



# Minimally Invasive Posterolateral Transcavernous Transtentorial Approach: 2-Dimensional Operative Video

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**INDICATIONS: CORRIDOR AND EXPOSURE:** MIPLATTA uses a “key-exposure” concept aligning a small minipterional craniotomy with variations of extradural transcavernous transtentorial corridors to access the skull base.

**ANATOMIC ESSENTIALS FOR PREOPERATIVE PLANNING:** Safety and efficiency depend on mastery of the anterior clinoid process (ACP) and cavernous sinus (CS). Preoperative planning includes assessment of ACP pneumatization; tumor epicenter relative to the CS, ACP, and tentorium; and pattern of venous drainage (role of vein of Labbé).

### ESSENTIAL SURGICAL STEPS:

1. Interfascial flap for facial nerve preservation.
2. Minipterional craniotomy with extradural anterior clinoidectomy.
3. Variable Transcavernous dissection according to the Hakuba method
4. Dural opening parallel to the Sylvian fissure.
5. Transtentorial with possible Kawase.
6. Closure with autologous graft into the clinoidal triangle and water-tight dural closure.

**PITFALLS:** Incomplete release of the optic and oculomotor nerves during anterior clinoidectomy may lead to deficits. Insufficient caudal extent of the craniotomy may cause undue retraction on Labbé and a temporal lobe infarct. Thorough anatomic knowledge of the CS is a key for catastrophe prevention.

### VARIANTS AND THEIR INDICATIONS:

1. Basic MIPLATTA with minipterional and extradural anterior clinoidectomy (Hakuba approach) for optic nerve decompression and parasellar lesions.
2. Extended MIPLATTA adds oculomotor nerve transposition and cavernous sinus peeling for middle fossa, sphenoid ridge, and giant clinoid tumors.
3. Full MIPLATTA adds Kawase and internal auditory canal exposure with endoscopic-assisted microsurgery for tumors invading the posterior fossa.

The patients consented to both surgery and publication of their images. Permission was obtained appropriately for the publication of the cadaveric images. The anatomic images and animations in the surgical anatomy section of the video are sole property of [www.neurosurgicalanatomy.com](http://www.neurosurgicalanatomy.com) and *Neurosurgical Anatomy* by Arnau Benet, MD, who shall retain copyright, and used with permission.

**KEY WORDS:** Key exposure approach, Minimally invasive, Transcavernous, Transtentorial, Minipterional

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