

# What is the relationship between general brain injuries and the cerebellum in premature infants?

childhood  
disability  
LINK



## Glossary of terms

*Cerebellum:* The cerebellum comprises approximately 10% of the brain's volume and contains at least half of the brain's neurons. It has traditionally been recognized as the brain unit for motor control that regulates muscle tone and coordination of movement. There are an increasing number of reports that support the idea that the cerebellum also contributes to non-motor functions such as cognition (thought processes) and affective state (emotion).

*Cerebral:* Of or relating to the brain in general.

## Summary

The objective of this study was to determine whether general brain injury is associated with less growth of the cerebellum. The authors also examined whether injury to the cerebellum was associated with impaired cerebral growth. The study found that injuries to one side of the brain were indeed associated with decreased growth of the cerebellum on the opposite side. Similarly, injury of the cerebellum on one side was associated with decrease in cerebral growth on the opposite side. It appears that injury to one part of the brain can influence normal growth and development in other parts of the brain.

## What families & practitioners should know

While studies to date have shown that brain injuries in the premature are associated with developmental problems in childhood, this study shows that brain lesions can negatively affect the development of other physical brain structures in premature infants. Poor generalized brain growth may have an impact on later developmental outcome.

## Reference

[Limperopoulos, C., Soul, J.S., Haidar, H., Huppi, P.S., Bassan, H., Warfield, S.K., Robertson, R., Moore, M., Volpe, J.J., & du Plessis, A.J. \(2005\). Impaired trophic interactions between the cerebellum and the cerebrum among preterm infants. \*Pediatrics\*, 116, 844-850.](#)