fpsam.2020.0523>.

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Rush University Medical Center’s Ear,
Nose & Throat program among the
best in the nation.**