

## **Long-term neurocognitive and quality of life outcomes in survivors of pediatric hematopoietic cell transplant**

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(Survey administered July 2018 – June 2019)

This study investigated the long-term effects of hematopoietic cell transplant (HCT) on the neurocognitive function of pediatric patients. The study surveyed 199 survivors, who underwent HCT at a young age, on their neurocognitive function and quality of life. The median age of respondents at the time of the survey was 37.8 years, with a median of 27.6 years from transplant. Results revealed that pediatric HCT survivors reported higher rates of impairment in specific domains, such as emotional regulation (21.8%), task efficiency (32.5%), memory (25.4%), and organization (18.9%), compared to the expected 10% in the general population. Female survivors reported more issues with emotional regulation and memory than males. However, despite these impairments, survivors perceived their cognitive quality of life as similar to the general population.

The study also identified specific factors associated with neurocognitive outcomes. Pre-transplant cranial radiation and hearing issues were linked to impaired task efficiency and organization, while a history of stroke or seizure was independently associated with impaired emotional regulation and memory. Additionally, sleep disturbances and younger age at transplant were associated with an increased risk of overall impairment as well. The research emphasized the importance of monitoring and counseling for post-HCT survivorship care, highlighting potential areas for intervention, such as addressing sleep issues and providing support for survivors with specific neurologic co-morbidities.