

Brain retractor

Retraction of [white matter](#) overlying a [brain lesion](#) can be difficult without causing significant [trauma](#) especially when using traditional methods of [bladed retractors](#). These conventional [retractors](#) can produce regions of focal pressure resulting in [contusions](#) and areas of [infarct](#).

It was not until the 19th century that [neurosurgeons](#) started venturing beneath the [dura](#), deep into the [brain parenchyma](#). With this advancement, brain retraction became an essential component of [intracranial surgery](#). Over the years brain retractors have been created pragmatically to provide better visualization, increased articulations and degrees of freedom, greater stability, less brain retraction injury, and less user effort. Brain retractors have evolved from simple handheld retractors to intricate brain-retraction systems with hand-rest stabilizers ¹⁾.

Microsurgical [clipping](#) of [intracranial aneurysms](#) often requires access to the [subarachnoid space](#) deep in the brain. In the past, fixed retractors have been used to maintain the surgical corridor. However, studies have shown that fixed retraction leads to brain injuries.

Sun et al. present strategies to replace conventional fixed retractor blades with dynamic retraction so that the brain is no longer under constant pressure. They show that dynamic retraction without fixed retractors, when combined with optimal patient [position](#) and neuroprotective [anesthetics](#), can provide the [neurosurgeon](#) with adequate visualization of aneurysms and excellent surgical outcomes ²⁾.

¹⁾

Assina R, Rubino S, Sarris CE, Gandhi CD, Prestigiacomo CJ. The history of brain retractors throughout the development of neurological surgery. Neurosurg Focus. 2014 Apr;36(4):E8. doi: 10.3171/2014.2.FOCUS13564. PubMed PMID: 24708190.

²⁾

Sun H, Safavi-Abbasi S, Spetzler RF. Retractorless surgery for intracranial aneurysms. J Neurosurg Sci. 2015 Nov 25. [Epub ahead of print] PubMed PMID: 26606547.

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