

# Commentary: Lessons in Pediatric Neuropsychology: What We've Learned Since Johnny Gunther

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In his paper, "Lessons in Pediatric Neuropsychology: What We've Learned Since Johnny Gunther", Ris (2007) successfully accomplishes a formidable task. He provides a biographical and literary anchor that allows for the succinct summary of the history of neuro-oncological treatment, current status and standard of care, recent innovations and advances in the treatment of pediatric brain tumors. He also presents important information on current directions in both the measurement of neurocognitive late effects, and importantly, work that is being done to reduce the neurocognitive complications associated with the treatment of many childhood brain tumors. This is a brief, concise but comprehensive presentation. I do not believe that I have ever read an article that covered so much scientific ground in such a brief presentation. In this sense, the review raises the benchmark for literature summaries.

Ris's (2007) introduction to the paper begins with a reminder of the tragedy of childhood brain tumors that was so aptly and poignantly presented in the 1949 book, *Death Be Not Proud* written by the father of an adolescent who died from a particularly malignant brain tumor, glioblastoma multiforme. I was immediately struck by this reference because the book was required reading in one of my junior high school English classes. I had completely forgotten about this memoir. It is a wonderful book, and I do not know if it is still required reading in grade school, but if the reader of this commentary is not familiar with the book, he/she should immediately purchase and read it. Since 1949, neuro-oncologists have made incredible advances in the treatment of childhood brain tumors, but brain tumors remain a malignancy that is associated with significant neurocognitive and psychosocial late effect complications. While treatment advances are improving long-term survival, the childhood brain tumors remain a disease process that

present a daunting challenge for all medical professionals in the area of pediatric oncology. Advances in treatment have occurred with many childhood brain tumors, but as Dr Ris reminds us, glioblastoma multiforme continues to be associated with only a 4–16% incidence of long-term disease-free survival.

The article begins in the time period of John Gunther Jr's diagnosis, treatment, and death, and then proceeds to review advances in the treatment of both brain tumors and the leukemias throughout the 1970s, 1980s and 1990s and brings us up-to-date regarding the current standard of care, and also late effects research.

Dr Raymond Mulhern was one of the first investigators to begin examining the effects that cranial irradiation had on intellectual development. This work was directed toward the leukemia population which was largely receiving cranial irradiation therapy as a central nervous system (CNS) prophylactic treatment at that time. Over the final decade of his career, Dr Mulhern became intensively focused on childhood brain tumors, the relationship between their treatment and brain damage, and the exploration of methods that would improve neurocognitive functioning and academic performance in children who were survivors of a brain tumor. Ris's (2007) article traces this increased interest of Dr Mulhern's in these areas that are identified as having their germination in reviews written by Dr Mulhern in the 1980s, and became more focused on neuroimaging regarding white matter disease and its relation to neuropsychological impairment in his research throughout the 1990s.

During my many conversations with Dr Raymond Mulhern as a research collaborator and friend, he clearly viewed his research identification as a cognitive neuroscientist. However, Dr Mulhern was definitely committed to improving the quality of life in children who survived

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a pediatric malignancy, and he was, frankly, integral in promoting my own work in cognitive remediation with survivors of pediatric malignancies that resulted in CNS impairment. I like to think that I may have played some role in the inception of his work because of my presentation on cognitive remediation research at the Buffalo late effects conference, organized by Dr Daniel Green, which occurred in 1996. Dr Mulhern asked some pointed questions and we had a spirited discussion on whether or not stimulant medication should be used in this population. Dr Mulhern figuratively “took the ball” and ran with it on this project. He was a collaborator on our clinical trial of cognitive remediation, in addition to conducting his own clinical trials on the beneficial effect of methylphenidate on neurocognitive impairment in children with leukemia and brain tumors.

Ris’s (2007) article concludes that advances have been striking regarding increased disease-free survival/long-term survival, reduced toxicity of oncology

treatments, and the development of pharmacological and rehabilitation-based interventions, all of which have dramatically improved the quality of life of patients diagnosed with a childhood brain tumor. Nevertheless, as Ris states “yet we are a long way from fulfilling Johnny Gunther’s prediction about the triumph of science over disease”. The Ris article is not only, as stated above, a review that raises the benchmark for those of us who summarize research findings in a field, but also serves as a fitting tribute to a colleague who has given us so much in such a regrettably short period of time.

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