

Childhood cancer survivors show sustained benefit from common ADHD medication

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A medicine widely used to treat attention-deficit/hyperactivity disorder (ADHD) also provides long-term relief from the attention and behavior changes that affect many childhood cancer survivors, according to a multicenter trial led by St. Jude Children's Research Hospital investigators.

Researchers reported that one year after starting the drug [methylphenidate](#), young cancer survivors scored better on tests of sustained attention and other measures of attention, [social skills](#) and behavior than did a similar group of unmedicated survivors. While taking methylphenidate, scores on the attention and behavior measures of many survivors returned to normal ranges. Methylphenidate is marketed under several brand names, including Ritalin and Concerta. The study is the first to document that some survivors enjoy long-term benefits from its use.

Coupled with results from earlier medication side effects studies, the study's authors said these findings offer hope and reassurance for survivors, their families and others looking for ways to ease such late effects of cancer and its treatment. The work appears in the September 13 online edition of the [Journal of Clinical Oncology](#).

"We found that methylphenidate improves both attention and social skills and that these benefits are maintained," said Heather Conklin, Ph.D., assistant member of the St. Jude Department of Psychology and the study's first author. "Although the drug did not lead to a significant

gain in measured academic skills, many parents reported their children's grades improved because the children did a better job of managing tasks like planning ahead for projects or remembering to complete and turn in assignments."

The results come as the growing ranks of childhood cancer survivors have the pediatric cancer community searching for better ways to ease or even prevent treatment late effects.

Conklin said the findings also underscore the need for non-pharmacological approaches. Earlier research from Conklin and her colleagues found only about half of young cancer survivors benefit from methylphenidate. Also, Conklin said many parents are reluctant to use the drug and some survivors may not be good candidates due to medical or other reasons. "We are moving forward with research into new strategies to benefit more survivors and their families," she said.

This study focused on young survivors of brain tumors and acute lymphoblastic leukemia (ALL). Their cancer treatment included surgery, radiation and/or chemotherapy targeting the central nervous system. Those treatments and other factors, including a patient's age at treatment, are linked to risk of later attention, memory and processing speed problems that make learning difficult. Such troubles can reverberate through life and affect a survivor's ability to hold a job and live independently.

Although methylphenidate has been used successfully for decades to treat [ADHD](#) in healthy children, Conklin said that was no guarantee the drug would benefit children whose symptoms followed a cancer diagnosis. Excluded from this study were children who had ADHD before their cancer was found.

After a year of methylphenidate, young [cancer survivors](#) scored better on

tests of sustained attention. Parent, teacher and survivor ratings of attention all improved. Parental ratings of social skills and behavior problems also documented that survivors had benefited. The group included 35 brain tumor and 33 ALL survivors.

In contrast, only parental ratings of [attention](#) and social skills improved during the same period for a similar group of survivors not taking medication. The group included 31 brain tumor and 23 ALL survivors.

Academic skills measured by completion of math, reading and spelling problems were not significantly better in either group. Conklin said that might reflect the study design, which did not assess changes in executive aspects of school performance, including organization and planning.

Provided by St. Jude Children's Research Hospital

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