

Intraaxial brainstem surgeries are challenging. Many experience-based “safe entry zones (SEZs)” into **brainstem lesions** have been proposed in the existing literature. The evidence for each one seems limited. English-language publications were retrieved using PubMed/MEDLINE. Studies that focused only on cadaveric anatomy were also included, but the clinical case number was treated as zero. The **clinical evidence** level was defined as “**case report**” when the surgical case number was ≤ 5 , “**limited evidence**” when there were more than 5 but less than 25 cases, and “**credible evidence**” when a **publication** presented more than 25 cases. Twenty-five out of 32 publications were included, and 21 different SEZs were found for the brainstem: six SEZs were located in the midbrain, 9 SEZs in the pons, and 6 SEZs in the medulla. Case report evidence was found for 10 SEZs, and limited evidence for 7 SEZs. Four SEZs were determined to be backed by credible evidence. The proposed SEZs came from initial cadaveric anatomy studies, followed by some published clinical experience. Only a few SEZs have elevated clinical evidence. The choice of the right approach into the brainstem remains a challenge in each case ¹⁾.

¹⁾

Yang Y, van Niftrik B, Ma X, Velz J, Wang S, Regli L, Bozinov O. Analysis of safe entry zones into the brainstem. *Neurosurg Rev*. 2019 Feb 6. doi: 10.1007/s10143-019-01081-9. [Epub ahead of print] PubMed PMID: 30726522.

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