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# Long-term quality of survival after pediatric low-grade glioma

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## Abstract

**Background:** Low-grade glioma is the most common brain tumor in children with different modes of treatment and a high overall survival. Low-grade glioma is considered a chronic disease, since residual tumor is present in many children. The tumor and its treatment lead to acquired brain injury with diverse consequences for later life based on factors like the diverse tumor locations, treatment(s) applied, neurofibromatosis type 1, and age at diagnosis.

**Methods:** An overview of affected domains is provided based upon cohort studies from literature and partially based on clinical experience with a practical approach regarding each domain of functioning in order to provide insight in the requirements for long-term care assistance after childhood low-grade glioma.

**Results:** The diverse domains that can potentially be affected are described as follows: motor function, speech, eating and swallowing, sensory functions, seizures, neuropathy, organ function after systemic treatment, late effects due to cranial radiation (vascular changes and secondary tumors, endocrine and hypothalamic function, sleep and energy, neuro-cognition and education, psychosocial effects, and quality of life.

**Conclusion:** Insight in affected domains guides advices for medical follow-up, diagnostics, supportive instructions, and assistive measures per domain of functioning and provide insight in the requirements for long-term care assistance after childhood low-grade glioma.

**Keywords:** Brain tumor; Childhood; Late effects; Low-grade glioma; Quality of life.

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