

Over the last decades, the mortality rate of children with posterior fossa tumors has gradually decreased. While survival has been the primary objective in most reports, quality of survival increasingly appears to be an important indicator of a successful outcome. Children with a PF tumor can sustain damage to the cerebellum and other brain structures from the tumor itself, concomitant hydrocephalus, the consequences of treatment (surgery, chemotherapy, radiotherapy), or a combination of these factors. Together, these contribute to long-term sequelae in physical functioning, neuropsychological late outcomes (including academic outcome, working memory, perception and estimation of time, and selective attention, long-term neuromotor speech deficits, and executive functioning). Long-term quality of life can also be affected by endocrinological complication or the occurrence of secondary tumors. A significant proportion of survivors of PF tumors require long-term special education services and have reduced rates of high school graduation and employment. Interventions to improve neuropsychological functioning in childhood PF tumor survivors include (1) pharmacological interventions (such as [methylphenidate](#), modafinil, or [donepezil](#)), (2) cognitive remediation, and (3) home-based computerized cognitive training. In order to achieve the best possible outcome for survivors, and ultimately minimize long-term complications, new interventions must be developed to prevent and ameliorate the neuro-toxic effects experienced by these children <sup>1)</sup>.

Age at diagnosis and treatment factors are important variables that affect the outcomes of the survivors <sup>2)</sup>.

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[Facial palsy](#) is a risk during surgical resection of [pediatric posterior fossa tumors](#). The study results suggest that the incidence of new postoperative facial palsy can be as high as 20%. The presence of preoperative facial palsy, an operation for recurrent tumor, and the presence of other preoperative cranial nerve palsy (CNPs) were found to be significant [risk factors](#) for postoperative facial [weakness](#) <sup>3)</sup>

<sup>1)</sup>

Lassaletta A, Bouffet E, Mabbott D, Kulkarni AV. Functional and neuropsychological late outcomes in posterior fossa tumors in children. *Childs Nerv Syst*. 2015 Oct;31(10):1877-90. doi: 10.1007/s00381-015-2829-9. Epub 2015 Sep 9. PubMed PMID: 26351237.

<sup>2)</sup>

Hanzlik E, Woodrome SE, Abdel-Baki M, Geller TJ, Elbabaa SK. A systematic review of neuropsychological outcomes following posterior fossa tumor surgery in children. *Childs Nerv Syst*. 2015 Oct;31(10):1869-75. doi: 10.1007/s00381-015-2867-3. Epub 2015 Sep 9. PubMed PMID: 26351236.

<sup>3)</sup>

Chu JK, Chiarelli PA, Rea ND, Pimentel N, Flyer BE, McComb JG, Durham SR, Krieger MD. Postoperative facial palsy after pediatric posterior fossa tumor resection. *J Neurosurg Pediatr*. 2021 Mar 12:1-6. doi: 10.3171/2020.9.PEDS20372. Epub ahead of print. PMID: 33711807.

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