

Anterior skull base reconstruction

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The development and widespread utilization of the [nasoseptal flap](#) has revolutionized [anterior skull base reconstruction](#). Before the [description](#) of the nasoseptal flap in [2006](#), other local vascularized flaps such as the pericranial or temporoparietal [fascia](#) flaps were utilized and conveyed potentially unnecessary morbidity to patients. Reconstruction of the [anterior skull base](#) does not always require a vascularized tissue flap and can often be achieved with non-vascularized [autologous](#) or synthetic [grafts](#). However, large [skull base defects](#) involving high-flow [cerebrospinal fluid leaks](#) require vascularized tissue [reconstruction](#) to avoid post-operative CSF leak and resultant [complications](#). The nasoseptal flap utilizes [mucosa](#) based on a vascular pedicle within the [nasal cavity](#) that minimizes [morbidity](#) and maximizes success for anterior skull base surgical procedures.

The nasoseptal flap, also known as the [Hadad-Bassagasteguy flap](#) (HB flap), was developed at the University of Rosario, [Argentina](#), and the University of [Pittsburgh](#) and was first described in 2006. Since then, there have been many theorized augmentations, proposed expansions, and enhanced indications for its use ¹⁾.

Consensus

There is limited consensus on endoscopic skull base surgery (ESBS) reconstruction principles. This study aims to generate comprehensive themes regarding ESBS reconstruction by pooling the experiences of ESBS experts, with comparison to a literature review of current published evidence.

Methods: Structured qualitative interviews of ESBS experts regarding postoperative management and reconstruction of various defect locations were conducted.

Results: A total of 68 experts comprising 40 academic teams across 13 countries with an average of 18 years of ESBS experience were included. We propose 10 stepwise algorithms for common skull base reconstruction scenarios based on these expert interviews. When available, the nasoseptal flap is used for all high_flow cerebrospinal leak defects. Multilayered reconstruction is favored at all anatomical subsites with increasing number of layers for increasing defect size and complexity.

Heterogeneity exists in terms of inlay technique and materials, free grafting versus various pedicled flap options for low-flow defects or in the absence of a nasal septum, nasal packing, tissue sealant, lumbar drain use, and postoperative management. Commonalities and discrepancies between experts were summarized.

Conclusion: Skull base reconstruction and post-ESBS management is highly complex with a wide variety of practice patterns and expert strategies. Further research of higher quality evidence is warranted to identify optimal management patterns, though the current work aims to inform surgeons on these controversial areas by drawing from numerous experiences ²⁾.

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Hoerter JE, Kshirsagar RS. Nasoseptal Flap. 2022 Dec 5. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. PMID: 35015408.

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