

# Posterior fossa volume

The normal range of [posterior fossa volume](#) varies depending on age, gender, and body size. In adults, the average posterior fossa volume ranges from approximately 150 to 200 cubic centimeters (cc). However, in children, the average volume is smaller, ranging from approximately 100 to 150 cc.

Abnormalities in the size or shape of the posterior fossa can be indicative of certain medical conditions. For example, an enlarged posterior fossa can be a sign of a Chiari malformation, which is a condition where the brain tissue extends into the spinal canal. On the other hand, a smaller-than-normal posterior fossa can be a sign of Dandy-Walker syndrome, which is a rare congenital brain malformation.

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[C1 Laminectomy](#) was effective in increasing [posterior fossa volume](#) expansion, both with and without [duraplasty](#). A more rapid decrease in [syrinx volume](#) occurred when [C1 Laminectomy](#) was combined with duraplasty <sup>1)</sup>.

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A greater increase in the postoperative PCF volume, and specifically an increase in the [cisterna magna](#) volume, was associated with a greater likelihood of clinical improvements in [headache](#) and tonsillar descent in patients with CM-I. Larger increases in the caudal portion of the posterior fossa volume were also associated with a greater likelihood of improvement in syrinx and cervicomedullary kinking <sup>2)</sup>.

<sup>1)</sup>

Hwang JK, Park EK, Shim KW, Kim DS. Effectiveness of [C1 Laminectomy](#) for Chiari Malformation Type 1: Posterior Fossa Volume Expansion and Syrinx-Volume Decrease Rate. Yonsei Med J. 2023 Mar;64(3):191-196. doi: 10.3349/ymj.2022.0506. PMID: 36825345.

<sup>2)</sup>

Khalsa SSS, Siu A, DeFreitas TA, Cappuzzo JM, Myseros JS, Magge SN, Oluigbo CO, Keating RF. Comparison of posterior fossa volumes and clinical outcomes after decompression of Chiari malformation Type I. J Neurosurg Pediatr. 2017 May;19(5):511-517. doi: 10.3171/2016.11.PEDS16263. Epub 2017 Feb 17. PMID: 28291422.

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