

Arachnoid dissection

Arachnoid dissection is often challenging because of tight corridors, microvasculature crossing the membranes, and a narrow operative field.¹⁻⁴ It is often said that “splitting” the [sylvian fissure](#) measures the talent of a cerebrovascular neurosurgeon, and there are as many styles of [sylvian fissure dissection](#) as neurosurgical schools.⁴⁻⁸ Our principle is to dissect the subarachnoid space sharply and with minimal trauma to neither the microvasculature nor the pia matter.^{4,7-10} We have developed a technique that allows efficient and safe sharp dissection through the subarachnoid space: the “microcisternal drainage” technique. This technique (Video 1) involves applying a pledget to a narrow cistern and suctioning the cerebrospinal fluid while maintaining uplifting retraction with the suction shaft. Clear trabeculae are dissected sharply to release microvessels at the convexity of their turns. This technique is especially advantageous when cisterns are narrow (e.g., pia-to-pia) or highly eloquent structures are at risk. The main advantages over conventional cisternal dissection are avoidance of refractive effect, enhanced identification of the microvasculature from the trabeculae, and preservation of pia matter. Using the microcisternal drainage technique, the microvasculature, arachnoid membranes, and pia reveal themselves, and we avoid the cerebrospinal fluid-related refractive effect, therefore maximizing depth perception. We report an example of the “microcisternal drainage” technique to split the sylvian fissure during the treatment of an irregular middle cerebral artery bifurcation aneurysm on a 56-year-old woman. The patient tolerated the procedure well, was discharged without neurologic deficits, and resumed normal life with no aneurysm remnant. The patient consented to the procedure and video and photography publication ¹⁾

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Benet A, Yoshikawa K, Noda K, Tanikawa R. “Microcisternal Drainage” Technique for Clipping a Middle Cerebral Artery Aneurysm. *World Neurosurg.* 2023 Jan 26;172:34. doi: 10.1016/j.wneu.2023.01.074. Epub ahead of print. PMID: 36708990.

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