Neurocognitive Late Effects of Diagnosis and Treatment Overview

Who does this affect?

- Childhood survivors of Central Nervous System (CNS) cancers are at an increased risk for educational-related difficulties.
- Specifically, children treated for brain tumors, particularly those treated before the age of 5, are at significant risk for developing long-lasting neurocognitive issues.
- Additionally, children who undergo treatment for leukemia, particularly when treatment involves radiation to a developing brain, are at increased risk for developing educational difficulties and/or requiring special education services.
- The presentation of late effects depends on a variety of factors including treatment with and dosage of chemotherapy, treatment with craniospinal radiation (especially in very young children), and (in children with brain tumors) location of tumor and effects of brain surgery.
- Children treated for brain tumors are also at significant risk for difficulties with social functioning and social isolation.

When does this happen?

- Late effects may not appear for months to years following treatment.
- Because these children’s skills do not develop at the same rate as their peers, the gap between their skills and those of their peers often increases over time.
- Late effects often become apparent at critical junctures in a child’s educational trajectory (i.e. third to fourth grade, elementary to middle school, middle to high school).
What do late effects look like?

Late effects impacting a child in school can include:

- specific learning difficulties
- gross/fine motor deficits
- speech/language impairments
- sensory deficits such as vision and/or hearing loss
- slowed processing
- poor memory
- attention difficulties
- executive functioning deficits
- social difficulties
- emotional lability,
- deficits in adaptive skills

How can you help support these students?

- These students often require neuropsychological testing, completed either at a hospital or in the community, to better understand their neurocognitive deficits in the context of their treatment history
- Students may also require school-based testing (in conjunction with neuropsychological testing) to further explore academic skills
- Because of the specific nature of these students’ deficits, many of them also require ancillary evaluations in the areas of speech/language, OT, PT, vision, Assistive Technology, Orientation/Mobility, Adaptive Physical Education, and other specialty areas.
- Close communication between families and schools is important to ensure that both educational and medical information is relayed.
- Many of these students require formalized academic support plans (i.e. 504 plans or IEPs) with comprehensive classroom accommodations and modifications.
- Ongoing progress monitoring is key in ensuring early identification of emerging difficulties
**References**


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