

Survivors of childhood brain tumors experience lasting cognitive and socioeconomic burdens

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Survivors of childhood brain tumors who received radiotherapy and were very young at the time of diagnosis may experience cognitive and socioeconomic burdens decades after treatment, according to a study published early online in *CANCER*, a peer-reviewed journal of the American Cancer Society. Interventions such as cognitive therapies and educational and occupational services may be needed to mitigate such long-term effects.

Therapies for [children](#) diagnosed with brain tumors have prolonged the lives of many patients, but survivors may experience a variety of effects from their disease and its treatment. To assess such burdens, M. Douglas Ris, Ph.D., of Baylor College of Medicine and Texas Children's Hospital, and his colleagues at St. Jude Children's Research Hospital, compared 181 survivors of pediatric low-grade glioma with 105 siblings of cancer survivors who were participating in the Childhood Cancer Survivor Study. The survivors and siblings all completed a comprehensive battery of standardized cognitive tests and socioeconomic assessments performed at 16 major medical centers in the United States and Canada.

Survivors were a median age of 8 years at the time of diagnosis and they were a median age of 40 years at the time of assessment. Overall, survivors treated with surgery plus radiotherapy at the site of the [tumor](#) had lower estimated IQ scores than survivors treated with surgery only,

who had lower scores than siblings. Survivors diagnosed at younger ages had low scores on most of the cognitive measures. Survivors—especially those treated with surgery plus radiotherapy—were less educated, earned lower incomes, and had lower prestige occupations than siblings.

"Late effects in adulthood are evident even for children with the least malignant types of brain tumors who were treated with the least toxic therapies available at the time. Also, these neurocognitive and socioeconomic risks are evident many decades after treatment," said Dr. Ris. "As pediatric [brain tumors](#) become more survivable with continued advances in treatments, we need to improve surveillance of these populations so that survivors continue to receive the best interventions during their transition to adulthood and well beyond."

More information: *CANCER* (2019). [DOI: 10.1002/cncr.32186](https://doi.org/10.1002/cncr.32186)

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