

## PubMed

U.S. National Library of Medicine  
National Institutes of Health



Display Settings: Abstract

[Neuro Oncol.](#) 2011 Mar 2. [Epub ahead of print]

### Early aging in adult survivors of childhood medulloblastoma: Long-term neurocognitive, functional, and physical outcomes.

[Edelstein K](#), [Spiegler BJ](#), [Fung S](#), [Panzarella T](#), [Mabbott DJ](#), [Jewitt N](#), [D'Agostino NM](#), [Mason WP](#), [Bouffet E](#), [Tabori U](#), [Laperriere N](#), [Hodgson DC](#).

Psychosocial Oncology and Palliative Care (K.E., N.J., N.M.D.), Biostatistics (S.F., T.P.), Haematology Oncology (W.P.M.), and Radiation Oncology (N.L., D.C.H.), Ontario Cancer Institute, Princess Margaret Hospital; Psychology (B.J.S., D.J.M.), and Haematology Oncology (B.J.S., D.J.M., E.B., U.T.), Hospital for Sick Children; Dalla Lana School of Public Health, (T.P.) Neurology (W.P.M.), Psychiatry (K.E., N.M.D.), Psychology (D.J.M.), Radiation Oncology (N.L., D.C.H.), and Pediatrics, (B.J.S., D.J.M., E.B., U.T.) University of Toronto; Toronto, Canada.

#### Abstract

Treatment for medulloblastoma during childhood impairs neurocognitive function in survivors. While those diagnosed at younger ages are most vulnerable, little is known about the long-term neurocognitive, functional, and physical outcomes in survivors as they approach middle age. In this retrospective cohort study, we assessed 20 adults who were treated with surgery and radiotherapy for medulloblastoma during childhood (median age at assessment, 21.9 years [range, 18-47 years]; median time since diagnosis, 15.5 years [range, 6.5-42.2 years]). Nine patients also underwent chemotherapy. Cross-sectional analyses of current neurocognitive, functional, and physical status were conducted. Data from prior neuropsychological assessments were available for 18 subjects; longitudinal analyses were used to model individual change over time for those subjects. The group was well below average across multiple neurocognitive domains, and 90% had required accommodations at school for learning disorders. Longer time since diagnosis, but not age at diagnosis, was associated with continued decline in working memory, a common sign of aging. Younger age at diagnosis was associated with lower intelligence quotient and academic achievement scores, even many years after treatment had been completed. The most common health complications in survivors were hearing impairment, second cancers, diabetes, hypertension, and endocrine deficiencies. Adult survivors of childhood medulloblastoma exhibit signs of early aging regardless of how young they were at diagnosis. As survival rates for brain tumors continue to improve, these neurocognitive and physical sequelae may become evident in survivors diagnosed at different ages across the lifespan. It will become increasingly important to identify factors that contribute to risk and resilience in this growing population.

PMID: 21367970 [PubMed - as supplied by publisher]

[LinkOut](#) - more resources