

The Role of Navigation in Frontal Sinus Surgery

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ENT navigation has given new opportunities in performing endoscopic sinus surgery (ESS), and improving the surgical outcome of patient treatment. The generally accepted statement that navigated endoscopic sinus surgery (NESS) should be performed only in cases of complex anatomy and pathology has been changing gradually. In this way, NESS will be established as a state-of-the-art procedure, and used on a daily basis. Many surgeons have access to the navigation system but they do not use it on a daily basis. The approach to frontal sinus is one of the most challenging tasks within endoscopic sinus surgery even in cases with normal anatomy and average pathology. In cases of distorted anatomy and extensive pathology, a successful approach to frontal sinus can be a nightmare. Due to this, failure in frontal sinus surgery is the most frequent cause of revision surgery in the entire endoscopic sinus surgery. The use of the navigation system increases the surgeon's confidence and ability to perform a more complete dissection in frontal sinuses. We have created a simplified algorithm for the use of a navigation system for basic ESS in the treatment of chronic rhinosinusitis with and without nasal polyps. The simplified NESS algorithm consists of seven landmarks in four navigation units, which could be called seven must landmarks as they should always be recognised during basic ESS. These landmarks are as follows: 1) maxillary sinus ostium, 2) frontal recess, 3) ground lamella, 4) fovea posterior, 5) sphenoid sinus ostium, 6) orbital wall – anywhere, 7) skull base – anywhere. In using this algorithm, surgeons would become familiar with the navigation system and would receive all facilities which the navigation system offers in its approach to frontal sinus.

Key words: endoscopic sinus surgery, navigation, frontal sinus