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Pediatric cancer survivors have a high risk for a wide range of cognitive difficulties. Such dysfunctions can be caused by the lesion itself and/or its surgical removal, as well as subsequent treatments (chemo- or radiation therapy). In a recent study, we found that survivors of brain tumors performed significantly worse in tests of working memory, verbal memory and attention compared to children with cancer without central nervous system (CNS) involvement even before the start of medical treatment (Margelisch et al., 2015). Within our ongoing project, we now further aim to investigate the influence of age at diagnosis on neuropsychological functions in these patient samples. So far, 47 children (20 younger children [7-12 years] and 27 older children [13-17 years]) were included and evaluated with an extensive neuropsychological battery. A two-way MANOVA revealed that younger children performed significantly worse (all ps < .05) in measures of working memory, verbal episodic memory and attention when the CNS was affected by cancer, whereas no such differences could be found in the group of older children. According to previous findings, we could show that CNS involvement affects cognitive performance, particularly in measures of memory and executive functions. Furthermore, and extending previous reports, we preliminarily conclude that CNS involvement modulates neuropsychological performance in younger patients already at diagnosis. Thus, younger children with brain tumors are at particular risk for cognitive difficulties and this patient group might benefit thoroughly from close monitoring and early onset of cognitive intervention and remediation programs as early as possible.