

### Research Assessment #3

**Date:** September 17, 2020

**Subject:** Will Septal Correction Surgery for Deviated Nasal Septum Improve the Sense of Smell? A Prospective Study

**MLA citation(s):**

Gupta, Neelima et al. "Will Septal Correction Surgery for Deviated Nasal Septum Improve the Sense of Smell? A Prospective Study." *Surgery research and practice* vol. 2015 (2015): 496542. doi:10.1155/2015/496542

**Assessment:**

Having focused my previous research assessments on procedures that are popular in facial plastic surgery, I wanted to continue studying primary plastic surgery operations in a different light. However, this assessment studies the impacts that surgical techniques have on the patient instead of nonsurgical techniques. Although nonsurgical procedures are significantly rising in popularity, surgical procedures still remain as a stable and effective method in ensuring satisfactory results with more downtime than nonsurgical counterparts. I personally believe that if a patient seeks more permanent and extensive results, then opting for a surgical procedure will be more beneficial than choosing a nonsurgical substitution.

In terms of this assessment, the authors of the article aimed "to study the effect of septal deviation on the lateralized olfactory function and the change in olfaction after surgery of the septum" (Gupta et. al para. 1). After reading the background and objectives, I predicted that the sense of smell would definitely increase should the septal deviation be improved. To me, it just logically amounted to an increase in the olfactory ability if the nose shape and structure were to be improved. Furthermore, certain nasal obstructions would be eliminated and altered for the

better with a nasal surgery, therefore, there would be a substantial improvement in the ability to smell for the specific patients.

From a physiological standpoint, the article wrote how studies have proven that “the structure of the nasal cavity determines the pattern of airflow through the nose, thus affecting the number of odorant molecules transported to the olfactory equilibrium” (Gupta et. al para. 2). One piece of information that stood out to me was the reference to the airflow of the nose and the molecules that are transported in the nasal cavity. Through my research in the past, I’ve seen how the structure of multiple bodily components significantly alters the functions of that specific part of the body. Based on this conclusion, having a higher area of flow throughout the nose would make sense, because this would allow for the nose to receive signals through the odorant molecules. This also relates back to increasing the area of flow in the nose so that the patient would be able to respire more effectively. By increasing the size of the nostrils, the patient can feel the improvement in both inspiration and expiration which would inherently improve their ability to smell.

At the end of the article, the authors noted the results of their study that provided the statistical information for their conclusion. The authors wrote how “70.6% had improvement of olfactory function, no change was seen in 20.1% and reduced olfactory function was observed in 7.3% of patients” (Gupta et. al para. 24). After reading these results, I was not shocked to see that over half of the group saw an increase in olfactory function, but I was a bit surprised that one-fifth of the patients had no change and around 7 percent had reduced olfactory function. For those in which the olfactory function reduced, what could’ve caused this? Was it attributable directly to the septal correction? Was the surgery to blame for this decrease in the sense of smell? Directly after the statement of their results, the authors wrote how another study, called the Pade

and Hummel study, had “81% who reported no change in olfactory function after surgery” (Gupta et. al para. 24). This directly contradicted Gupta’s study and demonstrated the intense variability that can arise from different studies. Logically, I had deduced that improving nasal deviation would aid in the sense of smell for patients. However, seeing in this study that over half the patients didn’t have any change, it creates some disparity in the previous findings. I am curious as to how this occurred and am wondering if it had anything to do with the success of rhinoplasty. Could this have been an inexperienced physician? Could the level of techniques utilized during the rhinoplasty led to a decreased impact on olfactory function? Overall, I believe that in studying such effects, the deviations will increase as more techniques are implemented and new studies occur. With that being said, I believe that Gupta’s study was successful in demonstrating the improvement in the sense of smell after septal correction and believe that patients who seek to fix nasal obstructions should opt for undergoing a rhinoplasty as well.