

## **Tips And Tricks Of Bifrontal Basal Interhemispheric Approach For Pituitary And Parasellar Tumors**

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Parasellar tumors present a surgical challenge due to their complex relationship with surrounding neurovascular structures. Of the approaches for these lesions, bifrontal basal interhemispheric approach provides a midline perspective of parasellar anatomy, and has certain advantages over several other types of approaches employed in parasellar lesions.

Tips of basal interhemispheric approach to facilitate tumor removal are three folds: 1) a low bifrontal craniotomy including the nasal part of the frontal bone; 2) a meticulous dissection of the bilateral olfactory nerves from the frontal lobe till olfactory trigone; 3) an extensive dissection of the interhemispheric fissure to expose a wide range of anatomic field including the optic chiasm, lamina terminalis, bilateral ACA, and genu of the corpus callosum. There are three anatomical spaces available for approaching parasellar tumors: 1) prechiasmatic space; 2) lamina terminalis; 3) optico-carotid space. The prechiasmatic space can be extended by drilling out the bone of the tuberculum sellae and the planum sphenoidale. Through the widened prechiasmatic space, not only tumors in the sella turcica but also those in the retrochiasmatic region can be approached.

Basal interhemispheric approach provides a wide and shallow surgical field with good orientation to tumors and the surrounding structures such as the hypothalamus, optic chiasm, pituitary stalk, and perforating arteries. This permits complete and safe removal of the midline parasellar tumors showing even a wide rostrocaudal extension between the roof of the third ventricle upward and the sella turcica downward. Even though endonasal endoscopic approach has recently become a principal option of surgical procedure for pituitary and parasellar tumors, bifrontal basal interhemispheric approach is still an important alternative particularly for the deep-seated midline tumors originating from the parasellar region.