

## ISSUES AFFECTING THE NEUROPSYCHOLOGICAL INTERVENTION FORMULATION: A PEDIATRIC CASE STUDY

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### Abstract

We report a case-study of an 11.5 years-old male pediatric oncology patient, in order to discuss the necessity of considering multiple factors during the formulation of the intervention. He was diagnosed with an extensive and exceptionally malignant brain tumor (WHO Grade IV sarcoma) in the left occipitoparietal region with lung metastases, at the age of seven months. He underwent multiple surgeries, chemotherapy, irradiation therapy and v/p shunt placement. Follow-up imaging revealed tumor relapse in the right frontal region at the age of four, for which he underwent craniotomy and total resection. Finally, a surgery for v/p shunt replacement was performed after infection. He presented with multiple neurological deficits (gait disturbance and postural instability, right hemiparesis, motor and visuomotor coordination difficulties, fine and gross motor skills difficulties). He was referred for a neuropsychological evaluation and rehabilitation intervention. His performance revealed severe deficits in the domains of processing speed (>-2sd), visuospatial perception (>-2sd), verbal and visual memory (between -1sd and -3sd), and executive functions (>-2sd). Interestingly, attention abilities were intact (between -0.5 and +0.5 standard deviation from the normative mean). Clinical observations during the assessment did not reveal the typical behavioral, emotional and functional profile of brain injury (apathy, disinhibition, emotional fluctuations), though a wide range of compensatory strategies were observed. Finally, his environment reported good functionality in daily living. With the initiation of the intervention and introduction to novel and unpredictable situations, the abovementioned cognitive deficits, as well as emotional and behavioral disturbances raise questions regarding the formulation of the intervention.