

# Posterior fossa tumor epidemiology

In adults, the most common expansile “mass” lesion in the posterior fossa is a subacute stroke, whereas the most common neoplastic lesion in the posterior fossa is cerebellar metastasis (intra-axial) or vestibular schwannoma (extra-axial) <sup>1)</sup>

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Although it is true that [posterior fossa tumors](#) are much more common in [children](#) than in [adults](#) the distribution does vary with [age](#):

0 to 3 years of age: [supratentorial](#) > [infratentorial](#)

4 to 10 years of age: [infratentorial](#) > [supratentorial](#)

10 to early adult hood: [infratentorial](#) = [supratentorial](#)

adults: [supratentorial](#) > [infratentorial](#)

Overall 50-55% of all [brain tumors](#) in children are found in the [posterior fossa](#).

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[Posterior fossa hemangioblastomas](#) are the most common primary intra-axial [posterior fossa tumor](#) in adults). May occur in the [cerebellar hemisphere](#), [vermis](#), or [brainstem](#).

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In a series of 30 patients, metastasis was the most common [posterior fossa lesion](#) (20%), followed by vestibular schwannomas (17%) and arachnoid cysts (13%), meningiomas, medulloblastoma, and pilocytic astrocytoma (10% each) and epidermoid, ependymoma, and hemangioblastoma (7% each). The mean ADC value of benign tumors was higher than that of malignant tumors, and this difference was found to be significant ( $p = 0.012$ ). The cut-off ADC value  $1.21 \times 10^{-3} \text{mm}^2/\text{s}$  had a sensitivity of 81.82% and specificity of 80.47%. MRS metabolites played an additional role in differentiating benign from malignant tumors. Conclusion A combination of conventional MRI, DWI, ADC values, and MRS metabolites showed good diagnostic accuracy to differentiate between the various posterior fossa neoplastic tumors both in adults and children <sup>2)</sup>.

<sup>1)</sup>

Shih RY, Smirniotopoulos JG. Posterior Fossa Tumors in Adult Patients. Neuroimaging Clin N Am. 2016 Nov;26(4):493-510. doi: 10.1016/j.nic.2016.06.003. Epub 2016 Sep 2. PMID: 27712791.

<sup>2)</sup>

Bose A, Prasad U, Kumar A, Kumari M, Suman SK, Sinha DK. Characterizing Various Posterior Fossa Tumors in Children and Adults With Diffusion-Weighted Imaging and Spectroscopy. Cureus. 2023 May 17;15(5):e39144. doi: 10.7759/cureus.39144. PMID: 37378152; PMCID: PMC10292159.

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